

KANT
AND THE
CONCEPT OF RACE

LATE EIGHTEENTH-CENTURY WRITINGS

TRANSLATED AND EDITED BY
JON M. MIKKELSEN

Kant and the Concept of Race

SUNY series, Philosophy and Race

Robert Bernasconi and T. Denean Sharpley-Whiting, editors

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SUNY
P R E S S

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Contents

<i>Acknowledgments</i>	vii
<i>Translator's Introduction</i>	
Recent Work on Kant's Race Theory / The Texts / The Translations	1
<i>Chapter 1</i>	
Of the Different Human Races: An Announcement for Lectures in Physical Geography in the Summer Semester 1775	
IMMANUEL KANT	41
<i>Chapter 2</i>	
Of the Different Human Races (1777)	
IMMANUEL KANT	55
<i>Chapter 3</i>	
From Geographical History of Human Beings and the Universally Dispersed Quadrupeds (1778–1783)	
E. A. W. ZIMMERMANN	73
<i>Chapter 4</i>	
Determination of the Concept of a Human Race (1785)	
IMMANUEL KANT	125
<i>Chapter 5</i>	
Something More About the Human Races (1786)	
GEORG FORSTER	143
<i>Chapter 6</i>	
On the Use of Teleological Principles in Philosophy (1788)	
IMMANUEL KANT	169

<i>Chapter 7</i>	
Of the Varieties and Deviate Forms of Negroes (1790)	
CHRISTOPH MEINERS	195
<i>Chapter 8</i>	
From Concerning the Kantian Principle in Natural History: An Attempt to Treat this Science Philosophically (1796)	
CHRISTOPH GIRTANNER	209
<i>Chronology</i>	233
<i>Notes</i>	299
<i>Selected Bibliography</i>	351
<i>Index</i>	363

Acknowledgments

Some books are the result of what their primary creators are wont to think of as noble, self-consciously determined, long-term goals; others might better be described as the willfully sustained product of the confluence of chance events. The present volume belongs far more to the second of these categories than the first, and it is certainly not the sort of book on Kant that I could have ever imagined publishing during the years when I, under the supervision of A. C. Genova in the philosophy department at the University of Kansas, was working on the dissertation on Kant's third critique, the *Kritik der Urteilkraft*, that I defended in the summer of 1987.

I did, however, during that time, working together with a KU graduate school colleague, Joseph Van Zandt, complete a very rough translation of Kant's 1788 *Teutscher Merkur* article, "Über den Gebrauch teleologischer Prinzipien in der Philosophie" (On the use of teleological principles in philosophy), which I had hoped would be of some importance for my dissertation research, as it might well have been, but wasn't. Some years later, while enjoying a dinner held in conjunction with some conference or other either sponsored or cosponsored by the philosophy department at the University of Memphis, I overheard Robert Bernasconi (then the department's Moss Professor of Philosophy) at a nearby table discussing with someone the need for translations of a couple of Kant texts for publishing projects on which he was working. I made a point then of talking with Robert later that evening and informed him that I had a draft translation of one of the texts in which he had expressed interest, which he cordially agreed to take a look at. That draft, however, which Robert first read on the computer paper printout from the mainframe FRED QED line-oriented text editor that I had made use of in typing up the translation that Joe and I had prepared, was deemed wanting. I nevertheless told Robert I was certain I could improve on that earlier work, and eventually, with many probing questions and much help from him, earlier versions of two of the translations that appear in this volume (Kant's 1777 and 1788 articles) were deemed acceptable for publication in the two volumes either edited or coedited by Robert that appeared in 2000 and 2001 (referenced in the Selected Bibliography below).

Near final versions of all the translations included in this volume were completed six or seven summers ago, not, however, without the help of several individuals who merit special mention. In particular, I would like to thank Mark Larrimore (associate professor of religious studies at Eugene Lang College, The New School for Liberal Arts), whose comments on the Kant texts of 1775, 1777, and 1785 were especially helpful; I only wish that Mark had had the time to make comments on my translation of Kant's 1788 text, which, I am certain, would also have benefitted from his attention. The translation of Christoph Meiners' 1790 article similarly benefitted greatly from the assistance of two individuals who provided me with even more extensive criticisms than did Mark—Hugh A. West (professor of history, University of Richmond), and another friend from graduate school, Lisabeth Hock (now associate professor of German at Wayne State University). The translation that appears in this volume owes much then to comments from both West and Lisa on my first draft translation, which I had apparently thought much better than it must—judging from their comments, especially those of West—have been. Since neither West nor Lisa ever reviewed the translation that appears in this volume, I must, however, take full responsibility for the published version.

For the translations of Latin and French text and titles, I gratefully acknowledge the assistance of my Western colleagues, respectively, James MacGregor (associate professor of history) and Susan Hennessy (professor of French), as well as John Lomax (professor of history at Ohio Northern University), who filled in for MacGregor with work on what proved to be some of the most difficult passages at a critical time when my Western colleague (who, in the meantime, has accepted a position with Georgetown University's School of Foreign Service in Qatar) was not available.

I wish also to thank the two anonymous reviewers for SUNY Press who read the penultimate version of the manuscript in the period from late 2009 through the spring of 2010, especially the one who was kind enough to take the time to offer more criticism than praise, and to another dear friend from my years as a KU graduate student, Bernard Williams, who read and commented on many of the translations more than once and who also did a preliminary copyediting of the entire manuscript during the period when it was being read by the SUNY reviewers. With so much assistance, I might hope that there be fewer errors and other difficulties in the published text than the attentive reader will no doubt still find. However, even though I have generally followed the recommendations provided me by others, sometimes I have not. Further, the introduction to the Zimmermann translation was completely rewritten when, after my anonymous reviewers had already done their work, I finally found the time during the summer of 2010 to consult Petra Feuerstein-Herz's fascinating and very informative 2004 University of Braunschweig dissertation on Zimmermann (see Selected Bibliography), I

have not followed completely the recommendation of one of the reviewers that I subdue the defensive tone of my introductions to the 1788 Kant article and the 1790 racist-screed from the hand of Christoph Meiners, and it was only during the late summer months of 2010 that the Chronology was significantly expanded and reframed to include events both from the period prior to 1770 and after 1800—as well as entries that sketch the historical development of the abolitionist movement from the beginnings of the modern slave trade in the seventeenth century through the first half of the nineteenth century. Among these changes from the draft of the manuscript read by my anonymous reviewers, I am especially hopeful that the Chronology, which owes much to the efforts of others identified at the beginning of that section, serves well the limited purposes for which it is intended. The issues that somewhat unexpectedly emerged in the preparation of this portion of the manuscript proved indeed to be so vexing in the case of some of the entries, that it was only in the last couple weeks of August 2011 that my work on it was finally completed.

For providing able assistance with final revisions to the Chronology, I acknowledge the contribution of another Western colleague, Catherine Kendig (assistant professor of philosophy), and Jonathan Schmidt (associate academic dean, Ontario Agriculture College Guelph-Alfred-Kemptville-Ridgeton, University of Guelph), a longtime acquaintance from the year we were both students at the Eberhard-Karls-Universität (Tübingen) in the early 1980s.

For always assisting me in obtaining materials from other libraries, without which this volume could certainly never have been completed, my sincere thanks to Rodema Gnuschke and Jennifer Galloway, Western's inter-library loan librarians. And for finding many typos and other errors in the manuscript that might have gone unnoticed had he not read it as attentively as he did, I thank yet another Western colleague, Dan Trifan, professor of history.

I am, however, solely responsible for whatever errors and deficiencies are no doubt still to be found in the work as published, but I naturally encourage rather than discourage the search for them.

Finally, I must acknowledge the debt of gratitude I owe to Robert Bernasconi, whose interest and support for the completion of this project remained unflinching—even after that point in our many discussions and at times frequent email exchanges over the years when it became clear that, although I certainly do have far greater respect for his published scholarship on the topic “Kant and the concept of race” than do many of my fellow Kantians, my view of the Kantian tradition clearly differs from his. I can, on the other hand, regrettably not now acknowledge in the same public, yet personal, way the similar debt of gratitude that I owe my dissertation adviser, A. C.

Genova (1929–2010); I can instead only wish that he had lived to see the manuscript not only in typescript but in print, and hope that the quality of my work on Kant will be deemed equal to his and to his much-deserved credit.

Much has of course changed since the mid-1980s, when Joe and I first encountered some of the terminology in the German text of Kant's 1788 article that is still so disturbing. I can well recall, for example, our astonishment upon finding the term *halb-schlächtig* in the text and concluding that in using it Kant really did mean to classify certain individuals as “half-breeds.” But as this volume makes clear, it can no longer be doubted that issues of race did indeed play a significant role in the development of Kant's critical philosophy from the earliest years to the end of his professional life—even if the significance of that interest will surely continue to be disputed for years to come.

I hope that this text can in one way or another contribute greatly to the ongoing discussion—by whatever means—of the many topics to which it seeks to make a contribution. I now humbly pass on to others the responsibility for identifying significant errors and making further corrections and revisions.

I dedicate the volume to the memory of my father, Rev. John H. Mikkelsen, D.Litt. (1917–2001), and my mother, Ruth H. Mikkelsen (1911–1979).

17 January 2011 (Martin Luther King, Jr. Day),
revised August 2011 and January 2013

Translator's Introduction

Recent Work on Kant's Race Theory / The Texts / The Translations

JON M. MIKKELSEN

The present volume includes four texts by the prominent eighteenth-century German Enlightenment philosopher Immanuel Kant (1724–1804) and an equal number of texts by four of his less well-known contemporaries—the German geographer and zoologist E. A. W. Zimmermann (1743–1815); the German naturalist, travel writer, and essayist Georg Forster (1754–1794); the German popular philosopher and publicist Christoph Meiners (1747–1810); and the Göttingen-based, Swiss-born physician, early popularizer of anti-phlogistic chemistry, and chronicler of the French Revolution Christoph Girtanner (1760–1800).

The volume was originally conceived primarily as a contribution to the discussion of two disparate strands of research in Kant studies that came into prominence in the 1990s. Framed in contemporary terms, the first of these might be referred to as Kant's race theory, the second as his philosophy of biology. Kant, however, is best understood not as a “system builder,” but as a “systematic” philosopher—that is, as a thinker who was ever reexamining the conclusions he had come to within each component part of the critical project both with respect to the conclusions he had previously established for the other component parts of the project as well as to his most favored “core” beliefs.¹ He was, in other words, not the sort of philosopher who never revised his views on the many topics that interested him, and he clearly endeavored to keep himself informed of developments in every imaginable field of investigation of his time.² Consequently, to consider any narrowly

defined topic within the scope of the critical philosophy, such as Kant's race theory or his philosophy of biology, could lead to a reconsideration of every other part of the critical project. We should then hardly find it surprising that significant interest in the texts by Kant included in this volume has, in the years since the volume was originally conceived, also increased among scholars concerned primarily with Kant's political philosophy—or, more specifically, with his role in the formative development of a view that is difficult to define but commonly referred to as liberal internationalism.³ Thus it would be no exaggeration to suggest that what is at stake in these discussions is not simply Kant's views on specific topics but a complete reassessment of his contribution to the “the project of modernity,” inasmuch as Kant's contribution to the construction of liberal internationalism is viewed as a core element of that project as famously sketched by Jürgen Habermas in his 1980 Adorno Prize lecture, “Modernity versus Postmodernity.”⁴

An introduction such as this is nevertheless not the place for any attempt to address systematically all of the implications that the study of the texts included in this volume could have for our contemporary understanding and assessment of the critical philosophy. Nor is the present volume intended primarily for a readership comprised mainly of Kant scholars, but rather for scholars in many fields, as well as an educated general readership. I have, therefore, in preparing this introduction, not made any attempt to address systematically all of the many issues to which familiarity with the texts included in this volume could make a contribution, but instead more simply divided my remarks into three sections, each of which approaches the study of these texts from a different perspective.

The first section introduces the reader to the texts through a brief, critical examination of the secondary literature of the past couple of decades, which brought into the open the fact that Kant did indeed write numerous texts concerned with issues of race which had otherwise been almost universally ignored by English-language Kant scholarship in the past two centuries.

The second section focuses more directly on the texts themselves, the philosophical and historical context in which they appeared, and the central issues that emerge from the study of them.

Finally, in the third section, I identify and briefly discuss some of the most pressing issues of translation that had to be addressed in order to produce English texts both faithful to the German originals and readable.

If read sequentially, these three sections might best be viewed as successively revealing different layered interests involved in the serious study of any such texts as these. I hope nevertheless that the sections might also be read nonsequentially and even independently of each other. The reader who cares not at all for introductions of this sort or who prefers only the briefest of introductory commentary might even find it preferable to postpone study

of these introductory remarks until after she or he has familiarized her- or himself with the texts and the briefer introductions included with them.

The primary goal of a volume such as this is naturally to provide readers who are not able to read easily the texts included in the language in which they were originally written access to them. To the extent, however, that I have, in preparing these translations for publication, not foregone entirely the larger task of evaluating them with respect to the contribution that knowledge of them might make to contemporary reevaluations of the critical philosophy, comments to this end appear sometimes in the body of this and the other, briefer introductions, and sometimes only in the endnotes, which might themselves be viewed as yet another, deeper, fourth layer for study.⁵

The evaluative comments that are included might, however, be better read more as a stimulus for further research and discussion than as conclusive.

Recent Work on Kant's Race Theory

Why then an anthology comprised of translations of eight late eighteenth-century German texts, including four by Kant? More specifically, why might anyone think that the study of texts such as these, especially those by Kant, could make a contribution to contemporary discussions concerning race theory and the philosophy of biology? For who—half a century, or even a couple of decades ago—would ever have thought of Kant as a major contributor to the formative development of either race theory or the philosophy of biology? For the Kant we knew then was typically presented as a figure who had contributed so much to the development of modern liberal internationalism that it was inconceivable that he could have ever written or uttered comments that could be construed as racist or have even concerned himself with any of the problems of race theory—except, perhaps, in ways that directly contributed to the construction of modern concepts of human rights.⁶ Now, however, with new knowledge of the texts by Kant included in this volume and a reexamination of related texts and other source materials, there can be no doubt about the fact that Kant was not only deeply concerned with the analysis of the concept of race but that he gave expression to views both in print and in his private notebooks that are clearly racist not only in tone but also in spirit, if not, necessarily, in ideological intent.⁷

Similarly, the Kant we knew then was usually presented as a figure so devoted to the promotion and defense of Newtonian physics as the only genuine science that he seriously doubted if even chemistry could ever lay claim to being called a “science”—and if, by Kant's criteria, chemistry was not considered worthy of this title, why, we might then have wondered, would he have ever even concerned himself seriously with any subject matter per-

taining to biology?⁸ But to frame the issue in these terms obviously assumes that Kant could have used the term *biology* in its fully developed, modern sense. I believe, however, that it can very easily be shown that Kant could never have conceived what he was doing in precisely the same way that we might—namely, as the investigation of a specific problem within a fully developed field of natural scientific investigation comparable to either physics or chemistry.

Perhaps the first, if not most important, point to consider then, when reading historical texts such as those included in this volume, is that, strictly speaking, even if much of the current interest in the texts included stems from our contemporary concerns with race theory and the philosophy of biology, Kant himself could never have conceptualized the issues with which these texts are concerned in precisely the same way we do, because the word *biology* in its modern sense is generally thought not to have been first used in print until 1802,⁹ only two years before his death and nearly three decades after the publication of the first of the texts included below. Kant clearly did not, therefore, understand what he was doing in terms of the full range of issues that presently comprise the philosophy of biology.¹⁰ For Kant, race theory seems instead to have been little more than a minor, but nevertheless vexing, problem within a model of scientific investigation known since the mid-eighteenth century as natural history, which he champions.¹¹ There are nevertheless definite—if not yet definitively understood—historical connections between Kant's concerns and our own that come into full view when we consider briefly why the four texts by Kant included in this volume have come to have the significance they have in recent years.

To set the stage then for the more systematic and detailed discussions of the four texts by Kant and the four other texts included in this volume and the issues of translation which, as previously noted, are the focus of the next two sections of this introduction, I begin by surveying recent developments in Kant studies that have contributed greatly in bringing these texts into prominence. This, however, is not a difficult task, because the recent emergence of concern about Kant's possible contribution to the formative development of investigations that we call race theory clearly begins with the appearance of seminal articles by Emmanuel Chukwudi Eze¹² and Tsenay Serequeberhan¹³ in the early 1990s. Further, the work of Eze and Serequeberhan from that period still merits careful study—although I am inclined to think, for reasons that should become evident in the following few pages, that it was only with the subsequent appearance of articles by Mark Larimore¹⁴ and Robert Bernasconi¹⁵ in the late 1990s and early 2000s that the issues raised in these earlier articles were first framed in ways that remain informative for us.

Eze's first article on Kant, provocatively entitled "The Color of Reason: The Idea of 'Race' in Kant's Anthropology," remains then as good a beginning

point as any other source for the further study of recent work on Kant and the concept of race precisely because Eze, in this article, did make such a dramatic break with the prevailing English-language Kant scholarship of the time.¹⁶ Indeed, Eze begins the article by boldly citing the claim previously made by Earl W. Count in a 1950 anthology of texts “selected from the international literature on the races of man” in which Count chided scholars for forgetting “that Immanuel Kant produced the most raciological thought of the eighteenth century.”¹⁷ Then, after providing his readers with engaging discussions of Kant’s “understanding of anthropology,” his reading of the works of the Geneva-born French social contract theorist Jean-Jacques Rousseau (1712–1778) as formative sources for Kant’s view of “human nature,” his “idea of ‘race,’” and a “critique of [his] anthropology and raciology,” Eze concludes by claiming that Kant’s “philosophical anthropology becomes the logocentric articulation of an ahistorical, universal, and unchanging essence of ‘man’ . . . , [a] ‘universalist-humanoid abstraction,’ which colonizes humanity by grounding the particularity of the European self as center even as it denies the humanity of others.”¹⁸ For Eze, consequently, Kant’s interest—clearly evident in the four texts by Kant included in this volume—in the emerging fields of physical geography and anthropology (which, as Eze correctly notes, persisted throughout Kant’s entire career at “the Albertina,” or University of Königsberg, beginning in the mid-1750s through his retirement from lecturing in 1796¹⁹) was sustained primarily by a desire to provide the “logical grounding for natural and racial classification” that was lacking in the binomial classificatory system of the Swedish botanist Carolus Linnaeus (1707–1778), whose *System of Nature* (*Systema naturae*), first published in 1735, had gained him fame and an international reputation as the leading naturalist of the eighteenth century.²⁰ A central concern of Eze’s examination of Kant’s interest in these emerging fields of study is thus to demonstrate how, as Eze would have it, the concept of race ultimately achieves the status of a “transcendental” category in the complete development of the critical philosophy that allegedly makes it possible for Kant to give philosophical weight to what, by comparison, the Scottish philosopher David Hume (1711–1776) could—in a racist comment cited by Kant in a 1764 work—only off-handedly propose, namely, “the assignment of . . . subhuman status to ‘the Negro.’”²¹

The significance of Eze’s work for stimulating further research on Kant’s views of race can hardly be underestimated. I would suggest, however, that anyone who takes the time to read Eze’s original contribution to this debate should also take note of the following three lines of criticism that can now be leveled against his research. First, Eze seems, in view of more recent scholarship referenced below and in much more detail in the next two sections of this introduction, to demonstrate little understanding in his assessment of Kant’s race theory of the extent to which Kant’s interest in the problem of natural classification is actually influenced more by his knowledge of the French

naturalist Georges-Louis Leclerc Buffon's (1707–1788) competing program for research in this budding area of eighteenth-century scientific research than it was by his knowledge of Linnaeus.²² Second, Eze's knowledge and use of the primary source materials that he draws on to support his claims about Kant's views on race must be regarded as either very limited or overly selective, especially when compared with the subsequent work of Larrimore and Bernasconi examined in more detail below.²³ Third, Eze's claim that the concept of race is elevated to the status of a transcendental category in the completed development of the critical philosophy in the course of the 1780s has been soundly criticized by Thomas E. Hill, Jr. and Bernard Boxill,²⁴ as well as by other prominent scholars,²⁵ yet, to my knowledge, he never seriously addressed these criticisms,²⁶ which suggests that his understanding of the critical philosophy was perhaps less comprehensive than might appear to be the case on an initial reading of his article—especially to readers who have only limited familiarity with Kant's works.²⁷

Similar to Eze, Serequeberhan—whose assessment of Kant's “historico-political writings” is part of a larger project “[t]o critically engage in a destructive reading of the texts of the Occidental tradition as regards their views on non-European cultures”²⁸ (which he no doubt rightly believes to be a central problem for the practice of contemporary African philosophy)—portrays Kant as “one of the most distinguished fabricators—or should I say constructors—of the Idea [that European existence is qualitatively superior to other forms of human life] . . . in the modern European tradition.”²⁹ Serequeberhan's criticism of Kant can thus be viewed as an example of ideology critique, which, as described by Douglas Kellner, might—when done as well as it can be done—best be viewed as an effort “to demonstrate the errors, mystifications, and ruling class interest within ideological artifacts which are then smashed and discarded by the heavy hammer of the ideology critic.”³⁰ Consequently, even though Serequeberhan properly notes that “Kant was not a person devoid of sympathy or compassion for non-European peoples,”³¹ he ultimately charges him with *uncritically* defending European “conquest and brutish expansion [as] part of the foresight and divine design of nature” and the violence that accompanied it as “the work of Providence and the *de jure* actualization of reason on a global scale.”³²

Serequeberhan's assessment of Kant's views can, however, like that of Eze, arguably be shown to oversimplify many crucial elements of the critical philosophy, especially Kant's philosophy of history. For Serequeberhan, in spite of the fact that he does demonstrate familiarity with the poststructuralist French philosopher Jean-Francois Lyotard's insightful reevaluation of Kant's “historicopolitical writings,” seems to view Kant's philosophy of history more through the lens of Hegel's notion of “the slaughterhouse of history” than through the lens of Lyotard's final view that Kant's philosophy of history is

more “pre (high)-” or “post-” modern than that of Hegel and Marx. Kant, however, at least as he is ultimately portrayed by Lyotard, seems not to have had nearly so progressive or so optimistic a view of human history as is presupposed by Serequeberhan’s criticism.³³ To suggest, therefore, as Serequeberhan does, that Kant might have believed that the harm done to non-European peoples in the advancement of strong European ideals was in his view ultimately justifiable because of the presumably greater good ultimately resulting from such harm, arguably reflects not only a serious misunderstanding of Kant’s moral theory, according to which the morality of actions is always to be judged by intentions and never by consequences, but also his view of history, according to which nature presents human beings with challenges that must be addressed, such as the scourges of mercantilism, colonialism, and, in general, war, but which only we, and not nature, can ultimately take credit or blame for either resolving or not resolving.³⁴

Serequeberhan is, however, probably misled by Kant’s use of the term *Providence* (*Vorsehung*) in texts such as the 1784 “Idea for a Universal History from a Cosmopolitan Perspective” (*Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht*) to which he gives a strong metaphysical rather than the critical meaning that Kant eventually assigns to this term.³⁵ Further, like Eze, Serequeberhan also seems either not to be aware of or not to have taken seriously enough Kant’s explicit condemnation of European colonial expansionism in key texts of the 1790s, such as the *Metaphysics of Morals* (*Metaphysik der Sitten*), which if sympathetically developed, could surely be used to show that the critical philosophy ultimately has just as much to offer in support of the critique of Eurocentrism to which Serequeberhan wishes to contribute as to its defense.³⁶

By contrast, Larrimore’s and Bernasconi’s assessments of Kant’s race theory, as previously indicated, are much more nuanced and far more comprehensive in their treatment of relevant texts, and they both, especially Larrimore, portray Kant as a figure who was far more conflicted in his view of non-European peoples than do either Eze or Serequeberhan. More specifically, Larrimore uses the image of a palimpsest to describe Kant’s extended work on the concept of race. “Kant’s account of race,” he writes, “is a palimpsest. Its heterogeneous layers are products of different periods of his thinking, while some of its emphases—including its strident rejection of the relevance of historical or anthropological work to the *theory* of race—are crystallized in response to criticism. In combination, the several layers of Kant’s argument make possible a variety of potential answers to the practical question of how one ought to make sense of race, and suggest disturbing implications for the fate of non-white races—answers and implication of which Kant was at least aware.”³⁷ To be sure, Larrimore does give due acknowledgment in his assessment of Kant’s views to all manner of damning

evidence cited by both Eze and Serequeberhan in their condemnations of the critical philosophy, including: (1) Kant's frequent hierarchical ordering of the races, especially in his writings of the 1760s and 1770s, according to which, in a variation of this earlier theme still included in an important theoretical work dating from the year 1788 ("On the Use of Teleological Principles in Philosophy" [*Über den Gebrauch teleologischer Prinzipien in der Philosophie*]), the Americans are "incapable of all cultivation [*Cultur*]" and stand even "far below the Negro . . . who after all occupies the lowest of the remaining grades we have called racial difference" (AA 8:176)³⁸ (while, in another version, the Negroes, while "not capable of any further civilization [*Civilisirung*]," seem perhaps to rank above the Americans inasmuch as "they have instinct and discipline, which the Americans lack") (AA 25/2:843);³⁹ (2) Kant's oft-stated opposition to the mixing of races, or what in the second half of the nineteenth century becomes known pejoratively as miscegenation;⁴⁰ and (3) the comments recorded in the *Reflexionen*, Kant's unpublished notes, in which he contemplates the possibility that "[a]ll races will be wiped out . . . , except for the white [*Alle racen werden ausgerottet werden . . . , nicht nur die der Weissen*]" and also writes, as a parenthetical insertion between the two parts of the previous citation, that "Americans and Negroes cannot govern themselves. Thus are only good as slaves [*Amerikaner und Neger können sich nicht selbst regieren. Dienen also nur zu Slaven*]" (AA 15/2:878).⁴¹ Larrimore's interest in the comments from the *Reflexionen* can indeed be viewed as the source of inspiration for the title of his article, "Sublime Waste: Kant on the Destiny of the 'Races.'"⁴² But—perhaps because he also recognizes how much the comments in the *Reflexionen* contravene core elements of both Kant's anthropology⁴³ and his ethics⁴⁴—Larrimore ultimately defends only the thesis that "race seems weightless in Kant's larger system."⁴⁵ For, as he notes in presenting this thesis: "The teleology of Kant's race theory is discontinuous with that of his philosophy of history. As also on the subject of women, his anthropology and his ethics seem simply to talk past each other. While Kant's anthropology appears to disqualify non-whites from the work of civilization, Kant's ethics never thematizes the racial oppression European thinkers harnessed to this ideal. . . ."⁴⁶

All the same, even if Larrimore—by stressing the elements of the critical philosophy that forcefully counter an undeniable underlying racism in his personal worldview—is generally far more sympathetic to Kant than either Eze or Serequeberhan, his final assessment of Kant could be viewed as better substantiating Serequeberhan's indictment of him as "one of the most distinguished fabricators—or should I say constructors—of the Idea [that European existence is qualitatively superior to other forms of human life] . . . in the modern European tradition" than Serequeberhan himself can lay claim to. This is because in his view the seeming "weightless[ness]" [of

race] in Kant's larger system" also confers "weightlessness [to] the thought that there [is] no place for the (non-white) races in the history of humanity [that] reveals a fundamental quietism in Kant's view of the history of the human species."⁴⁷

To state the point more sharply, Eze and Serequeberhan both portray Kant as a prominent figure of eighteenth-century European philosophy with a fully-developed racist agenda. They differ, however, in that Eze tends to view that agenda as consciously ideological and intentional while Serequeberhan tends to view it as ideologically motivated but neither fully conscious nor intentional. Larrimore, in contrast, portrays Kant more as conflicted, confused, and cautious—ultimately more guilty of sins of omission than of commission. Nevertheless, after providing an admittedly somewhat "conjectural" reconstruction of the way in which "Kant's various statements concerning race might be brought together with each other and with the rest of his thought," Larrimore does ultimately call Kant to account for his "quietism," which, he suggests, is a consequence of the way in which Kant "absolutizes racial difference by means of a two-stage view of racionation insulated from history and ethics," i.e., that Kant, by distinguishing the formation of the distinct races as a fact of natural history from the original "providential" (hence "supernatural") creation of human beings as such, could seriously contemplate the possibility that because "[a]ll races will be wiped out . . . except for the white" as a consequence of natural processes so powerful and inevitable that there really is—despite what was traditionally taught as a fundamental precept of Kant's ethics, namely, that *ought* implies *can*—no point in attempting to counter them.⁴⁸

Larrimore's criticism of Kant for his "quietism" thus clearly arises from his recognition of the disparity between the view we would expect Kant to have—given our usual understanding of his moral theory—and the view he seems to be expressing in the *Reflexionen*, in which he contemplates the possibility that "[a]ll races . . . except for the white" might be "wiped out" without the thought of this possibility ever evoking in him any sense whatsoever of a moral obligation to prevent it from happening. What makes recognition of this disparity even more disturbing to Larrimore, however, is that he also recognizes that there were contemporaries of Kant with ethical theories far less well-developed than his—such as the German naturalist, travel writer, and essayist, Georg Forster (1754–1794), and Johann Friedrich Blumenbach (1752–1840), a professor of medicine at the Georg-August-Universität (Göttingen) usually referred to as the founder of physical anthropology—who "thought that the non-white races might in various ways be saved from their degeneration."⁴⁹

The clear differences between Larrimore's critical evaluation of Kant's race theory and those of Eze and Serequeberhan are therefore significant. More detailed and more nuanced, Larrimore's evaluation is both more

sympathetic and more damning: more sympathetic because of the proper emphasis he gives in his thorough presentation of Kant's views to the elements of the critical philosophy that clearly counter Kant's personal, underlying racist sentiments, but more damning because Larrimore ultimately portrays Kant as a figure who clearly seems not—precisely because of the race theory that he did develop—to have been able himself to take his own countervailing views as seriously as have, fortunately, most Kantians in the past two centuries.⁵⁰

These differences are also apparent in Bernasconi's appraisal of Kant—even if he does not always emphasize the comparatively sympathetic side of his research either in the presentation of his theses or in his defense of them. Bernasconi's articles might, therefore, be characterized as “playfully contentious,” as is perhaps most evident in the titles of the two articles on Kant's view of race that appeared in the early 2000s for which he is most well known: “Who Invented the Concept of Race? Kant's Role in the Enlightenment Construction of Race,” which appeared in 2001, and “Kant as an Unfamiliar Source of Racism,” which appeared in 2002.⁵¹ The initial statement of the thesis of the second of these two articles is indeed unapologetically provocative. Beginning with a citation from a 1972 lecture by Isaiah Berlin not published until 1997, “Kant as an Unfamiliar Source of Nationalism,”⁵² Bernasconi proposes that “[j]ust as Berlin shows a connection between Kant and nationalism,” he will “do the same for Kant and racism.”⁵³ But, while Berlin, according to Bernasconi, was content only to demonstrate how the ideas that motivated Kant's “deeply rational and cosmopolitan” liberal internationalism were “turn[ed] into their opposites” by other prominent figures of late eighteenth and early nineteenth-century German philosophy, such as Johann Gottfried Herder (1744–1803) and Johann Gottlieb Fichte (1762–1814), Bernasconi wishes to show “that, in spite of Kant's avowed cosmopolitanism . . . evident in such essays as his ‘Idea for a Universal History with a Cosmopolitan Purpose,’ one also finds within his philosophy expressions of a *virulent and theoretically based racism*, at a time when scientific racism was still in its infancy” (emphasis added).⁵⁴

About halfway through the long introductory section of Bernasconi's second article, which, as he later notes, is needed to “[establish] a context for reading Kant's discussions bearing on racial issues”⁵⁵ that follow in the subsequent three sections, it becomes clear, however, that his initial, stated thesis is more grandly programmatic than specific to this single article, which, as he then, more modestly, stresses, will “focus only on Kant's original contribution within the history of racism, ignoring his subsequent use by racists, such as National Socialists in Germany.”⁵⁶ Thus, rather than making good on programmatic promises both to show how Kant's liberal internationalism is stained by an underlying “virulent and theoretically based racism” and, perhaps even more significantly, “that Kant's understanding of race is at stake in

the discussion of teleology in the *Critique of Judgment*,⁵⁷ Bernasconi really does little more in this second article than to detail Kant's views in "three of the specific areas in which [he] has been or can be associated with racism"—namely, (1) "[his] position *or rather lack of a stated position* on the trade in African slaves and their use in America" (emphasis added), (2) his views on "the issue of colonialism," and (3) his opposition to "race mixing."⁵⁸ For, as the reader might have already surmised by the inclusion of the emphasized wording in Bernasconi's identification of the first of the three "racial issues" examined in this article, the case he makes against Kant at that stage of his programmatic research parallels far more the work of Larrimore—who credits Bernasconi for stimulating his own research⁵⁹—than that of either Eze or Serequeberhan. For it is Kant's "silence" (*pace* Larrimore's focus on Kant's "quietism") on the practice of chattel slavery, which, as Bernasconi, to his credit, correctly notes, "ran entirely counter to the principles of his moral philosophy," that "has to be assessed"⁶⁰—because the evidence at hand suggesting that Kant explicitly endorsed such practices could, according to Bernasconi, be viewed just as easily as nothing more than evidence that Kant was knowledgeable about such practices, which, had he ever been pressed to clarify on the basis of his own theoretical work, he would surely have condemned, even if, according to Bernasconi, he never did.⁶¹

Similarly, after properly stressing that "Kant was vociferous in his condemnation of the colonial practices of the Northern European powers" in the initial explication of the second of the three "racial issues" considered in this article, Bernasconi goes on to note, *pace* Serequeberhan, that "it can [nevertheless] be argued that certain aspects of Kant's philosophy may have lent themselves to a colonialist ideology," a suggestion that allows Bernasconi to reference again "the model proposed by Berlin whereby Kant's philosophy may have been opposed to the more vicious forms of colonialism but perhaps contributed to them nevertheless."⁶² Soon, however, after reintroducing this thesis, Bernasconi concedes that it is not a topic that he is prepared to examine in detail in this article,⁶³ and in the concluding paragraph of this section of the article, in which he presents an informative and reasonably balanced account of Kant's cosmopolitan critique of colonialism, he distinguishes his own project from that of Serequeberhan. "Because Serequeberhan's aim is the broad one of exposing the failure of contemporary philosophers to address the eurocentricism in philosophy . . ." he writes, "he is concerned with the effects of Kant's thought [and] does not develop the specific problem I am raising of how Kant's insistence on the permanence of race can be reconciled in practice with his cosmopolitanism, particularly given that he understood the diversity of races as the work of Providence."⁶⁴

When read carefully, it becomes clear then that Bernasconi's case against Kant in his second article depends primarily on what can be said

about his opposition to “race mixing”—“even though,” as Bernasconi is also quick to admit in his introductory comments, “[Kant’s] comments on this issue are not especially prominent.”⁶⁵ To his credit, Bernasconi is, however, less concerned with Kant’s “comments on this issue” than he is with defending the claim that “Kant provided the *epistemological framework* that would subsequently help to sustain [the political opposition against race mixing that already existed in European societies in the eighteenth century]” (emphasis added).⁶⁶ Thus, even if Bernasconi promises far more in this article than he delivers, it, together with the article he published the previous year, heralds a significant shift in the literature toward understanding Kant’s views on race as an unfortunate episode in the history of science rather than as simply a problem of consistency within Kant’s moral and political philosophy or as a problem that is best understood, *pace* Serequeberhan, as a simple, easily diagnosed, case of ideological “false consciousness.”

Consequently, to understand well Bernasconi’s evaluation of Kant’s views on “race mixing” in the final section of his second article, this evaluation must be considered in connection with the thesis of the article that appeared a year earlier, “Who Invented the Concept of Race?” For, in order to respond credibly to the question posed by this title, Bernasconi finds it necessary to draw on an already well-established body of research in the history of science that does not figure at all prominently in the work of either Eze or Serequeberhan—in spite of the fact that Eze, as previously noted, does make a supposed close connection between Kant and Linnaeus, namely, Kant’s alleged interest in providing the “logical grounding for natural and racial classification” that was lacking in the binomial classificatory system for which Linnaeus had become famous.

The specific way in which Bernasconi’s two articles are related is clear then from a passage early in the second of them in which he boldly asserts: “That Kant was a leading proponent of the concept of race when its scientific status was still far from secure is well established. Indeed, Kant can legitimately be said to have invented the scientific concept of race insofar as he gave the first clear definition of it. . . .”⁶⁷ When, however, we consult the endnotes to the article for evidence of the claim made in the first of these two sentences, we find: (1) only a general claim that the point “seems to have been widely recognized in the nineteenth century and first half of the twentieth and seems to have been forgotten only in the last fifty years and then primarily by philosophers”; (2) a brief statement of the central claim of the other article, namely, “that Kant, and neither Buffon, nor Blumenbach, invented the scientific concept of race”; and (3) a very general reference to Eze’s article, “The Color of Reason.”⁶⁸ Consequently, if the claim “[t]hat Kant was a leading proponent of the concept of race when its scientific status was still far from secure is well established” is itself as secure as Bernasconi asserts,

the evidence will have to be sought in the earlier of the two articles, not this one. The second of these two articles does nevertheless make clear why this issue is as significant as Bernasconi thinks it is. For whatever definition of race is ultimately attributed to Kant—whether or not Bernasconi can make good on his claim that Kant was, in some sense or other, the inventor of the concept—it is clear from the references provided in the final section of the second of these articles that Kant was indeed generally “opposed to the mixing of races” and that his views on this matter are recorded in texts dating from the 1760s through the late 1790s.

Consequently, for Bernasconi, the case against Kant—if we might call it that—would seem ultimately to rest on the claim that he was, if not “the inventor” of the concept of race, most certainly a major contributor to the discussion of this concept during the formative period of its modern historical development and that these views were not merely a matter of unreflective personal prejudice but instead the product of a well-developed theoretical framework. Further, if—with this argument in hand—the details of this theoretical framework can be presented in sufficient detail, the claim might also be made that Kant’s views on race stand much closer to the core of his systematic project than scholars generally sympathetic to the critical philosophy are typically inclined to believe, which is indeed what Bernasconi has at times suggested.⁶⁹

All the same, in the final section of the second of these two articles, when Bernasconi comes closest to making good on his programmatic project to uncover a significant racist undercurrent in the liberal internationalism of Kant’s cosmopolitanism,⁷⁰ he instead shifts the focus to the more general problem of how Kant could have come to the conclusions about “race mixing” that he did rather than filling in the details of his case against Kant by identifying the specific connection between his race theory and the “core” beliefs of the critical philosophy. For example, after defending well the claim that Kant “[opposed] race mixing on the grounds that it would diminish the White race” and suggesting that in doing this “Kant seemed to have excluded the best means left open to him for explaining how non-Whites, especially Native Americans and Blacks, might come to play an equal part in the cosmopolitan ideal,” Bernasconi poses questions for further investigation rather than simply writing Kant off as yet another eighteenth-century white male racist in the way that Eze and Serequeberhan tend to do.⁷¹ Further, even if the final sentence of the final paragraph of the article, in which Bernasconi points to Kant’s “role in the development of the scientific concept of race with its power to legitimize prejudices against race mixing and against non-Whites generally,”⁷² is harsh, the first several sentences of the paragraph are more simply programmatic and rather modest. “In this paper,” he writes, “I have focused on trying to establish that Kant’s racism presents a philosophical

issue that should not be dismissed or side-stepped. I do not claim to have resolved how his racism and his cosmopolitanism can be combined, but I have also not sought to make the problem disappear by ignoring those passages that do not fit with our image of him, as so many Kant scholars have chosen to do. *There are tensions within Kant that need to be recognized . . .* (emphasis added).⁷³

Bernasconi's second major contribution to this discussion, "Kant as an Unfamiliar Source of Racism," can thus perhaps best be described as one of those especially important contributions to scholarly debate on a controversial subject that raises more problems than it solves. Certainly, it has stimulated significant, further discussion of how, if at all, Kant's by now well-documented interest in and contribution to the widespread discourse of his time on topics of race dating from the 1760s through the 1790s can be reconciled with the development of his philosophy of history and his moral and political philosophy in the 1780s and 1790s—including, therefore, his liberal internationalism; and we can be certain that the discussion of this problem has not yet ended. For even if we were satisfied with the account of Kant's development during this latter period that one prominent, recent critic of Bernasconi, Pauline Kleingeld, sketches, according to which "Kant texts from the mid-1790s show that he had had second thoughts about his earlier hierarchical account of race" primarily because "his disturbing views on race contradicted his own moral universalism,"⁷⁴ there would still be a need—at least among Kant scholars and others interested in coming to terms with the historical development of the modern concept of race—to account for how such changes in viewpoint were either prompted by or reflected in published work of the late 1780s and 1790s in which Kant still found a need to say something on the topic of race.⁷⁵

Bernasconi's earlier article, "Who Invented the Concept of Race? Kant's Role in the Enlightenment Construction of Race," is, however, also significant for such a discussion, because it can easily be argued that it was this article in particular—even more than the second—that truly marked a certain shift in the scholarly discussion toward serious studies in the history of science that not even Kleingeld, whose previous work in this area has focused on Kant's philosophy of history and his moral and political philosophy and not at all on his philosophy of science,⁷⁶ can ignore. What then, precisely stated, is the central thesis of "Who Invented the Concept of Race?" The title of the article is of course provocative, but anyone who actually reads the article carefully will surely come to recognize that the thesis that Bernasconi ultimately defends is, as previously suggested, far more modest and qualified than the title would suggest. For, as Bernasconi emphasizes only a few sentences into the article, "by 'the inventor of the concept of race,' I mean the one who gave the concept sufficient definition for subsequent users to believe that they were

addressing something whose scientific status could at least be debated,⁷⁷ and, when explicitly stating his thesis a few pages later, to wit, “that, if any person should be recognized as the author of the first theory of race worthy of the name, it should be the German philosopher Immanuel Kant,” he has already qualified his claim significantly by noting that “[t]he idea of a single author of the concept of race is at best only a useful fiction.”⁷⁸

Bernasconi's statement of the thesis of this article is thus nuanced; but the development of the argument offered in support of the thesis is not. Bernasconi straightforwardly reviews the arguments and evidence that have been or might be offered on behalf of the claim that seventeenth- and eighteenth-century figures other than Kant, including the French Gassendist philosopher, physician, and travel writer François Bernier (1625–1688), Linnaeus, Buffon, or Blumenbach, should be given the dubious honor of being credited with being the inventor, in his qualified use of the term, of the *concept of race*; and he arguably demonstrates that none of these figures used the term or, more specifically, was as concerned with the problem of offering a precise, technical definition of it—and *defending* that use—as was Kant.

Bernasconi's argument for the claim that Kant was the “inventor” of the modern concept of race in the sense that Bernasconi gives to this term does then merit more serious consideration than can be given to it here. Several comments can nevertheless be offered in the interest of ensuring that his claim and its implications are not misunderstood.

First, as will be discussed further in the next section, Bernasconi correctly emphasizes that “the concept of race [that Kant ultimately defends] was [first] introduced to buttress the case against polygenesis”⁷⁹—that is, it was introduced in defense of a viewpoint that is typically regarded as “Biblical” and opposed to any enslavement of non-Whites on the grounds that they are not fully human. As Bernasconi also clearly demonstrates, however, there was not, during this period, “any necessary connection between one's position on the monogenesis-polygenesis dispute and one's position on slavery.”⁸⁰

Second, on Bernasconi's account, Kant's interest in the concept of race derives primarily from his interest in defending Buffon's idea of natural history—that is, from genuinely scientific rather than ethical or political motives⁸¹—and his continuing interest in defending the concept derives more from a need to defend himself from the criticisms of figures such as his former student, the philosopher and essayist Johann Gottfried Herder (1744–1803), and as previously noted, Georg Forster, whose views he attacked primarily on scientific grounds rather than from any ethical or political interests.⁸² Similarly, what brought Kant and Blumenbach together, according to Bernasconi, was not ethical or political issues, but broader philosophical interests in defending the theory of epigenesis—that is, the view, as will be discussed in more detail below, that every individual begins from material

that is unformed, with the form emerging only gradually, over time, as providing a better scientific account of the mechanical forces involved in the generative processes of nature than the previously dominant theory of “preformed seeds,” or preformationism, which had been advanced by prominent eighteenth-century scientists such as the George-August-Universität (Göttingen) anatomist, physiologist, and poet, Albrecht Haller (1707–1777).⁸³

Third, if the concept of race plays a significant role in the further development of the critical philosophy in the years immediately following Kant's broadside attack on Herder's *Reflections on the Philosophy of the History of Humankind* (*Ideen zur Philosophie der Geschichte der Menschheit*)—including a central role in motivating research leading to the compositions of a third and final critique, the *Critique of the Power of Judgment* (*Kritik der Urteilskraft*), first published in 1790⁸⁴—it is not, according to Bernasconi, simply because Kant was seriously interested in defending the concept of race itself nor, as Eze claims, because he wanted to give philosophical weight to what, by comparison, Hume could only off-handedly propose, namely, the “subhuman status” of the Negro, by elevating the concept of race to the position of a “transcendental” category, but rather because, as Bernasconi clearly states near the end of the article, “As Kant understood it, racial differences called for a purposive account,”⁸⁵ and, as he had previously shown, “The blackness of Blacks provided Kant with one of his most powerful illustrations of purposiveness within the biological sphere.”⁸⁶ To his credit then, Bernasconi does not reference the work of Eze at all in developing this point; he refers instead to the work of scholars whose interests focus more generally on the early history of the human and life sciences and only, if at all, derivatively on the construction of the concept of race. But, regrettably, he also does not provide his readers with any detailed discussion of the epistemological and systematic significance of “the principle of the formal purposiveness of nature,” which Kant did indeed present in his introduction to the third critique as a “transcendental principle of judgment” (AA 5:181), without which the significance of the fact that the “blackness of Blacks” did “[provide] Kant with one of his most powerful illustrations of purposiveness within the biological sphere” can easily be misunderstood. Bernasconi instead shifts the discussion to an account of Kant's possible influence on Blumenbach, concluding that “[t]he transformation of Blumenbach's philosophy of science in the ten years after 1788 was largely toward a form of Kantianism.”⁸⁷

Finally, even if Bernasconi by the conclusion of his article is clearly convinced that he has successfully defended his central thesis concerning Kant's role as “the author of the first theory of race worthy of the name,” he is ultimately quite circumspect about drawing any further conclusions from this point. He is indeed careful to suggest that much research still needs to be done to determine, more precisely than he is capable of doing in this brief

article, both the significance of the concept of race in the development of the critical philosophy⁸⁸ and the historical importance of Kant's contribution to the construction of a concept of race that could finally be taken seriously by scientists.⁸⁹

As should be obvious then from the foregoing discussion of the work of Eze, Serequeberhan, Larrimore, and Bernasconi, there already exists a clearly well-defined and well-developed, but still relatively small, core literature concerned with assessing Kant's contribution to race theory.⁹⁰ There is, on the other hand, no single article or set of articles, within the context of more narrowly defined research in the philosophy and/or history of biology, that similarly marks the emergence of significant concern with the second issue in recent Kant studies to which this volume will hopefully contribute—namely, Kant's importance for the development of modern biology.⁹¹ The appearance, however, within the past decade of collections of essays both on Kant's philosophy of biology⁹² and on “the problem of animal generation in early modern philosophy”⁹³ clearly indicates that a certain undercurrent of scholarship in this area that has been around for at least the past four or five decades in the English-speaking world has finally fully surfaced and that it can no longer be ignored or considered an area of only minor interest in Kant scholarship.⁹⁴

For anyone with even the slightest familiarity with the controversy that has emerged in recent years over Kant's role in what has, with respect to the first of these issues, been termed, more specifically—but perhaps somewhat misleadingly—“the German invention of race,” the need for translations of the texts included in this volume is thus obvious.⁹⁵ For while most of those who have recently written on this topic are clearly capable of reading and analyzing these texts in the German original, many others with interests in this area no doubt do not have such command of the German language and must, therefore, either feel that they have been left out of the discussion entirely or that they are severely limited in what they can contribute to it because they do not have access to the relevant texts.⁹⁶ The existence of complete translations of all of what are now being termed Kant's *Rassenschriften* (race writings) even by scholars whose primary interests lie more with evaluating his philosophy of biology than his race theory,⁹⁷ will thus hopefully contribute greatly to the resolution of some of the debates surrounding Kant's role in the development of the modern concept of race. Further, as the discussion in the English-speaking world surrounding Kant's philosophy of biology progresses, these translations will surely come to play a similar role in the debates emerging in this exciting area of Kant research and eighteenth-century studies.⁹⁸ For those with special interests in this discussion, I only regret that it has not been possible to include in this volume the translation of three other texts by contemporaries of Kant of considerable importance for both of these

debates—and for coming to terms with the many ways in which Kant's race theory was clearly shaped by his philosophy of biology—that I had originally planned to include in this volume.⁹⁹ I do, however, hope to complete my work on these translations and to make them available in the very near future.

I leave it, on the other hand, to the further development of current discussions concerning the crisis of liberal internationalism to determine more conclusively the significance of Kant's serious interest in the concept of race both for the evaluation of his own liberal internationalism and for liberal internationalism as it has actually developed in the more than two centuries since its modern inception.¹⁰⁰

The Texts

The four texts by Kant included in English translation in this volume first appeared in the years 1775, 1777, 1785, and 1788. They well reflect, therefore, Kant's thinking on subjects such as race (*Race* or *Rasse*), purposiveness (*Zweckmäßigkeit*), and what he typically refers to in these works as “organic being” (*organisches Wesen*) from what has traditionally been referred to as the “precritical” period, specifically, the “silent” decade of the 1770s, during which he is usually portrayed as having been preoccupied only with formulating the critical project first presented with the publication of the work for which he is most well known, the *Critique of Pure Reason* (*Kritik der reinen Vernunft*), which first appeared in 1781,¹⁰¹ to the year in which he first published his second critique, the *Critique of Practical Reason* (*Kritik der praktischen Vernunft*), seven years later, in 1788, and began formulating the third, the *Critique of the Power of Judgment* (*Kritik der Urteilskraft*).

These four texts by Kant include, first, a brief introductory discussion of the issues to be taken up again in later texts that was prepared as a course announcement for the lectures on physical geography that Kant offered in the summer term of 1775. This text, under the same title, “Of the Different Human Races” (*Von der verschiedenen Racen der Menschen*), was then published—in a significantly expanded version—in a collection of essays apparently intended to showcase the work of authors writing in the style of the “popular philosophy” of the day entitled *The Philosopher for the World* (*Der Philosoph für die Welt*) two years later, in 1777.¹⁰² Translations of both the 1775 and the 1777 versions of this text are, therefore, included below, because knowledge of the differences between the two texts is of some significance in understanding the development of Kant's thinking about the concept of race. The third text by Kant included in this volume did not, however, appear until eight years later, in 1785, four years after the publication of the first edition of the *Critique of Pure Reason*, two years before the publication of

the second, significantly revised edition of this same critique, and three years prior to the publication of the second critique. This third text bears the—to us surely ominous—title, “Determination of the Concept of a Human Race” (*Bestimmung des Begriffs einer Menschenrace*).¹⁰³ More perplexing than this title, however, for many commentators, as will be considered in more detail below, is why Kant would even have been concerned with the subject matter of this article. The title of the last of the texts by Kant, on the other hand, from the year 1788, “On the Use of Teleological Principles in Philosophy” (*Über den Gebrauch teleologischer Prinzipien in der Philosophie*),¹⁰⁴ clearly suggests its connection to the third and final critique, first published in 1790, the second part of which is titled “Critique of the Teleological Power of Judgment” (*Kritik der teleologischen Urteilskraft*).¹⁰⁵

The best commentators have then generally not found it difficult to account for Kant's 1775 and 1777 contributions to the topic of race in the context of the many discussions of this subject that played out in the intellectual discourse of the “enlightened” societies of Europe in the middle decades of the eighteenth century.¹⁰⁶ Kant's interests were at least threefold. First, the topic of race was generally included as part of eighteenth-century discourse in the emerging field of physical geography, a field for which Kant's importance during this period has actually long been recognized, especially by geographers.¹⁰⁷ Consequently, Kant would naturally believe it appropriate to include some discussion of race in his plans for this course, and a promise of examining this topic in his lectures—which provided him an opportunity to talk of exotic peoples from far-off lands—might have even been beneficial in attracting students. Second, Kant clearly wants in this text to counter the thesis of polygenesis—that is, the theory that differing subgroups of human beings might be descended from different original ancestors from different parts of the world, a view seriously defended during this period by, among others, Voltaire.¹⁰⁸ Third, Kant seems during the 1770s still to be under the influence of the “popular philosophy” of the time, as represented best by his most well-received work prior to the publication of the first critique, the 1764 *Observations on the Feeling of the Beautiful and the Sublime* (*Beobachtungen über das Gefühl des Schönen und Erhabenen*), which had also included materials concerned with the division of humankind into various races.¹⁰⁹ Kant's decision to revise and publish an expanded version of the 1775 course announcement as a full-length article a couple of years later in a significant collection of articles showcasing the “popular philosophy” of the time might, therefore, be viewed as an indication that he wished to maintain the reputation that he had established in the previous decade as one of the leading “popular philosophers” of his day, but, as John H. Zammito notes, “This text represents Kant's only significant *publication* as a ‘popular philosopher’ in the 1770s,”¹¹⁰ and the image of the “popular philosopher” provided by other

sources hardly matches the image we have of Kant in the decade preceding the publication of the first edition of the *Critique of Pure Reason* in 1781.¹¹¹

The publication of the 1785 article is, however, as previously suggested, not so easily accounted for—especially not if the development of the critical philosophy during the decade of the 1780s is understood simply in terms of an interpretive framework common in English-language Kant studies of the past century. For, according to this view, which was no doubt influenced by the predominance of the Neo-Kantian interpretive framework that greatly influenced twentieth-century Anglo-American Kant scholarship, Kant, having first written a major *epistemological* critique of *metaphysics*, namely, the *Critique of Pure Reason*, simply decided (as if, perhaps, he had nothing better to do) to try his hand at *ethics*, which resulted in the publication of the *Critique of Practical Reason*, and still later, after this effort had met with sufficient approval, at *aesthetics*, which resulted in the publication of the *Critique of the Power of Judgement*.¹¹² A major problem for this way of accounting for the development of the critical philosophy in the decade after the appearance of the *Critique of Pure Reason* is, however, that it does not take into consideration what might be designated the internal, or systematic, motivation that led Kant to believe that to complete the *critical*, in contrast to the *metaphysical*, part of his philosophy, the first critique would need to be supplemented, first, by a second, and, thereafter, by a third and final critique, which is indeed comprised not only of a “Critique of the Aesthetical Power of Judgment” (*Kritik der ästhetischen Urteilskraft*), but also, as previously noted, a “Critique of the Teleological Power of Judgment.”¹¹³

A clue to explaining Kant's interest in composing the 1785 article in which he proposed a rigorous definition—i.e., a “determination” (*Bestimmung*) of the concept of race—can, however, be found in the wording of a couple of sentences that appear near the beginning of another, far more well-known, work of his published in the same year, the *Groundwork for the Metaphysics of Morals* (*Grundlegung zur Metaphysik der Sitten*), which have no doubt perplexed many a reader. The passage, which begins the first sentence of the fifth paragraph of the first section of the work (“Transition from Common Sense Knowledge of Morals to the Philosophical”), reads as follows: “In the natural constitution of an organized being (i.e., one suitably adapted to life [*eines organisierten, d. i. zweckmäßig zum Leben eingerichteten Wesen*]), we assume as an axiom that no organ [*Werkzeug*] will be found for any purpose [*Zweck*] which is not the fittest and best adapted [*das schicklichste und . . . am meisten angemessen*] to that purpose. Now if its preservation [*Erhaltung*], its welfare, in a word, its happiness, were the real end [*der eigentliche Zweck*] of nature in a being having reason and will, then nature would have hit upon a very poor arrangement in appointing the reason of the creature to be the executor of this purpose [*Absicht*]. . . .”¹¹⁴

As anyone with even the least familiarity with Kant's moral philosophy knows, this passage, inserted in this work, at this place, is typically read only as a foil for the passage to follow, in which Kant presents his view that moral reasoning is, in some sense of the word, *opposed* to nature and not something that nature straightforwardly provides us.¹¹⁵ However, the texts by Kant included in this volume arguably present us with fragments from a long, slowly developing *critical* reflection on the nature that is positively described in this brief passage—namely, a nature that is indeed comprised of “organized beings . . . suitably adapted to life” in whom “no organ will be found which is not fitted and best adapted for that purpose.”¹¹⁶ Further, one of the primary examples of the kind of natural “purposiveness” with which Kant is deeply concerned in these texts is indeed, as previously noted, the fact that the skin color of African blacks is darker than that of European whites, which Kant clearly already conceives—albeit *uncritically* at this point in the development of the critical philosophy, prior, that is, to the appearance of the third critique—as a “purposive adaptation” of nature to protect the Africans from the hotter temperatures of their climate. Kant, however, in developing his understanding of nature in the context of issues such as this—discussions which he explicitly frames as outside the framework of the kind of study of nature which alone, by the strict standards of the first critique, attains the status of a proper, “actual” or “real” (*eigentlich*), science, but clearly not, thereby, as of no interest to him—also undeniably concludes that the black skin color of African Negroes is a certain “characteristic feature,” or “mark” (*Merkmale*), and “distinguishing feature,” or “sign” (*Kennzeichen*), of their “generative origination” (*Erzeugung*) as a distinct race apart from “whites.” At the same time, the fact that “blacks” (*Schwarze*) can interbreed with whites and produce fertile offspring is for Kant a clear indicator that they share the same ancestral “progenitor” (*Stammvater*) with whites and that prior to their separation into differing races there must have been a “lineal stem species” (*Stammgattung*) which they shared not only with each other but with the other two races that Kant—at least in the texts dating from 1777 and later—typically refers to as “<Asian->Indians” and “Americans” (even if his discussion of these latter two races is generally less certain than what he has to say about “Negroes” and “whites,” who he refers to in the 1777 article as the “base races” [*Grundracen*]).¹¹⁷

What, specifically, might count then as a plausible explanation of the motivation for the publication of Kant's 1785 article, “Determination of the Concept of a Human Race”? As the foregoing discussion suggests, to answer this question well we surely do, as Emmanuel Chukwudi Eze recommends in his seminal 1994 article, “The Color of Reason: The Idea of ‘Race’ in Kant's Anthropology,”¹¹⁸ need to take into consideration a certain undercurrent in the development of the critical philosophy in the 1770s and 1780s that has

not always been well recognized. Further, we can also agree with Eze that evidence of this undercurrent can be found through an examination of Kant's interest in fields such as physical geography and anthropology. These interests must nevertheless also be understood as part of a larger, continuing effort to come to terms with the reasonableness of teleological explanations in general—even if such explanations have no place in the scientific study of nature represented foremost by Newtonian physics¹¹⁹—and in the context of Kant's interest in the emerging field of natural history, which he does indeed champion in the articles of 1775, 1777, and 1785. For the extent to which Kant was interested in promoting the emerging field of natural history is clearly evident from the common beginnings of both the 1775 and 1777 texts, in which he refers to “Buffon's rule that animals that produce fertile young with one another belong to the same physical species (no matter how different in form they might be)” (AA 2:429) in setting up his defense of monogenesis. Finally, to understand the significance of these interests, Kant's emphasis in stressing this point must also be understood within the context of even greater controversies then making their way through the leading German universities of the 1770s and 1780s.

Two of the broader developments of this period within which discussion of the 1785 article must also be framed are then, first, the continuing influence of Buffon, whose 1779 *Epochs of Nature* (*Des époques de la nature*), which has been described by Phillip R. Sloan as an “ambitious synthesis of historical cosmology, geology, and a history of life,” appeared in a German translation in 1781,¹²⁰ and, second, the issue of whether or not adaptative features of human beings, such as skin color, can be accounted for simply in terms of external factors, chiefly climate. Further complicating Kant's interest in defending the views presented in the 1770s articles, however, was indeed, as previously noted, the growing popularity of the work of figures such as Johann Gottfried Herder, his former student, the first part of whose *Reflections*—a work that Sloan describes as resembling “in certain broad outlines”¹²¹ the recently published *Epochs*—appeared in April 1784, and Christoph Meiners, whose *Outline of the History of Humankind* (*Grundriß der Geschichte der Menschheit*) appeared a year later. For both of these figures offered alternatives to Kant's views of how natural history should be investigated and written that seem initially to have been far more appealing to the educated public than were the views of Kant. As an introduction to Kant's 1785 article, we might, therefore, briefly consider how it represents a response to the trends represented by each of these counter-developments from this period. At the same time, this discussion can also help make clear what is at stake—both to the detriment of Kant's reputation and to its benefit—in the debate over the sense in which he might reasonably be given the dubious title of “the inventor” of the concept of race.¹²²

As is clear, however, from the texts by Kant included in this volume, the chief difference between Linnaeus' and Buffon's approaches to classification is that Linnaeus' system is primarily *morphological* while that of Buffon is *phylogenetic*.¹²³ For Linnaeus and his defenders, the study of natural history was, therefore, not considered essential to the project of systematic classification, but for the defenders of Buffon, including Kant, a system of classification that did not take into account historical development was not to be regarded as properly scientific. Consequently, for Buffon and his followers, historical lineage must ultimately take precedence over mere apparent form in establishing the relationship between living organisms, animals or plants. Kant, however, in adopting the perspective of Buffon, also proposes that the investigation of such historical development cannot be successful without first establishing a formal concept to guide it, that is, a theoretical, or a priori, concept that could be used to make sense of the otherwise incoherent mass of information, or data, with which we are empirically confronted.¹²⁴ Hence, Kant's special interest among his contemporaries for constructing and defending a concept of race was not motivated primarily by an agenda that can be simply described as either explicitly or implicitly ideological, *pace* Eze or Serequeberhan, but instead by the legitimate interest in constructing a conceptual framework by which the human species might be divided into identifiable groups with distinctive historical, that is, hereditary, or as we would now more likely say, genetic lines of development.

We can clearly see then how much we owe to Buffon and his defenders—including Kant—for making the case for this viewpoint, without which the historical development of the biological sciences as we know them today would clearly not have been possible.¹²⁵ For human history itself, however, this “advance” for the study of natural history clearly came at a high price, because, as we also know all too well, the explanations offered not only by Kant but by most other “scientifically-minded” investigators in the next hundred and fifty or so years often focused on that one feature of human beings that seemed to many, including Kant, most prominent, namely, skin color—even though many leading figures of the period, some of whom are mentioned explicitly in the texts included, already argued, as we would now, based, however, upon scientific research that was neither available nor conceivable to them, that this feature is not very significant at all.¹²⁶

What were then the major competing scientific views offered during this early period of such investigations to account for difference in skin color? As should already be evident, the explanation that Kant offers in all of these texts is both frightfully near and far from our own view. For Kant is surely correct in arguing that climatic conditions alone—that is, climatic conditions without reference to some other underlying *structural* mechanisms, or what might more properly be referred to, as Kant did, as organized systems, within

the human body itself—cannot account for such differences. But in arguing for this view—which, when read carefully, makes clear both why German scholars of the second half of the nineteenth century could defend the view that Kant was a precursor to Darwin (even though he was clearly dogmatically committed to the notion of fixed species) and how deeply embedded his views were rooted in (if, however, arguably not ultimately committed to) the species essentialism that characterizes the period in which he writes¹²⁷—Kant also developed a very detailed theory that he claims to be empirically testable, but which the present-day reader can easily see to be seriously problematic (even if it did constitute for Kant something of an “inference to the best explanation”¹²⁸).

Briefly sketched, Kant's view is as follows. Human beings, alone among the creatures of the earth, must have been created in a way that provided for their dispersal over the entire surface of the earth. To make this possible, they must have been outfitted from the very beginning with certain “germs” (*Keime*) and “endowments” (*Anlagen*), or, alternatively translated, as discussed in more detail in the final section of this introduction, “predispositions.” As explained in the 1775 and 1777 texts, the “germs” are supposed to govern the “development” in an organic body that “concerns a particular part <of the plant or animal>,” while the “endowments” direct the development that “concerns only the size or the relationship of the parts [of a plant or animal] among one another” (AA 2:434; see below, 49 and 63–64). What presumably explains the origination of the different races from a single “lineal stem species” (*Stammgattung*) is thus—to borrow anachronistically, but appropriately, from contemporary discourse concerning these matters—that depending upon the climate of the region in to which a population group migrated, different “germs” and “endowments” were either turned on or off as necessary to make that group “fitted” (*anpassend*), or “suited” (*angemessen*), for that environment, as determined by the need to preserve, or, alternatively translated, to maintain (*erhalten*), the species.

Kant's undeniable fixation on skin color—explicitly emphasized in the 1785 article (but implicit in all of these selections)—as the *only* physical “character” (*Charackter*) by means of which “racial distinctions” (*Racenunterschiede*) can be made, should of course be especially disturbing to readers of these texts—even if, to employ contemporary terminology, Kant was correct in identifying skin color as a heritable, adaptive feature that, as a consequence of long-term climatic conditions, varies in *expression*.¹²⁹ But in the attempt to understand how a thinker as brilliant—and, presumably, as morally uncompromising—as Kant could have been so wrong about the significance of skin color as a defining *racial* feature and to set his theories in historical context, it must also be noted that: (1) Kant ultimately derives no explicit moral *oughts* from what he empirically believes to be the *is* (even if he does, in addition

to making many comments that can indeed only be described as disgustingly “racist,” frequently blur—as his recent critics never fail to note—the strict distinction between the physical and moral uses of the term *character*);¹³⁰ (2) Kant's theories about the origination of the different races and his numerous alternative attempts to explain the basis of such features as skin color can all be viewed as empirical, falsifiable claims subject to revision on the basis of further scientific investigation (as has, fortunately, happened); and (3) the scientific credibility of many of the alternative theories developed at the time to account for features such as skin color must—both to Kant's credit and to his detriment—be regarded by present-day standards as even lower than that which can be attributed to Kant's theory.¹³¹

As an example of such theories, the reader will find in this volume extended excerpts from the first part of E. A. W. Zimmermann's (1743–1815) three-volume *Geographical History of Humankind and the Universally Dispersed Quadrupeds* (*Geographische Geschichte des Menschen und der allgemein verbreiteten vier-füßigen Thiere*) (Leipzig: Weygand, 1778–1783).¹³² In this selection, the third of the eight included in this volume, Zimmermann staunchly—but with the modesty of a sensible natural scientist open to the views of others—defends the view that all changes in skin color (as well as every other way in which human beings in different regions of the world differ in appearance from one another) can be explained with reference to climatic conditions without the need to appeal to any other underlying structures, such as those proposed by Kant. Indeed, Zimmermann explicitly criticizes Kant both for what might be referred to simply as his “germs-and-endowments theory” and for his fourfold division of humankind into different races.¹³³ The inclusion of this selection in this volume thus serves a number of purposes. First, it presents the view of another founding figure in the eighteenth-century development of physical geography who took Kant's views seriously enough to believe that they merited consideration and critical commentary. Second, it gives evidence both of how advanced in some respects—and how primitive in others—the scientific research in this field of study actually was during this period. But, finally, and perhaps most importantly, by paying close attention to Zimmermann's many references, the selections provide the reader with a summary overview of the work of many of the individuals who figure prominently in the discussion of these topics during this period. More specifically, even though Kant does not refer directly to Zimmermann's work in his 1786 article, “Determination of the Concept of a Human Race,” circumstantial evidence—including the prominence that Zimmermann gives to Kant's work and the fact that Georg Forster, in his critique of the 1785 article, identifies Zimmermann as an opponent of Kant—surely supports the conclusions that the 1785 article was written to defend a view that Kant knew to be under attack, which he had good, even if ultimately flawed, reasons for defending.

Further, we have clear evidence that Kant himself was familiar with Zimmermann's work, since, as Pauline Kleingeld has pointed out, Kant refers to Zimmermann specifically in a letter dated 4 July 1779 to Johann Jacob Engel, the editor of the volume in which the 1777 article, "Of the Different Human Races," appeared.¹³⁴

By the time the 1785 article was written, however, an opponent far more formidable than Zimmermann had appeared—against whom Kant clearly felt the need to defend himself: Johann Gottfried Herder, his former student, who, as previously noted, was the direct target of Kant's pen in his two-part review of Herder's *Reflections*.¹³⁵ The two parts of this review might indeed, as the better commentators recognize, serve as historical bookends to the reading of the "Determination" article, since the first part of the review appeared prior to the publication of this article and the second part only shortly thereafter.¹³⁶ The literature on Kant's relationship to Herder and the controversy between them is, however, not surprisingly, vast and certainly too significant to be addressed even briefly in this context.¹³⁷ Suffice it to say, however, that for all Herder's genius, the *Reflections* hardly provides the prolegomena to the development of the modern life sciences that can—in spite of its many faults—be found in Kant's work in this area in this volume. We can, in short, I believe, as previously suggested, chart the history of the ultimately positive development of the biological sciences from Kant's work in this area, which has, in the past century, ultimately contributed far more to the destruction of what Ashley Montagu famously exposed as the "myth" of race than to its revitalization.¹³⁸ Herder, on the other hand, can at best be praised for having been skeptical that a race designates anything *real*, although his defense of this position seems to owe as much, or more, to inspiration and philosophical loquaciousness than it does to serious scientific investigation.¹³⁹

The final four texts included in this volume can thus be read as marking out the mixed consequences of Kant's incompletely developed race theory.¹⁴⁰ The first of these final four texts is Georg Forster's sensitive criticism of Kant's 1785 article, which, apparently in recognition of the fact that so many other articles had already been written on the subject, he somewhat humorously entitled "Something More about the Human Races" (*Noch etwas über die Menschenraßen*).¹⁴¹ We can, in reading this critique, surely empathize with Forster, who became an ardent republican after the outbreak of the French Revolution and one of the leaders of the Rhineland Revolution in 1793,¹⁴² for being disturbed about many aspects of the view of race that Kant develops in the 1775, 1777, and 1785 texts. We can also appreciate the fact that Forster recognizes that the early development of Kant's philosophy of history is related to the development of his conception of natural history—even if Forster hardly explores the full significance of this connection in this text. And the careful reader of this article will surely be amused by Forster's witty, satirical criticism

of the supposed moral benefits to be derived from adopting the monogenetic rather than a polygenetic view of the physical differences between human beings in different parts of the world. "Where," Forster asks, in raising this criticism, "is the bond, however strong it might be, that can hinder the decadent [*entartete*] Europeans from ruling over their white fellow humans equally as despotically as <they rule> over <Negroes>?" (see below, 166).

There is, therefore, much to be gained from a careful reading of the work of this oft-forgotten contemporary of Kant, but as a serious philosophical and scientific critique of Kant's views, Forster's effort surely fails.¹⁴³ The criticism was nevertheless significant enough that it must have contributed to Kant's apparent decision during this period to reflect further on what could indeed be said from the vantage point of the critical philosophy concerning "purposiveness" in nature—that is, on his decision to write yet another, a third critique, in which he could address this issue and what he came to regard as related issues directly.¹⁴⁴

To the extent then that the resolution of many of the issues at the heart of these controversies that can be found in the third critique is foreshadowed in Kant's 1788 article, "On the Use of Teleological Principles in Philosophy," the sixth of the eight texts that appear in translation in this volume, the main point to emphasize—from the perspective of this approach to the development of the critical philosophy in the period from the mid-1770s to the end of the 1780s—must be that, simply stated, Kant seems never to have come to doubt seriously, at least not in his published writings, any of the core elements of the account of race first presented in the 1775 course announcement. Consistent, however, with a point emphasized near the beginning of these introductory comments, to say this is not to say that Kant never altered the account or that he didn't attempt to fill in the details of that account in different ways depending upon the latest developments in the life sciences, including, ultimately, Blumenbach's introduction of the idea of the "formative drive" (*Bildungstrieb*), which comes to play an increasingly significant role in his theory of the development of "organic being" in the period from the 1788 article onward. The core elements of the account—including the existence of a pre-raced "lineal stem species," the emergence of four "base" races in response to differing climatic conditions, i.e., the "germs-and-endowments theory," the reliance on skin color as the primary "marker" of racial differences, the occasional arrogant racial slur, and a fear of "racial mixing"—can nevertheless be found every bit as much in the 1788 article as in the 1775 course announcement.

Further, it simply cannot be denied that in the 1788 article it is the development of the skin color of the Negro which serves as the primary example of the kind of "purposiveness" that prompts Kant to believe that this is a topic that demands further critical investigation. For what emerges primarily from Kant's criticisms of Forster in this article is a defense of the

core elements of his theory—namely, the view that the main problem motivating a natural history of the human species is the need to come up with a theory that explains “the derivation of invariable, hereditary differences by means of the development of endowments <that were> present together originally and purposively in a human lineal stem stock for the preservation of the kind” (AA 6:176; see below, 187), or in other words, a theory that at its core accounts for the division of the human species into four different races “fitted” for survival in different climates of the entire earth, each with characteristic—if not perhaps essential—physical properties transmitted from one generation to the next that can presumably never be erased from the separate racial subspecies.

What, however, follows from this position? For if the 1788 article is read for clues to the way in which Kant develops his ideas in this area further in the third critique and other “late” works, I believe that we find in it far more—or at least as much—reason to commend than to condemn Kant. For, by the end of the article, Kant points in directions that arguably do more to move beyond the “racist” elements of his natural history than to enshrine it in the sort of truly racist ideology that can be found in the work of many other authors from this period and in the decades to follow.¹⁴⁵

A complete development of this partial defense of Kant is naturally beyond the scope of this brief introduction, but, in outline, the main points to emphasize would be: (1) that, for Kant, “purposiveness”—after this concept is subjected to critical investigations in the second half of the third and final critique, i.e., in the “Critique of the Power of Teleological Judgment”—turns out to be less something that we can really believe to exist in nature than an Idea that we use to make sense of the chaotic experience with which we, as human beings, are constantly confronted;¹⁴⁶ and (2) that Kant begins only near the end of the 1788 article to give to the notion of *Kunstwerke* (“works of art”) the significance that it comes to have in the third critique.¹⁴⁷ The view, which is much more fully developed in the third critique, that we do find in our reflection upon *Kunstwerke* an exemplary feeling of the “fittedness” of our cognitive capacities to the tasks before us—namely, the tasks of theoretical, practical, and technical reasons, as evaluated, respectively, in each of the three critiques,¹⁴⁸ can, therefore, indeed be said to arise in a certain sense partly—as Robert Bernasconi has argued in his two most important contributions to this discussion, surveyed above—as a consequence of Kant’s reflection upon the “purposive” significance of skin color, especially that of the “blackest” Negroes.¹⁴⁹

However, instead of developing more fully the disturbing account of race that we do sometimes find in these texts in a manner that could in any way be construed as contributing directly to the construction of the many racist ideologies that emerged in the following century and a half, Kant himself turned in a quite different direction, just as we might expect,

to transcendental philosophy, including the works of the 1790s that form the basis of his reputation as a founding figure of modern liberal internationalism. For Kant—as was first suggested in these remarks by reference to the problematic discussion of nature that surfaces in the 1785 *Groundwork for the Metaphysics of Morals*—was indeed no doubt ultimately far more concerned with the problem of bridging the “gap” (*Kluft*) between the account of the mechanisms of the natural world provided by our understanding (*der Verstand*) and the Idea of freedom given to us by reason (*die Vernunft*) and in filling in the details of the outline of the system of the human cognitive capacities (*Erkenntnisvermögen*) that he included at the end of both of the introductions he prepared for his final critique, the *Critique of the Power of Judgment*, which, if complete and accurate, might both explain and justify our hope in thinking that such a transition is possible, than he was with dabbling in racist demagoguery.¹⁵⁰

The final two texts in the volume point then in yet other directions that might be traced back to points of origination in the work of Kant from this period. For if Kant's scientific contribution—albeit of mixed heritage—to discussions of race during this period was to convince his contemporaries that the expression of external, physical features owed as much or more to internal systems than it does to external, climatic influences, the worst of all the racist versions of this viewpoint that have every been developed is clearly foreshadowed in the selection included from the year 1790 by Christoph Meiners, “Of the Varieties and Deviate Forms of Negroes” (*Von den Varietäten und Abarten der Neger*), which follows the 1788 article by Kant below.¹⁵¹ Meiners, it must be emphasized, never refers explicitly to Kant in this article. He could also hardly have been directly influenced at all positively in his thinking by Kant, whose philosophical development from the early 1770s through the end of his life took a course in stark contrast with that of Meiners.¹⁵² The views with which he begins this article do, however, have a certain superficial resemblance to themes we can find in the work of Kant, and Frank William Peter Dougherty provides significant evidence that Meiners was familiar with Kant's 1785 *Berlinische Monatsschrift* article, “Determination of the Concept of a Human Race”—even if, as Dougherty also emphasizes, Meiners' employment of the concept of race was, unlike that of Kant himself or Blumenbach, invariably ideological and decidedly unscientific.¹⁵³ The general thesis with which the article begins is nevertheless one that might not have been so readily accepted by readers a decade earlier—that is, before Kant developed an alternative to the view that climate alone, without the assistance of any internal mechanisms, is responsible for the physical features of differing human beings. Meiners' thesis is, in short, that “[t]he more we survey in general the effects of origin, or blood, from which peoples and individuals arise, the more we recognize the importance of

descent, and the more we will be convinced that infinitely more depends on which peoples and parents bear us than in which land and climatic zone we are born, however great the influence of the climate might be upon individual human beings and <their> generations” (see below, 198).

From a careful reading of this first, single sentence from Meiners' article, however, the significant difference between Kant's views and his should be readily apparent. First, Kant seldom makes reference to the blood of different peoples or races, and even if for him skin color is a distinctive marker that indicates broadly shared physical features—and perhaps even mental and cultural characteristics that are shared by distinctive population groups—it does not unambiguously have the essentialist function of being the bearer of all those traits in the way that blood does for Meiners.¹⁵⁴ More importantly, when Kant does express views that we rightly find objectionable, they usually become for him the impetus for further critical investigation, which in my view ultimately led him away from the underlying personal racism of his theoretical views and toward the liberal internationalism with which he, fortunately, has been far more frequently identified, especially in the past century,¹⁵⁵ while for Meiners the view that internal factors play a greater role than climate in determining races turns into an explicit defense of slavery and a plan for freeing the world of the “lower human race,” which, in his view, had developed primarily in Africa and cannot be allowed to continue to exist in the “pure” form that nature had given it in its land of origin.

We find then, near the end of Meiners' article, public expression of sentiments that Kant might best, if ever, as previously discussed at some length, have only gloomily contemplated in private, the comments found in the *Reflexion* concerning the possibility that “[a]ll races will be wiped out . . . , except the white.” But Kant surely never considered this possibility with the confidence and glee that seems evident in Meiners' suggestion that the efforts of Europeans to “improve” blacks might be better served by interbreeding with them—as exemplified in the rest of the article by cases of slave masters impregnating their slaves—than by simply ruling over them. For Meiners does not simply contemplate the possibility that some of the races might, by whatever means, be “wiped out,” as did Kant; he instead writes enthusiastically of “[t]he progressive improvement [*Verbesserung*] of African blood through constant, new mixing with European blood, which, as is evident as well in all similar cases in the rest of the world, affords the pleasant prospect that the Europeans can and will contribute to the perfection and happiness of other, less noble peoples, not only through their rule and enlightenment but also especially by interbreeding with them” (see below, 206). Kant, in short, as depicted so well by Mark Larrimore in his sensitive portrayal of Kant's conflicted view of race, gloomily contemplated the possi-

bility that some races might be “wiped out” with a feeling of helplessness and sublime wonder; Meiners, by contrast, condones what can only be described as the practice of genocidal rape.¹⁵⁶

Finally, in the last selection included in this volume, we see one example of the way in which Kant's race theory was actually developed from what might be viewed as a more neutral, primarily descriptive, scientific perspective. This, however, was a task that Kant seems to have left to others and did not directly involve himself in personally, although there is some evidence that he did follow and approve of such an extension of his theoretical framework.¹⁵⁷ This selection, the “First Section: Theory,” from Christoph Girtanner's 1796 *On the Kantian Principle for Natural History: An Attempt to Treat this Science Philosophically (Ueber das Kantische Prinzip für die Naturgeschichte: Ein Versuch diese Wissenschaft philosophisch zu behandeln)* (Göttingen, 1796),¹⁵⁸ serves as a particularly fitting conclusion to this volume for at least two reasons. First, it draws together selections—often cited verbatim (or with only small, usually insignificant alterations)—from all of Kant's writings from the period of 1775 to 1790 on the subjects of natural history, race, purposiveness, and “organic being,” including significant citations from the third critique. Thus, the terminology that Kant develops for such a discussion in the first two articles included in this volume from the mid-1770s reappears unaltered in the final selection included in the volume. But, second, in this selection, we also see this terminology and framework developed more fully in a direction that differs vastly from the work of Meiners. For, as developed by Girtanner, the “Kantian principle,” namely, the fully developed statement of what in Kant's 1775 course announcement and his 1777 publication was referred to simply as “Buffon's rule,” achieves the status as a guide to what we would now surely think of simply as population genetics. The notion of race developed in Girtanner's book thus seems to point far more in the direction of the development of concepts like subspecies and more recent discussions of to what extent genetic inheritance is an indicator of other physical traits, e.g., a predisposition to certain diseases, than does the egregiously racist discourse of the Meiners selection.¹⁵⁹

As previously noted, however, the extent to which Kant's critical investigation of “organic being” actually influenced the direction of the modern biological sciences, including the further development and use of the concept of race in the past two centuries, is still a matter of significant controversy that can hardly be resolved merely through the study of the texts included in this volume. We can nevertheless surely hope that even if the study of these texts alone does not resolve such issues, it can stimulate further research that will. Similarly, we might hope that the study of these texts will contribute to current discussions of the extent to which the arguably racist dimensions of Kant's philosophy of history either do—or do not—constitute a major

problem for the varieties of modern liberal internationalism that have long viewed themselves as rooted in Kant's moral and political philosophy and his philosophy of history.

As suggested, however, at numerous points in these introductory comments, the tension between Kant's systems of nature and freedom will perhaps only be fully appreciated, if not ever completely resolved, when these disparate recent strands of research come closer together than they already have. We might, however, at that point, also conclude that it is one of the hallmarks of the critical philosophy to recognize—for better or worse—that such tension is inevitable and perhaps never completely resolvable.

The Translations

The difficulties inherent in any attempt to render Kant's German into readable English are so well known that there is no need to repeat here the usual complaints and laments. Some comments on two issues are nevertheless warranted. The first of these concerns the difficulty posed by the well-known fact that the German language offers resources that allow for the construction of much longer sentences than are usually considered permissible in English prose, especially by contemporary standards. The second concerns the need to develop a consistent terminology capable of accurately conveying the many nuances of Kant's theoretical framework for the investigation of the problems that concern him and his contemporaries in the texts included in this volume.¹⁶⁰

Of the first of these concerns, I will say only that I place little stock in thinking that Kant's prose must be translated into English on a sentence-by-sentence basis. I believe instead that the base requirement of a good translation is only that longer, typically paragraph-length, units of prose should be analyzable into parallel sets of German and English propositions with corresponding truth conditions. Consequently, when the German prose—especially in the case of Kant among the authors included in this volume—is frequently comprised of sentences that may run from half a page to several pages in length, there seems to me to be no requirement disallowing that these sentences should be broken up into multiple, separate sentences, so long as the parallel lists of German and English propositions resulting from an analysis of the translated passages in both languages do not differ in truth conditions. However, because there is not yet a well-agreed upon, established set of English terms available to convey the larger theoretical framework that Kant employs in developing his views on the subjects central to the texts included in this volume, some detailed discussion of the specific terminology that I have devised for this purpose is clearly needed.

For the most part, the terminology introduced in the first of the texts by Kant included in this volume is used consistently throughout the volume—although the careful reader should be aware that Kant is typically far more rigorous in his employment of this terminology than were his contemporaries. When, in other words, Kant employs a term repeatedly, his usage is part of a continuing effort to determine exactly the meaning of the term within a more general theoretical framework in which, as we have become accustomed to saying in the past several decades, the meaning of a term is determined by its relationship to other terms in a system of terminology. Kant's special interest in “determining” the proper usage of the concept of race is thus hardly surprising, since this is only an exemplary case of a broader effort to be progressively more precise in the usage of the key terms used in all of the texts by Kant included in this volume. Kant's contemporaries, on the other hand, might frequently employ the same term without any such reference to the theoretical framework that Kant is developing or, as is very often the case, without any reference whatsoever to a larger theoretical context, as, for example, in their usage of terms such as *Gattung* and *Art*, which I have nearly always rendered in the translations of Kant's texts as *species* and *kind*.¹⁶¹ However, inasmuch as the issue of how classificatory distinction such as this might best be made is central to the investigations that comprise the context for all of the texts included in this volume, the reader should—whenever these terms are encountered—take into consideration whether or not they are being used with the precise technical meaning that Kant wishes to give to them and recognize that this is frequently not the case.

The significance of this brief discussion of the use of the terms *Gattung* and *Art* will be immediately evident to the careful reader, as Kant first addresses this issue in the second paragraph of the 1775 version and the first paragraph of the 1777 published version of the first text, “Of the Different Human Races.” Further, the very point of drawing the distinction between these terms in the way that he does well reflects his preference for Buffon's idea of a *Naturgeschichte* (natural history) as opposed to the ahistorical morphological system of classification previously constructed by Linnaeus, which Kant disdainfully refers to as a *Schulsystem*, a German term that could be translated literally simply as *school system*, but which I—in recognition of the medieval roots of the Linnaean system of classification from which Kant clearly wishes to make a break—have rendered, with appropriately more pejorative connotations, as *scholastic system*.¹⁶²

Already then in the next full paragraph of these two texts, Kant sets forth a more complete terminological framework that makes clear the significance that must be given to two other key terms that are also employed in connection with the very first use of the terms *Gattung* and *Art* previously noted, namely, *zeugende Kraft* and *Mannigfaltigkeit*. The reader familiar with the Norman

Kemp Smith translation of the *Critique of Pure Reason*, in which the related notion of *das Mannigfaltige* is rendered simply as “the manifold,” may wonder why this term alone was not considered sufficient to convey the sense of the *Mannigfaltigkeit* with which Kant is concerned in these texts. For it is clear that in both cases Kant’s concern is with the issue of how a certain unitary—but still chaotic—perceptual field is to be subdivided into contextually defined subunits. To emphasize, however, that in this case the manifold with which we are concerned—namely, that given to us in the observation of the creatures of the animal kingdom, including human beings—seems not to come to us as a unitary whole comparable to the manifold of perception in general (which is the concern of the first critique), but instead as already divided and diverse, it seemed necessary to employ the redundancy of both terms, namely, *manifold diversity*. The concern here, in other words, is more that of determining how we might best make classificatory divisions within an already (seemingly) divided, diverse whole, or manifold, than with the issue central to the parallel discussion of the *Critique of Pure Reason* concerning how we might make the first, most rudimentary, logical divisions within such a manifold, such as, in the case of Kant’s discussion of the pure intuition of space, through limitations (*Einschränkungen*) (AA 3:53/A25=B39). Hence, *Mannigfaltigkeit* is translated with the two-word nominal phrase *manifold diversity* to alert the reader both to the nature of the problem itself and to the fact that the term which Kant uses also plays an important role in the even more general, comprehensive project of the first critique on which he was also working at this time.

By contrast, there is no comparable, significant usage of the adjective *zeugende*—or the noun *Zeugungskraft*, which appears in the next paragraph of the text, or even the simple noun form *Zeugung*—elsewhere in the Kantian corpus in the *Critique of Pure Reason* or other “precritical” texts except for those included in translation in this volume from which we might draw to determine which of the various, alternative English glosses—namely, *reproduction*, *procreation*, *generation*, *begetting*, *breeding*—we might best employ to convey Kant’s usage of this term. Further, the English term which I did, after long deliberation, finally select to translate this term, namely, *generation*, will no doubt seem strange to many contemporary readers. However, the way in which this term is consistently employed in all of the texts included in this volume conforms closely to well-accepted seventeenth- and eighteenth-century technical usage, including, for example, its appearance in the title of William Harvey’s ground-breaking 1651 volume in the field of embryology, *Essays on the generation of animals* (*Exercitationes de generatione animalium*), and, even more significantly, the usage now commonly employed in the best recent work in the history of the life sciences from this period.¹⁶³ Thus the difficulty that presented itself at the beginning of the process of translating this text quickly disappeared once the proper connection was made to works in the history of science from the seventeenth and eighteenth centuries.

Not to be ignored, however, in consideration of the term *Zeugung* is the fact that it is commonly employed in combination with the German term *Kraft*, as in *zeugende Kraft*, or, more technically, *Zeugungskraft*. The term *Kraft*, when used alone, has traditionally been translated either as *force* or *power*. The first of these two alternatives is commonly employed in contexts in which the development of modern physics is at issue, i.e., in contexts that we would now regard as cases of proper scientific research. The fact that Kant typically employs this term in a much broader sense cannot, however, be ignored, especially not in the years since, as previously noted, it has become widely recognized that the German title of the third critique, *Kritik der Urteilskraft*, is more accurately translated into English as *Critique of the Power of Judgment* than as *Critique of Judgment*. I have, therefore, consistently rendered *zeugende Kraft* as *generative power* and *Zeugungskraft* as *power of generation*.

To understand then the way in which Kant employs the theoretical framework comprised of the terms previously discussed to resolve the central issue with which he is concerned, that is, to understand the way in which he employs this theoretical framework to best describe the natural historical connections, or relationships (*Verhältnisse*), among the manifold diversity (*Mannigfaltigkeit*) of creatures that make up the animal kingdom, including different, or diverse (*verscheidene*), forms of human beings, we will have to accept with him the following two points: (1) “that animals that produce fertile young with one another belong to one and the same *physical* species (no matter how different in form they may be),” or what he refers to as “*Buffon’s rule*” near the very beginning of the 1775 and 1777 texts (AA 2:429; see below, 45 and 59); and (2) that “all human beings everywhere on the earth belong to one and the same natural species because they universally produce fertile children with one another” (*ibid.*). Kant’s project thus involves developing a system of terms that can clarify exactly how the connections, or relationships, among this manifold diversity can be best understood, including an account of how they come into being. I wish then to emphasize in the following, brief discussion of the choices that I have made in rendering Kant’s systematic classificatory terminology into English, that his choices were clearly intended to be primarily descriptive—that is, that no evaluative judgments were to be drawn from the fact that individual entities are classified in one way or another. Since at least one of the terms selected may, however, for many readers, have evaluative, or connotative, as well as denotative significance, or meaning (*Bedeutung*), some detailed discussion of both the German and the English terminology employed in translation is necessary.

The core set of terms in this matter, which are systematically introduced in the third paragraph of the 1775 and the second paragraph of the 1777 essay, include *Stamm*, *Art*, *Abartung*, *Nachartung*, *Ausartung*, and *Stammbildung*. *Stamm* and *Stammbildung* may be regarded as the root terms of this classificatory system inasmuch as Kant consistently uses the term *Stamm* to refer

to what I have identified in the English rendering of this paragraph as the *lineal stem stock* of any classificatory unit that is united through a historical sequence of *generations* (to use the English term in a manner that properly, but ambiguously, indicates both the process and product of such a natural historical development). If, therefore, as Kant assumes, based on his emphasis on Buffon's rule and the empirical evidence that seems to confirm it, there is indeed only one species (*Gattung*), there must at one time have been a *lineal stem species* (*Stammgattung*), which, in his view, must—to the extent that we can know anything about such matters—have been comprised of only a single pair from which all humans are descended.¹⁶⁴ I have, however, translated *Stamm* as *line of descent* and not as *lineal stem* when this term is used in a context where Kant might also have employed the related term *Abstammung*, which can be translated unproblematically either as *descent* or *derivation*. To account, however, for the fact that the products of the generative processes that Kant and his contemporaries encountered do not all look the same, Kant must also find terms that can be used to explain the different ways in which these differences could possibly have come about.

This is the point in the development of his theory where Kant might seem to be employing a framework that is not merely descriptive but also evaluative. If, however, we examine more closely the German terms that he employs, this prejudicial misconception can, I believe, as previously suggested, easily be set aside. The key terms, again, are *Art*, *Abartung*, *Nachartung*, and *Ausartung*. The first thing to notice about this set of terms is of course that the latter three are all derivative from the first. For Kant, to be identifiable as an *Art*, or *kind*, is thus simply to possess characteristics that are perceptibly, not immediately derivable from the original *Stamm*, or *lineal stem stock*. To identify something in these terms is, therefore, as far as Kant is concerned, to identify it with reference to what appear to be accidental characteristics instead of with reference to those characteristics that are perceivably *anartete* (*passed on* or *transmitted*) from one generation to the next. Further, when examining those things that are in this regard to be classified as *Arten*, or *kinds*, we may also note similarities. The other three terms that Kant employs in addition to *Art*, namely, *Abartung*, *Nachartung*, and *Ausartung*, are needed, therefore, to account for these observations, and their formation clearly derives from the addition of an appropriate prefix and the nominalizing ending, *ung*. Thus those creatures marked with heritable similarities, that is, to make the point more explicitly than is perhaps necessary, that are *anartete* (*passed on* or *transmitted*) from one generation to the next, are ones that are derived from (*ab*) the *kind* (*Art*). To say that they are *resemblances* (*Nachartungen*) is, therefore, only to say that they are derived *according to* (*nach*), or that they come *after* (*nach*), an earlier prototype.

The most important thing to remember in this context is then that a *deviation*, or, alternatively, a *deviate form* (*Abartung*), is not to be conceived

in any sense as a deviant, debased, or degenerate form of the *Art* (kind) or *Stamm* (lineal stem stock, or line of descent). Kant's ultimate preference for the second stage emergence of four distinct races from the original *Stamm* seems, therefore, to be predicated initially only on the idea that each of these distinct races developed simply as a consequence of their need in each case to become more "fitted" (*anpassend*) to the specific climatic conditions in which they found themselves. What Kant subsequently conceives as the "race of blacks" is thus, when viewed from a neutral, scientific perspective, no more or less—according to texts composed after 1775—a *deviate form* (*Abartung*) of the original *Stamm*, or *lineal stem stock formation*, than is his race of whites.¹⁶⁵ When Kant does nevertheless come to say the disparaging things that he does say about the "race of blacks" and other nonwhite races, it is not because they are *deviate forms* (*Abartungen*) of the original *lineal stem stock* (*Stamm*), but instead because, in his view, they did not develop further in the same way that the race of whites presumably has in the period since—to invoke an image employed by Mark Larrimore to describe this event—the first "rupture" from the original *lineal stem stock* took place.¹⁶⁶ Further, inasmuch as Kant is inclined to the view that none of the four races, once established, could ever die out (which, of course, would be an entirely different matter than to be "wiped out"), none of them should ever truly be conceived in terms of the fourth of his classificatory divisions from this paragraph—namely, the *Ausartungen*, or truly *degenerative forms*, i.e., forms that have lost their ability to regenerate themselves and will, therefore, for this very reason, necessarily die out, or, in German, *aussterben*.¹⁶⁷

By what precise means, or effective causes (*wirkende Ursachen*), are, however, these changes to be brought about? For, as has surely been noticed, the terminology introduced up to this point describes static conditions that are the result of changes, but the effective forces, or powers (*Kräfte*), that bring about these changes have not yet been introduced or explained. To complete, therefore, this presentation of the terminological core of Kant's theory, attention must, finally, be given to two other terms previously highlighted, namely, *Keim* and *Anlage*. For the translation of these two key terms, however, something of a consensus view has developed to which I need only appeal—even if, in the end, I have also decided to depart from this view for my translation of one of these two terms. For *Keim*, two alternatives are available, *seed* and *germ*, and, in opting for the second of these, I only follow the arguments and advice provided by Phillip R. Sloan in his important contribution to the literature on this issue.¹⁶⁸ Sloan traces Kant's use of the term *Keim* back through Georg-August-Universität (Göttingen) professor of theoretical medicine Albrecht Haller's 1750s presentation of Buffon's theory of generation, which developed in direct opposition to a French tradition of preformationism that had made the role of so-called *germes préexistans* central to this process. Sloan's preference for *germ* rather

than *seed* as a translation for Kant's *Keim* can thus be regarded as a simple preference for the English term that is closest to the French original—even if the theoretical development of the term progressively moves away from its original employment.¹⁶⁹

I have, on the other hand, not followed Sloan's recommendation to employ the English *predisposition* for Kant's German term *Anlage*. My decision to use the term *endowment* does not, however, arise from any substantive disagreement with Sloan's arguments in favor of *predisposition*. To the contrary, I find Sloan's reasoning in favor of the term *predisposition* over the other alternatives he considers, namely, *disposition*, *aptitude*, and *capacity*, quite compelling.¹⁷⁰ I think, however, that the arguments that Sloan employs might be used equally well in defense of the term that I have chosen, which I believe to convey even better than *predisposition* Kant's initial employment of the term *Anlage* in precritical texts through at least the 1770s. Indeed, Sloan comes close to making an argument for the use of this term himself when he describes Kant's early attempt—in the 1763 *The Only Possible Proof of the Existence of God* (*Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes*)—to find a third alternative to what he describes as “the epigenetic theories of Buffon and Maupertuis, on one side, and the reigning strong individual pre-existence theories on the other.”¹⁷¹ For, as he writes: “Kant is doing more than simply describing a pair of oppositions in this text. He is also suggesting that a third alternative is required that, on the one hand, retains a teleological understanding of nature, something he saw threatened by the solutions of Buffon and Maupertuis. Organic beings seem to be *endowed* with an inherent ‘capacity’ (*Vermögen*) enabling them to generate their offspring by genuine secondary causation . . .” (emphasis added).¹⁷²

I have, in other words, no serious disagreements with Sloan's account of the importance of the term *Anlage* for the development of the critical philosophy, nor do I find his preference for *predisposition* as the English gloss for this term seriously problematic. I simply think that the term *endowment* better conveys the notion of, as he also describes it, a “structuring power . . . acting upon specific determinative and pre-existent ‘germs’ [underlying] organic development”¹⁷³ that he so aptly emphasizes as central to Kant's continuing use of the term *Anlage* from the 1760s through the 1770s and possibly into the 1780s. For, as he writes, in developing this same point further, “an *Anlage* seems to function as a principle that adapts the structure of an animal to different conditions [that] does away with the need to assume special adaptations or powers in each part to account for different circumstantial adaptations.”¹⁷⁴

My sense of the difference between a *predisposition* and an *endowment* can thus be summarized briefly as follows. To be “predisposed” is already

to be inclined, susceptible, or tending toward a certain outcome. To be “endowed,” on the other hand, is to have the ability, or capacity (*Vermögen*) as an “organic being” (*organisches Wesen*) to respond more generally to a situation or circumstances.¹⁷⁵ My preference for *endowment* thus stems in part from the fact that it seems to me to better convey the circumstances to which the *Anlagen* must indeed respond as their function is described in the 1775 and 1777 “Different Human Races” texts and in the 1785 “Determination” article. Further, the teleological implications of the term also seem appropriate for Kant’s usage during this earlier period—even if they are progressively qualified in the subsequent uses of the term in the late 1780s and 1790s. I might suggest, therefore, that in the final determination of which of these terms best conveys Kant’s usage, consideration should also be given to the extensive use of *Anlage* found in two significant works that do indeed date from the 1790s, the 1793 *Religion within the Limits of Reason Alone* (*Die Religion innerhalb der Grenzen der bloßen Vernunft*) and the 1798 *Anthropology from a Pragmatic Point of View* (*Anthropologie in pragmatischer Hinsicht*).¹⁷⁶ Do we, in short, wish to claim that the texts of the 1770s and 1780s lead Kant to the conclusion in the 1790s that human beings are *endowed* or *pre-disposed* to or for the good when he writes in the first of these two texts of the *Widerherstellung der ursprünglichen Anlage zum Guten in ihrer Kraft* (AA 6:44), a phrase that is rendered in two significant, recent translations of this work either as “the restoration to its power of the original predisposition to the good”¹⁷⁷ or as “the Restoration of the Original Predisposition to the Good to Its Power,”¹⁷⁸ but which might arguably also be translated as “the restoration of the original endowment for good to its power”—and, if it matters not which of these two terms we use, then the distinction is perhaps moot in all of the texts in which the term *Anlage* appears.

Readers who find *endowment* a clumsy or an inappropriate gloss for the German *Anlage* are, therefore, more than welcome to substitute *predisposition* for every instance of *endowment* they encounter—so long as they also keep in mind that Kant seems not to have determined a meaning for this term univocally suitable for both his philosophy of nature and his philosophy of freedom.

Finally, a few words in defense of my choice to include German terms in brackets with somewhat more frequency than some readers might prefer. I have done this in part because there are indeed so many terms used repeatedly in these texts for which there are not yet clearly established English glosses, but I have also thought this necessary to highlight those instances where different authors may use the same terms without the same systematic meaning, which, of course, in some cases may require the use of a different English term than the one that might have been used by another author.

Conclusion

Although the texts by Kant included in this volume have long been neglected in English-language Kant studies and many commentators who have become aware of their existence in recent years might have preferred that this situation had not changed, these introductory comments should well demonstrate their importance, not only for discussions of Kant's role in the formative development of our modern concept of race, but also for our understanding of the development of the critical philosophy itself. For, as we have seen, there is much in these texts that does not make for pleasant reading; but perhaps the recognition of what seems so wrong to us in these texts—especially with regard to the theory of race that Kant does undeniably sketch in them—should make us that much more appreciative of the fact that Kant distanced himself from these views as far as he arguably did in the ethical and political works he published in the 1790s.

Of the Different Human Races

An Announcement of Lectures in Physical Geography in the Summer Semester 1775

IMMANUEL KANT

Immanuel Kant (1724–1804), commonly regarded as one of the most influential figures of the entire Western philosophical tradition, is most well known for his formulation of what is usually referred to as the “critical philosophy,” in which, briefly characterized, the subjective turn of modernist Cartesian rationalism, challenged by an encounter with Humean skepticism, turns against itself in ways that undermine both the substantiality of the Cartesian cogito and the Cartesian quest for absolute, or metaphysical, certainty in the realm of scientific knowledge. The appearance of the critical philosophy as a significant moment in the development of modern philosophy in the period after the publication of Descartes’ *Meditations on First Philosophy* in 1642 is thus usually described as having been heralded by the publication of the *Critique of Pure Reason*, Kant’s first critique, in 1781, but the program was further developed with the publication of two additional critiques, the *Critique of Practical Reason*, in 1788, and the *Critique of the Power of Judgement*, in 1790. The best commentators, however, also emphasize that Kant began formulating his critical project in the early 1770s, well before the publication of the first critique, that his understanding of the project itself underwent some revision with the publication of the second and third critiques, and that the critical philosophy cannot be properly understood without an examination of the positive, fundamental principles of Kant’s own “post-critical” systematic philosophy. These principles—as presented in the 1786 *Metaphysical Foundations of Natural Science*, in which Kant attempted to

identify the fundamental principles necessary for the *construction*, or stated in stricter traditional Kantian terminology, the *possibility*, of a science of nature, and the 1797 *Metaphysics of Morals*, in which he attempted to identify the fundamental principles necessary for even conceiving the *possibility* of human freedom—were viewed by Kant as constitutive for the construction of our ideas, respectively, of nature and freedom. Not so clearly resolved, however, in the period following the completion of the three critiques, was how the non-constitutive principle of the formal purposiveness (*Zweckmäßigkeit*) of nature, which Kant identified as self-reflexively regulative for the “aesthetical” and “teleological” uses of the power of judgment (*Urteilkraft*) investigated in the third critique, could provide a means for “mediating the connection of the domain of the concept of nature with that of the concept of freedom, as regards freedom’s consequences.” This, however, is clearly the claim that Kant does make for this principle in this discussion of it from near the end of the final section of the brief “Introduction” that he published with that work (*Critique of Judgment*, trans. Werner S. Pluhar [Indianapolis, IN: Hackett, 1987], 38; AA 5:197) in 1790.

The following text, which Kant first prepared simply as a public announcement for the lecture course in physical geography that he offered during the summer of 1775 at “the Albertina,” or University of Königsberg (where he lectured from 1755 to 1796), thus provides the reader with a unique glimpse into his development during a period of transition when he was beginning to formulate the critical project and moving away from the “popular philosophy” of the time represented by the two works for which he was most well known prior to the publication of the first critique: the 1764 *Observations on the Feeling of the Beautiful and the Sublime* and the 1766 *Dreams of a Spirit-Seer*. The text below documents, in particular, evidence of Kant’s serious interest during this period both in the development of the science of physical geography, a subject on which he had been lecturing since the mid-1750s, and in the German reception of the work of the French naturalist Georges-Louis Leclerc Buffon (1707–1788), who had been the director of the Jardin du roi in Paris and curator of its museum since 1739—and who, beginning in 1749, had begun publishing a monumental series of studies in natural history not completed until after his death, the *Histoire naturelle, générale et particulière* (Natural history: General and particular), 50 vols. (Paris, 1749–1804). For readers of this volume, however, the text is probably of greatest immediate interest simply for its frank exposition of a theory of race that is both: (1) an extension of views that Kant had previously sketched in the 1764 *Observations*—but now further developed with reference to some of the leading scientific controversies of the day, including Buffon’s challenge to the then dominant influence of the Swedish botanist Carolus Linnaeus (1707–1778), whose *Systema naturae* (System of nature),

first published in 1735, had gained him, prior to the rise of Buffon's influence, an international reputation as the leading naturalist of the eighteenth century; and (2) a challenge in its own right to the then current polygenecist view of racial differences, that is, the view that different human races had come into existence as a consequence of different local creations—a theoretical alternative championed during this period by contemporaries of Kant's as prominent as Henry Home, Lord Kames (1696–1782), whose *Sketches of the History of Man* was published in 1774, Edward Long (1734–1813), whose *History of Jamaica* was also published in the same year, and even the great French Enlightenment satirist, Voltaire (François-Marie Arouet) (1694–1778).

For us, of course, polygenism is a widely discredited viewpoint thought to have been defended by only a few presumably serious and well-intentioned scientists in the past century, such as the American palaeontologist Carleton Coon (1904–1981), who deemed the view the “multiregional hypothesis,” but more prominently by some of the most notorious racist ideologues of the past two centuries, including the American physician and surgeon Josiah C. Nott (1804–1873), who, together with Henry Hotz, first translated Joseph-Arthur Gobineau's classic 1853 essay on racial inequality, *Essai sur l'inégalité des races humaines* (An essay on the inequality of races), into English, the German biologist and arguably proto-Nazi philosopher Ernst Haeckel (1834–1910), the American lawyer and eugenicist Madison Grant (1865–1937), and—of the least scientific credibility—Nazi ideologues such as Hans F. K. Günther (1891–1968), Ludwig Ferdinand Clauss (1892–1974), and Alfred Rosenberg (1893–1946). The connection between the various fields of research that Kant brings together in this text may not then be readily apparent to contemporary readers. For Kant's original readers, however, primarily university students and colleagues in Königsberg, these various fields were clearly connected, and the research interests reflected in this brief statement of his plan for the lectures he would present in the summer of 1775 would no doubt have been regarded as significant for the advancement of both the natural and the human sciences, as then conceived. Indeed, not to be overlooked in reading the announcement is the fact that the final paragraph points to Kant's budding interest in developing a field of study separate from physical geography—namely, anthropology (but arguably more in the vein of what we would understand to be physical rather than cultural anthropology), a subject on which Kant had also been lecturing since the early 1770s.

Kant's criticisms of polygenism—for which he is frequently praised—is then unmistakable in the following text, but so, too, is his firm commitment to the view that the human species, although unified in its descent from a common source, is nevertheless divided into four distinct races, including: “(1) the race of *whites*; (2) the *Negro race*; (3) the *Hunnish* race (Mongolish or Kalmuckish); and (4) the *Hinduish*, or *Hindustanish*, race” (see below, 47).

Further, according to the view presented in this text, the (supposed) distinctiveness of each of these races is primarily the result of a correlatively distinctive, heritable “fittedness,” or “suitability” (*Angemessenheit*), that it developed at a certain early stage in its formation as a consequence of its adaptation to the climatic conditions in the region where it first long resided. To explain such development, Kant also sketches a view in this text that he continues to develop and modify throughout the next two decades—according to which the “determinate development” of an organic body, whether plant or animal, is based both on distinctive *germs* (*Keime*), “when [that] development concerns a particular part <of the plant or animal>” and on what Kant refers to as natural “endowments,” or “predispositions” (*Anlagen*), which, as described in this text, control such development as “concerns only the size or relationship of the parts among one another,” a view that will hereafter be referred to more simply as “the germs-and-endowments theory.” This recognition of such capacity for change and adaptation within the human species even leads Kant in this text to come very close to defending the idea that nature provides for the production of “new kinds [*Arten*]” as a consequence of this capacity to adapt to differing environments, a consequence that he also explicitly describes as necessary for the preservation of the species. But the germs-and-endowments theory that Kant sketches in this text also provides him with sufficient grounds for dismissing this proto-Darwinian conception of species transformation and to conclude instead that what appears to us to be “new kinds” is in fact “nothing other than the deviations and races of the same species whose germs and natural endowments have, in the long course of time, only now and then developed in different ways” (see below, 49–50).

The following text thus clearly reveals a Kant for whom the issue of race was a matter of no little significance in the decades prior to the publication of the first critique. When compared, however, to the earlier *Observations* and some of the later texts by Kant included in this volume, this text is remarkably free of disparaging remarks about the nonwhite races except for its indulgence in a bit of scientific speculation concerning the formation of the physical features of the Negroes (“which explains the thick, turned up nose and thick, fatty lips”) and an alleged “half-extinguished life power” said to be characteristic of the peoples native to the Americas. Kant nevertheless declares near the end of the text—“although,” he says, “without any prejudice on behalf of the presumptuously greater perfection of one color <when compared to> another”—that, among the “present races,” the race “which . . . the first *human lineal stem stock* might well have had the greatest similarity” is surely “the <race of> *whites*” (see below, 54), because they, he simply asserts, have long resided in a temperate climate, which presumably makes them the most adept in adapting to other climates. As is characteristic, however, of all of the texts in which Kant sketches his views on the differences among the

various races that he believes to make up the single human species—rather than concluding his course announcement with comments that might be construed as part of a racist project intended to maintain the superiority of this same white race, this text concludes instead with a short paragraph indicating how Kant might have conceived the further development of the field of physical geography as a part of the emerging critical project and, as previously noted, with a call for the development of anthropology to complement the study of physical geography.

The numbers included in simple brackets below, e.g., [430], indicate the pagination of the text as reproduced in the Akademie edition of Kant's works (AA 2:429–443), which, however, famously does not clearly distinguish the 1775 course announcement from the 1777 published version of the text; the numbers in parenthesis, e.g., (12), indicate the pagination in the text as reproduced in Immanuel Kant, *Werke*, vol. 6: *Schriften zur Anthropologie, Geschichtsphilosophie, Politik und Pädagogik*, ed. Wilhelm Weisschedel (Frankfurt am Main: Insel-Verlag, 1964), the edition of the text that was consulted most frequently in the preparation of this translation; and the numbers in angle brackets, e.g., <3>, indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 3, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001).

* * *

1. Of the diversity of races in general

The lecture course I am announcing is to be more a useful entertainment than a tiresome activity; for this reason, the research that accompanies this course announcement will certainly include something for the understanding, but more as a game for it than a deep investigation.

In the animal kingdom, the natural division into species [*Gattungen*] and kinds [*Arten*] is based on the common law of reproduction, and the unity of the species is nothing other than the unity of the generative power that is universally in force within a certain manifold diversity [*Mannigfaltigkeit*] of animals. For this reason, *Buffon's* rule that animals that produce fertile young with one another belong to one and the same *physical* species (no matter how different in form they may be), must—strictly speaking, in distinction from all scholastic <descriptions of> species—be regarded only as a definition of a natural species of animals in general. A scholastic division is based upon classes and divides things up according to *similarities*, but a natural division is based upon identifying lines of descent [*Stämme*] that classify the animals

according to reproductive *relationships*. The first of these procures a scholastic system for the memory; the second, a natural system for the understanding. The first has only the intent of bringing the creatures under headings, but the second, of bringing them under laws. <3>

According to this way of thinking, all human beings everywhere on the earth belong to one and the same natural species because they universally produce fertile children with one another, even if we find great differences in their form. From this unity of the natural species, [430] which is tantamount to the unity of its common, effective power of generation [*Zeugungskraft*], we can adduce only a single natural explanation, namely, that all human beings belong to a single lineal stem stock [*Stamm*] from which, in spite of their differences, they emerged or (12) at least could have emerged. In the first case, human beings belong not merely to one and the same *species* but also to one family. In the second case, <human beings are regarded as> similar to one another but not related, and many different local creations must be assumed, a view that needlessly multiplies the number of causes. An animal species that has at the same time a common line of descent is not comprised of different *kinds* [*Arten*] (since <being comprised of different kinds> constitutes just the differences of descent); their divergences from one another, when they are heritable, are instead called *deviations* [*Abartungen*]. The heritable marks of descent, when they are in accord with their origin, are *resemblances* [*Nachartungen*]. If, however, the deviation is no longer capable of producing the original lineal stem stock formation [*Stammbildung*], it would be called a *degeneration* [*Ausartung*].

Among the deviations, that is, the heritable differences of animals that belong to a single line of descent, are those called *races*. <Races are deviations> preserved invariably over many generations [*Zeugungen*], both in all transplantations (displacement to other regions) and in interbreeding with other deviations of the same lineal stem stock, that always produce half-breed offspring. *Variations* [*Spielarten*] <are also deviations> that, to be sure, preserve invariably the distinguishing difference of their deviation in all transplantations, but they do not necessarily produce half-breeds when they interbreed with others. Those <deviations>, however, which indeed often, but not invariably, resemble one another are called *varieties* [*Varietäten*]. Conversely, the deviation that does indeed produce half-breed <offspring> with others, but which gradually dies out through transplantation, may be called a *special stock* [*Schlag*].

<Proceeding> in this way, although *Negroes* and *whites* are certainly not different kinds of human beings (since they belong to one line of descent), they <do comprise> two different races. <This is> because each of them perpetuates itself in all regions <of the earth> and both, <when they interbreed> with one another, necessarily produce half-breed (13) children, or *hybrids*

[Blendlinge] (mulattoes). *Fair-skinned* [blond] and *brown-complexioned* [brunette] <peoples> are not, by contrast, different races, because a fair-skinned man can—from a brown-complexioned woman—also have distinctly fair-skinned children, although each of these deviations is kept in all <4> transplantations throughout many generations. For this reason, they are sometimes *variations* of whites. At long last, [431] the condition of the earth (dampness or dryness), as well as the food that a people commonly eat, eventually produce one heritable distinction, or *stock*, among animals of just the same line of descent and race, especially with regard to <their> size, the proportion of <their> limbs (plump or slim), and <their> natural disposition [*Naturells*]. To be sure, <this stock> will pass on half-breed <resemblances> when it interbreeds with foreign <stock>, but it disappears in a few generations <when the offspring live> in other places and with a change in diet (even when there is no change in climate). We find it pleasing to note the differing stock of human beings according to the difference of the regions <in which they live> (as Boeotians, who live in a region with damp soil, distinguish themselves from Athenians, who live in a region with dry soil). <Such> difference is admittedly often recognizable only to a keen observer, but laughable to others. Something that appertains purely to varieties—and is, therefore, in itself heritable (if, to be sure, not invariably)—can, indeed, through marriages that remain within the same families, even, with time, give rise to something that I call the *family stock* [Familienschlag], whereby something characteristic ultimately becomes rooted so deeply in the generative power that it comes close <to becoming> a variation—and perpetuates itself like a <variation>. This <development> has allegedly been observed in the old Venetian nobility, particularly in the women. At the least, all of the noble women on the recently discovered island of *Tahiti* are altogether of a larger build than the commoners. (14) The idea of *Maupertuis* to breed from nature a noble stock of human beings in some province or other in whom understanding, diligence, and probity might be heritable rested on the possibility that an enduring family stock might eventually be established through the careful elimination of the degenerate births from those that turn out well. [432]

2. Division of the human species into its different races

I believe <a division of the human species into> four races will suffice in order to be able to derive [*ableiten*] all heritable and self-perpetuating distinctions within <the species>. They are: (1) the race of *whites*; (2) the *Negro race*; (3) the *Hunnish* race (Mongolish or Kalmuckish); and (4) the *Hinduish*, or *Hindustanish*, race. I also count among the first of these, which has its principal place of residence in Europe, the Moors (Mauritanians from Africa),

the Arabs (following Niebuhr), the Turkish-Tatarish lineage [*Völkerstamm*], and the Persians, as well as <5> all the other peoples of Asia who are not specifically excepted from them in consequence of the remaining divisions. The Negro race of the *northern* hemisphere is native (autochthonal) only to Africa; that of the *southern* hemisphere (outside of Africa), presumably only to New Guinea (15) but <can be found> on several neighboring islands <in consequence of> simple transplantings. The Kalmuckish race seems to be purest among the Khoshuts, to be mixed less with Tatarish blood among the Torguts, and to be mixed more with Tatarish blood among the Zingari. <This> is the same <race> that in the earliest times carried the name of *Huns*, later that of *Mongols* (in the broader meaning), and presently that of *Oliuts*. The Hindustanish race is in the land of this name very pure and ancient, but it is distinct from the people who live on the other side of the Indian peninsula. I believe <we> can derive all of the remaining, heritable characters of peoples [*Völkercharaktere*] from these four races either as *mixed* or *incipient* [angehende] or *degenerating* [ausgehende] races. The first <of these> arises from the interbreeding of different races, the second <when a people> has not yet lived long enough in <a specific> climate to take on fully the character of the race, but the last <only when a people> has, in consequence of transplantation into another region, lost something of its old race (although it is not yet fully degenerated). Thus, the mixing of Tatarish with Hunnish blood in the Karakalpaks, the Nagas, and others, has given rise to *half-races*. <Similarly>, Hindustanish blood mixed with that of the ancient Scythians (in and around Tibet) and either more or less with Hunnish <blood> possibly produced the inhabitants of the other side of the Indian peninsula, the *Tonkinese* and *Chinese*, from a mixed race. The inhabitants of the northern arctic coast of Asia, <on the other hand>, are an example of an incipient Hunnish race <and> already display the effect of the arctic climate on a people who were only recently driven into this region from a milder climate, <namely>, the uniformly black hair, the beardless chin, <and> the flat face with barely opened eyes placed within long slits. <This is the same sort of development that the> sea Lapplander, a lineage [*Abstamm*] of the [433] Hungarian people, <seem to have undergone>. If <the sea Lapplander> did indeed originate from a well-developed people from the temperate zone, then they have already, in only a few centuries, acclimated [*eingearartet*] tolerably well to the peculiarities of a cold climate. Finally, the Americans appear to be a Hunnish race that is still not fully acclimated or half degenerated. For in the extreme northwest region of America—where, by all appearances, the population must have originated [*geschehen sein*] in northeastern Asia, since corresponding kinds of animals are found in both <of these regions>—the inhabitants on the northern-most coasts of *Hudson Bay* are quite similar to the Kalmucks. Further south, the face is certainly more open and more elevated,

but <6> the beardless chin, the uniformly black hair, the red-brown facial color, as well as the coldness and insensitivity of the natural disposition—clear remnants of the effects of a long residence in a cold region of the world, as we will soon see—endure from the far north of this part of the world to Staten Island. There is, <however>, no further populating <of this people> outward from America. <This is shown by the fact that> all inhabitants of the Pacific Islands, except for a few Negroes, are bearded. <These peoples> show rather some signs of descent from *Malaysians*, the same as the <inhabitants of the> Sunda Islands. This supposition is confirmed by the kind of feudalism we find on the island of *Tahiti*, which is also the customary political system of the Malaysians.

The reason for assuming that Negroes and whites are base races is self-evident. As for the Hindustanish and Kalmuckish <racings>, the olive-yellow <skin color>—which forms the basis of the lighter or darker brown <color> of the <peoples living in> hot lands—is, in the first of these, <the Hindustanish>, no more to be derived from some other known national character than is the original face of the <Kalmucks>, and both leave their mark invariably in mixed matings. The way in which the remaining, imperfect races can be derived from these also helps explain why the <previously> named <racings> are to be regarded as base races. [434]

3. Of the immediate causes of the origin of these different races

The bases [*Gründe*] lying in the nature of an organic body (plant or animal) for a determinate development of the same <body> are called *germs* [*Keime*] when this development concerns a particular part <of the plant or animal>. <When>, however, <such development> concerns only the size or the relationship of the parts among one another, I name them natural *endowments* [*Anlagen*]. <For example>, in birds of the same kind, which are, nevertheless, supposed to live in different climates, <there are> germs for the development of a new layer of feathers. <These feathers appear> when <the birds> live in cold climates, but they are held back when they are meant to live in temperate climates. <Similarly>, the wheat kernel must be more protected against damp cold in a cold climate than in a dry or warm climate. Therefore, a previously determined ability [*Fähigkeit*], or natural endowment, lies in it to produce gradually a thicker skin. This precaution [*Vorsorge*] of nature to equip her creature through hidden, inner provisions for a variety of future circumstances to the end that <the creature> might preserve itself and be suited for the difference of climate and land is certainly admirable, and, with the migration and transplantation of plants and animals, apparently produces new kinds, <7> (18) which, <however>, are <really> nothing other

than deviations and races of the same species whose germs and natural endowments have, in the long course of time, only now and then developed in different ways.¹ [435]

Neither chance nor universal mechanistic laws could produce such matches. For this reason, we must view this sort of occasional development as *performed*. The mere capacity [*Vermögen*] to reproduce a specific, acquired character—even there, where nothing purposive is evident—is, however, already proof enough that a special germ or natural endowment is to be found in the organic creature. For external <factors> [*Dinge*] might well be occasional, but not productive causes from something that necessarily transmits and passes on resemblances [*anerbt und nachartet*]. It is just as unlikely that chance or physical-mechanical causes will add something to the generative power <of such a body> as that they could bring forth an organic body, that is, give rise to [*bewirken*] something that can reproduce itself when it is a particular form or relationship of parts.² Air, sun, and diet can cause modification in an animal body in its growth, but they cannot furnish these changes together with a (19) generative power capable of also producing itself again without this cause. Something that is meant to reproduce itself must instead have already, in advance, been situated in the generative power, as previously determined, for an occasional development appropriate to the circumstances into which the creature can land and in which it should continuously preserve itself. For nothing must be able to enter into the generative power that might have the means to take the creature gradually away from its original and essential determination and to produce true degenerate forms that perpetuate themselves. <8>

Human beings were destined [*bestimmt*] for <living in> every climate and any condition of the land. Consequently, various germs and natural endowments must have laid ready in them to be at times either developed or held back so that they might become fitted in a particular place in the world and seem, as it were, in the succession of generations, to be native to and made for <these places>. We wish to go through the entire human species <as it can be found> all over the earth in accordance with these ideas and to adduce suitably purposive causes to account for the appearance of deviations in those cases where natural causes are not to be apprehended easily. <We also wish to adduce> natural <causes> <in those cases> where we cannot become aware of the purposes. I note here only that *air* and *sun* appear to be [436] those causes that flow most intimately into the generative power and produce a long-lasting development of the germs and endowments, i.e., to be capable of establishing a race. A particular diet can surely produce a stock of humans, but the differences <that identify such a stock as distinct> quickly disappear with transplantation. Something that is meant to attach to the generative power should affect the source of life, i.e., the first principles

of its animal organization [*Einrichtung*] and movement, and not <simply> <its> preservation.

Displaced into the *arctic region*, human beings had gradually (20) to develop [*ausarten*] a smaller build, because with a smaller build when the power of the heart remains the same, the circulation of the blood takes place in a shorter time; consequently, the pulse becomes quicker and the blood warmer. In fact, even *Cranz* found the Greenlanders not only far smaller in stature than the Europeans, he also found the natural heat of their bodies to be noticeably greater. The disproportion between the full body height and the short legs of northern peoples is itself very suited for their climate, since these parts of the body suffer more danger from the cold due to their distance from the heart. Most of the currently known inhabitants of the arctic do, nevertheless, seem to have arrived later. For example, the Laplanders, who are from the same lineal stem stock as the Finns, namely, the Hungarian, have occupied their present place of residence only since the emigration of the Hungarians (from east Asia) and are acclimated to this climate to a tolerable degree.

When, however, a northern people is compelled to withstand the influence of the cold of the arctic for a long time, even greater changes must come about. All development that causes the body only to squander its juices must gradually be impeded in a climate so dry as this. For this reason, the germs for hair growth are suppressed over the course of time so that only so much hair remains as is needed for the necessary covering of the head. On the strength of <9> a natural endowment, the protruding part of the face, which because it suffers interminably from the cold, is <the part> least capable of being covered <by hair>, progressively—by means of a precaution [*Vorsorge*] of nature—becomes flatter in order that <this people> might better survive. The bulging, elevated area under the eyes <and> the half-closed and blinking eyes <themselves> seem to be arranged for the protection of this same part of the face, partly against the desiccating cold of the air and partly against the light of the snow (against which even the *Eskimos* need snow [437] goggles (21)), but they could also be viewed equally well as natural effects of the climate that are to be noted to a much smaller measure in a milder climatic zone. Thus, little by little, the beardless chin, the snarled nose, thin lips, squinting eyes, the flat face, <and> the red-brown <skin> color with black hair, <or>, in one word, the Kalmuckish facial formation [*Gesichtsbildung*], arises. <This formation> takes root after a long succession of generations in the same climate up to <the point of becoming> an enduring race <and> preserves itself when such a people immediately thereafter acquires a new place to live in a more temperate climate.

Doubtlessly, someone will ask how I can justify deriving the Kalmuckish formation [*Bildung*], which we presently find in its greatest complement

in a more temperate climatic zone, from the far north or northeast. This is my explanation. *Herodotus* reported already in his time that the *Argippeans*, the inhabitants of a land at the foot of high mountains in a region we can believe to be the Urals, were bald and flat-nosed and that they covered their trees with <a> white covering (he was presumably thinking of felt tents). We now find this form [*Gestalt*], in greater or smaller numbers, in northeastern Asia, but principally in the American northwest, <as> we have been able to discover, according to some recent reports, <that> the inhabitants of <the region extending> from Hudson Bay outward look like true Kalmucks. If we now bear in mind that both animals and humans must have passed <back and forth> in this region between Asia and America in the earliest time, as we find the same animals in the cold climatic zones of both of these regions, <and> that this human race first appeared to the Chinese in a region beyond the Amur river approximately one thousand years before the Christian era (according to *Desguignes*) and gradually drove other peoples of Tatar, Hungarian, and other lines of descent out of their places of residence, then this derivation <of this people> from out of the cold regions of the world will not seem completely forced. (22)

What, however, about the foremost <case>, namely, the derivation of the Americans? <The fact that this is> a people that has inhabited the northernmost part of the earth for a long time, but which has not yet fully acclimated <to this region>, or is perhaps a half-degenerated race, is confirmed completely by <10> the extended growth of hair on all parts of their bodies, except the head, <and> by <their> reddish, iron-rust color <when they live> in the colder regions of this part of the world and by <their> dark copper color in hotter regions. For the red-brown <skin color> (as an effect of the acidic air) seems to be just as suited to the cold climate as is [438] the olive-brown <skin color> (as an effect of the briny bile of the juices) to the hot climatic zones. <We can indeed> come to this conclusion without ever considering the natural disposition of the American, which betrays a half-extinguished life power that can be seen as most natural for the effect of a cold region. (23)

The most extreme humid heat of the warm climate must, on the other hand, show quite opposite effects <to those previously examined> on a people whose most fertile region is precisely the one—when it is now old enough to take on [*anzugearten*] fully <the conditions of its native> soil—in which the influence of both <humidity and heat> is the greatest. The loss of juices through perspiration (because of the heat <of this> region of the world) required that the germs for the growth of the hair were prevented from doing <their work>, except on the head, as <all other hair growth would be a> wasteful <use of these germs>—and the heat caused this to happen. The skin had to be oily so that this perspiration would be diminished. (The black <skin> color <of this people> can, by means of the special properties of the transpiring juices, be seen as a correlated consequence brought about

through the transpiration of the iron particles contained in the blood of all animals.) The growth of the spongy parts of the body had to increase in a hot and humid climate, which explains the thick, turned up nose and thick, fatty lips. In short, there arose [*es entsprang*] <from these conditions> the Negro, who is well-fitted to his climate—strong, fleshy, and nimble from the warm blood (from mingling) and the inert <blood> (because of the flabbiness of the vessels).

The indigenous peoples of Hindustan can be viewed as a race that arose from one of the earliest human races. Their land is supported to the north by a high mountain range, and a long row of mountains cuts through <it> from north to south to the tip of the peninsula (I am including, to the north, *Tibet*, which was perhaps the common place of refuge for humankind during the earth's last great <geological> revolution and, in the period following, a plant nursery). <This land> [439] has the most perfect drainage system in a fortunate climatic zone (draining toward two different oceans), which no other part of mainland Asia has. <This land> could, therefore, have been dry and inhabitable in the earliest times, since the eastern Indian peninsula, as well as China (because its rivers run parallel instead of diverging from one another), (24) must have still been uninhabitable in those times of floods. (25) At that time, this land seems also to have been cut off for a long time from all the lands of Asia. For the large tract of land lying between <11> the *Mustag* and *Altai* Mountains, including <the region> between *Lesser Bokhara* and *Daurien* that cuts off Hindustan *to the north* (just as it cuts off Persia and Arabia from the rest of the world on the other side *to the west*), are regions which, <extending> up to the ocean, have either absolutely no or, in the vicinity of the coast, only a short downward slope (*Buache* calls this sort of high and horizontally placed flat regions "plate formations"). <All of this> seems to confirm, therefore, <that this part of the world> is, as it were, the basin of an ancient sea that gradually dried up, as the sand³ that covers the surface all over this region is probably the deposit from ancient, calm waters.

Hindustan was during that time cut off from the rest of the world (which we can also say about Africa by means of the Sahara Dessert, the visible basin of an ancient sea). A fixed human race could, therefore, have been established over a long period of time <in this region>. The olive-yellow skin of the <Asian->Indians, the true gypsy color, which is the basis for the more or less dark brown <skin color> of the eastern peoples, is equally characteristic of these people and as constant in the successive line [*Nachartung*] as the black <skin> color of the Negro, and <it> seems, together with the rest of the formation and distinct natural disposition, to be just as much the effect of a dry <heat> as the <formation of the Negro seems to be the effect> of a humid heat. The <Asian->Indian in interbreeding with the white <race> gives rise to the yellow *mestizo*, just as the American <interbreeding with the white race gives rise to> the red <mestizo> or the <American> <interbreeding>

with the Negro <gives rise to> the Kabugl (the Black Caribs)—which are all hybrids and proves their origin from genuine [*ächten*] races.

If we were to ask with which of the present races the first *human lineal stem stock* might well have had the greatest similarity, we will presumably—although without any prejudice on behalf of the presumptuously greater perfection of one color <when compared to> another—pronounce <favor> for the <race> of *whites*. For human beings, whose descendants are destined to be acclimated in all climatic zones, would be most adept for this if they were originally fitted for the temperate climate, <11> because (26) <this climate> lies within the middle of the most extreme boundaries of the conditions into which <human beings> should come. And <this is> also <the region where> we—from the earliest time to the present—find the race of whites.

We now have some conjectures which possess at least reason enough to counter the ideas of others who find the differences in the human species so incompatible that they prefer instead to assume <that there must have been> many local creations. To speak with *Voltaire*: God, who created the reindeer in Lapland to eat the moss of this cold region <and> who also created the Lapplander to eat the reindeer, is not so bad an inspiration for the poet, but <he is> a poor subterfuge for the philosopher, who is not permitted to abandon the chain of natural events [*Natursachen*] except there, where he clearly sees them linked to direct destiny.

The physical geography that I, by this means, announce, belongs to an Idea I have constructed of a useful course of academic instruction, which I can call the preliminary practice in <acquiring> *knowledge* [Kenntniß] *of the world*. This world cognizance [*Weltkenntniß*] serves to procure for every other acquired science and skill the *pragmatic* by means of which they become useful not only for *school* but instead for *life*. <Consequently, such instruction should at the same time> introduce the novice completing <his> studies to the scene of his vocation, namely, the *world*. A twofold field lies before him here, namely, *nature* and *human beings*, of which he needs a provisional sketch in order to be able to organize all future experiences according to rules. Both <of these> must, however, be considered *cosmologically*, that is, not according to the noteworthiness that their objects comprise individually (physics and the empirical theory of the soul), but instead <according to> what their position in the totality wherein they stand and within which each assumes his place shows us. I call the first <form of instruction> *physical geography* and will offer lectures <on this topic> in the summer semester. I call the second <form of instruction> *anthropology* and will deliver <lectures on this topic> during the winter semester. Public notice of the remaining lectures for this half year has already been published in the proper place.

Of the Different Human Races (1777)

IMMANUEL KANT

The text translated below might easily, but mistakenly, be viewed as little more than a minor rewriting of Kant's 1775 summer semester course announcement (see above, 41–54) edited for publication in a volume entitled *Der Philosoph für die Welt* (The philosopher for the world) that featured essays by individuals considered to be among the leading “popular philosophers” of the day. A closer reading of the text shows, however, that it deserves to be read not only for the sake of comparison with views developed in the 1775 course announcement as well as with the later, 1785 and 1788 texts (see below), but also in its own right as indicative of a new stage in the 1770–1780s development of Kant's serious interest in formulating a scientifically respectable explanation for the “manifold diversity” (*Mannigfaltigkeit*) of human forms that culturally aware eighteenth-century Europeans were at the time learning about from the reports of the many “world travelers” then exploring and even circumnavigating the earth, such as Captain James Cook (1728–1779), whose second voyage to the Pacific in the years 1772–1775 was for the educated public of Europe of the time an event of significance comparable for the American and world public of the second half of the twentieth century to the Apollo 11 moon landing of 29 July 1969.

Some of the changes that Kant made in the 1775 text for purposes of publication in 1777 are then predictable, but not easily explained. For example, for publication, Kant excised the first paragraph of the course announcement with its somewhat dismissive statement that these investigations resembled more a “useful entertainment than a tiresome activity” and that they should be regarded “more as a game for [the understanding] than a deep investigation” (see above, 45). But did he make this change simply because he was now concerned with attracting the interest of an educated public already reading the publication for which he was writing rather than

prospective fee-paying students, or because he previously wasn't yet confident himself about his views, but now was? Similarly, Kant does not include in the published version of the announcement the programmatic concluding paragraph—in which, as suggested above in the introduction to the 1775 text, he arguably makes some effort to place his concerns with the subject matter of physical geography and anthropology within the developing critical framework. But did he make this change simply because he no longer, with a different readership in mind, felt the need to justify his interest in these emerging fields of inquiry to his colleagues, some of whom would surely have read his 1775 summer course announcement? Or was he instead, when revising the announcement for publication, no longer clear—or possibly not even concerned—about where these interests might fit within the framework of the developing critical project?

The first fourteen paragraphs of the 1777 text do, however, replicate, with only a few minor, mostly editorial, changes, the second-through-fifteenth paragraphs of the course announcement; but Kant did add significant wording to the fourth, sixth, fourteenth, and fifteenth paragraphs of the revised text and the four additional paragraphs at the end, two of which comprise an entirely new, fourth, sub-section. The changes that Kant made to the 1775 course announcement for its publication two years later are then hardly insignificant inasmuch as they both demonstrate his continuing interest in the topic of race throughout the 1770s and the fact that he was more than willing to change the details of his views on the subject when confronted with compelling reasons to do so. These changes are indeed worth cataloging in some detail.

For example, in the sentence concluding the fourth, final paragraph of the first section of the text, Kant seems in the 1775 version of the text to be affirming the idea attributed to the French mathematician and philosopher Pierre-Louis Moreau Maupertuis (1698–1759), that it might be possible “to breed from nature a noble stock of human beings in some province or other in whom understanding, diligence, and probity might be heritable.” But in the first of two sentences added to the same paragraph in the 1777 text, he clearly casts doubt on the idea that such mental and moral qualities are natural characteristics than can be developed through controlled breeding—that is, through “the careful elimination of the degenerate births from those that turn out well.” In fact, he now thinks that such a plan “is entirely well prevented by wiser nature, because the great driving urges that set the sleeping powers of humanity into play lie precisely within the confounding [*Vermengung*] of evil with the good and obliges them to develop all of their talents, and to come closer to the perfection of their calling” (see below, 61). This qualification thus anticipates a major point emphasized in early moral theory texts of the mid-1780s, including both the 1784 “Idea for a Universal History from a Cosmopolitan Perspective” and the 1785 *Groundwork for*

the *Metaphysics of Morals*, namely, that nature acting on its own cannot be expected to bring about any improvements in the moral condition of humanity. For nature, in Kant's view, as clearly expressed both in this sentence and in later texts, contributes to our moral development instead by presenting us with conflicts that stimulate human reason to come up with solutions of its own making. The final sentence added to this paragraph in the 1777 version of the text does nevertheless unambiguously affirm that nature can, when a people (*Völkerschaft*) remains in some region undisturbed for many generations, that is, when it does not migrate or "mix"—in other words, breed—with foreign peoples (*ohne Verpflanzung oder fremde Vermischung*), produce a recognizable race.

Perhaps equally significant is the fact that Kant, in the second section of both texts, explicitly states the need for assuming only four firmly established races to account for "all of the immediately recognizable, self-perpetuating distinctions within <the human species>"—specifically: "(1) the race of whites; (2) the Negro race; (3) the Hunnish race (Mongolish or Kalmuckish); and (4) the Hinduish, or *Hindustanish*, race." But in a chart added to the end of the third section of the 1777 text, Kant seems now to group the third and fourth of these races together under a new classification, the "olive-yellow (<Asian->Indian)," and he identifies a new race, the "copper red," which he thinks to be the product of the "dry cold" climate of the Americas (see below, 69–70)—while in the earlier text, the "Americans" were described instead as either a "people that had inhabited the northernmost part of the earth for a long time, but which has not yet fully acclimated <to the region>"—that is, either as a people that has not yet established itself as a distinct race or as "perhaps a half-degenerated race" (see above, 52). Further, in suggesting this alteration to his classificatory system, Kant also highlights his notion of a "lineal stem species" (*Stammgattung*), and, more disturbingly, he develops a more detailed account of the kinds of natural causes needed to account for the specific physical differences among the different races—including now not only "immediate," or "effective" (*unmittelbaren*), but also "occasional" causes (*Gelegenheitsursachen*). This account focuses then, in the 1777 version of the text even more than in that from 1775, on differences in skin color, which unfortunately, become for him—in the 1785 article to follow—of even greater importance (see below, esp. 133).

What may account for some of the tensions in Kant's theory that we can easily detect in this text is that his continuing interest to account for what can only be called "racial differences" through an identification of natural causes, both "immediate" and "occasional," draws on two seemingly quite disparate traditions: (1) the medieval medical theory of the four humors, or temperaments—from which he derives the combinations of climatic factors (humid cold, dry cold, humid heat, and dry heat) he believes needed to account for

the seemingly more essential features of the distinctive “noble blond,” “copper red,” “black,” and “olive-yellow” races identified at the end of the third section of the text; and (2) the emerging science of chemistry—which he cautiously draws upon in an entirely new paragraph added immediately after what was the penultimate paragraph of the course announcement to suggest, by analogy, that if this new science can account for the different colors of plants it might also provide us with an account of the different colors of the human races (see below, 68).

Of even greater significance ultimately than these emendations to his theory, however, is the fact that Kant, following Buffon, at the end of the newly added fourth section of the text, renews his call from the previous essay to move from a (Linnaeus-inspired) mere description of nature to the development of a new “separate science that could well serve to move us gradually from opinions to rational insights” in our consideration of the causes, now—with the addition of the fourth section of the text—both “immediate” and “occasional,” that might help us understand the different human races. And if it was the formation of the peoples of the Americas that Kant found most perplexing in the earlier text, it is clearly the fact that “the Negro race . . . is peculiar only to Africa” that he finds most perplexing in this one. Indeed, the entire fourth section of the text is added in order to present a rather ingenious hypothesis that might explain why “similar regions and climatic zones do not include the same race.” The hypothesis that Kant comes up with to explain both why “the Negro race . . . is peculiar only to Africa” as well as why “the <Asian->Indian character was not able to take root in Persia and Arabia” is that there might have existed “an ancient *inland* sea that kept Hindustan, as well as Africa, separated from other, otherwise close lands” (see below, 70).

As a final point of interest in the study of the following text, the reader might note Kant’s tendency—evident in his work from the 1760s through at least the late 1780s—to blur the lines between the distinct way in which nature can presumably oblige the development of mental and moral characteristics of human beings in general from the way in which it produces the physical characteristics of the different races that he so clearly attempted to distinguish in the two sentences following the reference to Maupertuis added to the first section of the text previously noted. For even if he is a bit more circumspect in his account of the “lineal stem species” (*Stammgattung*) provided in this text in refraining to make a direct connection between the extant “noble blond (north-<ern> Europe[an])” race and the original human form (which he now describes as “white [but] of more brown-complexioned color”) than he was in the 1775 course announcement (in which he confidently asserted “without any prejudice” that it is “the <race of> *whites*” that surely has the “greatest similarity” to “the first human lineal stem stock”), he is explicit in the third note appended to the text (see below, 333) in describing “the natives of [Suri-

nam] . . . [as] generally wanting in ability and durability,” which in his view seems to justify the importation of “Negroes”—that is, African slaves—to the region to do the “fieldwork” while leaving the “domestic work” to the “red slaves (Americans),” who, from natural causes, have been left bereft of both the physical and mental characteristics needed for such arduous labor. This “one-step-forward, one-step-back” pattern of development in Kant’s thinking about race from the 1760s through at least the late 1780s is, however, characteristic.

The numbers included in simple brackets below, e.g., [430], indicate the pagination of the text as reproduced in the Akademie edition of Kant’s works (AA 2:429–443), which, however, as noted in the introductory comments to the previous selection, does not clearly distinguish the 1777 published version of the text from the 1775 course announcement; the numbers in parenthesis, e.g., (12), indicate the pagination in the text as reproduced in Immanuel Kant, *Werke*, vol. 6: *Schriften zur Anthropologie, Geschichtsphilosophie, Politik und Pädagogik*, ed. Wilhelm Weisschedel (Frankfurt am Main: Insel-Verlag, 1964), the edition of the text that was consulted most frequently in the preparation of this translation; and the numbers in angle brackets, e.g., <126>, indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 3, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001), and is also available online by searching the website, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, at www.ub.uni-bielefeld.de/diglib/aufklaerung/.

* * *

1. Of the diversity of races in general

In the animal kingdom, the natural division into species [*Gattungen*] and kinds [*Arten*] is based on the common law of reproduction, and the unity of the species is nothing other than the unity of the generative power that is universally in force within a certain manifold diversity [*Mannigfaltigkeit*] of animals. For this reason, Buffon’s <126> rule that animals that produce fertile young with one another belong to one and the same physical species (no matter how different in form they may be), is—strictly speaking, in distinction from all scholastic <descriptions of> species—to be regarded only as a definition of a natural species of animals in general. A scholastic division is based upon classes and divides things up according to *similarities*, but a natural division is based upon identifying lines of descent [*Stämme*] that classify the animals according to reproductive *relationships*. The first of these procures a scholastic system for the memory; the second, a natural system

for the understanding. The first has only the intent of bringing the creatures under headings; the second, of bringing them under laws.

According to this way of thinking, all human beings everywhere on the earth belong to the same natural species because they universally produce fertile children with one another, <127> even if we find great dissimilarities in their form. From this unity of the natural species, [430] which is tantamount to the unity of its common, effective power of generation [*Zeugungskraft*], we can adduce only a single natural explanation, namely, that all human beings belong to a single lineal stem stock [*Stamm*] from which, in spite of their differences, they emerged or (12) at least could have emerged. In the first case, human beings belong not merely to one and the same *species* but also to one *family*. In the second case, <human beings are regarded as> similar to one another but not related, and many different local creations must be assumed, a view that needlessly multiplies the number of causes. An animal species that has at the same time a common line of descent is not comprised of different *kinds* (since <being comprised of different kinds> constitutes the differences of descent); <128> their divergences from one another, when they are heritable, are instead called *deviations* [Abartungen]. The heritable marks of descent, when they are in accord with their origin, are called *resemblances* [Nachartungen]. If, however, the deviation is no longer capable of producing the original lineal stem stock formation [*Stammbildung*], it would be called a *degeneration* [Ausartung].

Among the deviations, that is, the heritable differences of animals that belong to a single line of descent, are those called *races*. <Races are deviations> preserved invariably over many generations [*Zeugungen*], both in all transplantations (displacement to other regions) and in interbreeding with other deviations of the same lineal stem stock, that always produce half-breed offspring. *Variations* [Spielarten] <are also deviations> that, to be sure, preserve invariably and, therefore, pass on the distinguishing difference of their deviation in all transplantations, but they do not necessarily produce half-breeds when they interbreed with others. Those <deviations>, however, which indeed <129> often, but not invariably, resemble one another are called *varieties* [Varietäten]. Conversely, the deviation that does indeed produce half-breed <offspring> with others, but which gradually dies out through transplantation, may be called a *special stock* [Schlag].

<Proceeding> in this way, although *Negroes* and *whites* are certainly not different kinds of human beings (since they presumably belong to one line of descent), they <do comprise> two different races. <This is> because each of them perpetuates itself in all regions <of the earth> and both, <when they interbreed> with one another, necessarily produce half-breed (13) children, or *hybrids* [Blendlinge] (mulattoes). *Fair-skinned* [blond] and *brown-complexioned* [brunette] <peoples> are not, by contrast, different races of whites,

because a fair-skinned man can—from a brown-complexioned woman—also have distinctly fair-skinned children, although each of these deviations is kept in all transplantations through many generations. For this reason, they are *variations* of whites. At long last, [431] the <130> condition of the earth (dampness or dryness), as well as the food that a people commonly eat, eventually produce one heritable distinction, or *stock*, among animals of one and the same line of descent and race, especially with regard to <their> size, the proportion of <their> limbs (plump or slim), and <their> natural disposition [*Naturells*]. To be sure, <this stock> will pass on half-breed <resemblances> when it interbreeds with foreign <stock>, but it disappears in a few generations <when the offspring live> in other places and with a change in diet (even when there is no change in climate). We find it pleasing to note the differing stock of human beings according to the difference of the region <in which they live> (as Boeotians, who live in a region with damp soil, distinguish themselves from Athenians, who live in a region with dry soil). Such difference is admittedly often recognizable only to a keen observer, but laughable to others. Something that appertains purely to <131> varieties—and is, therefore, in itself heritable (if, to be sure, not invariably)—can, indeed, through marriages that remain within the same families, with time, give rise to something that I call the *family stock* [*Familienschlag*], whereby something characteristic ultimately becomes rooted so deeply in the generative power that it comes close <to becoming> a variation—and perpetuates itself like a <variation>. This <development> has allegedly been observed in the old Venetian nobility, particularly in the women. At the least, all of the noble women on the recently discovered island of *Tahiti* are altogether of a larger build than the commoners. — (14) The idea of *Maupertuis* to breed from nature a noble stock of human beings in some province or other in whom understanding, diligence, and probity might be heritable rested on the possibility that an enduring family stock might eventually be established through the careful elimination of the degenerate births from those that turn out well <132>. I think that <this> plan is in itself certainly practicable, but it is entirely well prevented by wiser nature, because the great driving urges that set the sleeping powers of humanity into play lie precisely within the confounding [*Vermengung*] of evil with the good and obliges them to develop all of their talents, and to come closer to the perfection of their calling. If nature, when undisturbed (without the effects of transplantation or foreign interbreeding), can have an effect throughout many generations, she can eventually produce an enduring stock at any time and make the people <of this stock> forever recognizable. <This people> would <then> be called a race if the characteristic feature <by which they could be recognized> did not seem too insignificant and too difficult to describe to be of any use in establishing a special division. <133> [432]

2. Division of the human species into its different races

I believe we only need to assume four races in order to be able to derive [*ableiten*] all of the immediately recognizable, self-perpetuating distinctions within <the human species>. They are: (1) the race of *whites*; (2) the *Negro race*; (3) the *Hunnish* race (Mongolish or Kalmuckish); and (4) the Hinduish, or *Hindustanish*, race. I also count among the first of these, which has its principal place of residence in Europe, the Moors (Mauritanians from Africa), the Arabs (following Niebuhr), the Turkish-Tatarish lineage [*Völkerstamm*], and the Persians, as well as all the other peoples of Asia who are not specifically excepted from them in consequence of the remaining divisions. The *Negro race* of the northern hemisphere is native (autochthonal) only to Africa; that of the southern hemisphere (outside of Africa), presumably <134> only to New Guinea (15) but <can be found> on several neighboring islands <in consequence of> simple transplantations. The Kalmuckish race seems to be purest among the Khoshuts, to be mixed less with Tatarish blood among the Torguts, and to be mixed more with Tatarish blood among the Zingari. <This> is the same <race> that in the earliest times carried the name of *Huns*, later that of *Mongols* (in the broader meaning), and presently that of *Oliuts*. The Hindustanish race is in the land of this name very pure and ancient, but is distinct from the people who live on the other side of the Indian peninsula. I believe <we> can derive all of the remaining heritable characters of peoples [*Völkercharactere*] from these four races either as *mixed* or *incipient* [*angehende*] races. The first <of these> arises from the interbreeding of different races; the second, <when a people> has not yet lived long enough in a specific climate to take on fully the character of the race. Thus, the <135> mixing of Tatarish and Hunnish blood in the Karakalpaks, the Nagas, and others, has given rise to *half-races*. <Similarly>, Hindustanish blood mixed with that of the old Scythians (in and around Tibet) and either more or less with Hunnish <blood> possibly produced the inhabitants of the other side of the Indian peninsula, the *Tonkinese* and Chinese as a mixed race. The inhabitants of the northern arctic coast of Asia are, <on the other hand>, an example of an incipient Hunnish race <and> already display the effect of the arctic climate on a people that were only recently driven into this region from a milder climate, <namely>, the uniformly black hair, the beardless chin, <and> the flat face and barely opened eye placed within long slits. <This is the same sort of development that the> sea Lapplander, a lineage [*Abstamm*] of the [433] Hungarian people, <seem to have undergone>. If <the sea Lapplander> did indeed originate from a well-developed people from the temperate zone, then they have already, in only a few centuries, acclimated [*eingeartet*] tolerably well to the peculiarities <136> of a cold climate. (16) Finally, the Americans appear to be a Hunnish race that is still

not fully acclimated. For in the extreme northwest region of America—where, by all appearances, the population must have originated [*geschehen sein*] in northeastern Asia, since corresponding kinds of animals are found in both <of these regions>—the inhabitants on the northern coasts of *Hudson Bay* are very similar to the Kalmucks. Further south, the face is certainly more open and more elevated, but the beardless chin, the uniformly black hair, the red-brown facial color, as well as the coldness and insensitivity of the natural disposition—clear remnants of the effect of a long residence in a cold region of the world, as we will soon see—endure from the far north of this part of the world <137> to Staten Island. The longer residence of the progenitors [*Stammväter*] of the Americans in n<orth>e<astern> Asia and the neighboring n<orth>w<estern> <region of> America has brought about the perfection of the Kalmuckish form, but the more rapid dispersal of their descendants toward the south of this region <fostered the perfection of the form now characteristic of> the American. There is, <however>, no further populating at all <of this people> outward from America. <This is shown by the fact that> all inhabitants of the Pacific Islands, except for a few Negroes, are bearded. <These people> show rather some signs of descent from *Malaysians*, the same as the <inhabitants of the> Sunda Islands. This supposition is confirmed by the kind of feudalism we find on the island of *Tahiti*, which is also the customary political system of the Malaysians.

The reason for assuming that Negroes and whites are base races is self-evident. As for the Hindustanish and Kalmuckish <racess>, <138> the olive-yellow <skin color>—which forms the basis of the lighter or darker brown <color> of the <peoples living in> hot lands—is, in the first of these, <the Hindustanish>, no more to be derived from some other known national character than is the original face of the <Kalmucks>, and both leave their mark (17) invariably in mixed matings. Just <the same> holds good for the American race, <which was> struck in the Kalmuckish form and linked to it in consequence of one and the same cause. The *yellow mestizo* arose from the interbreeding of east Indians with whites, as the *red <mestizo>* arose from the interbreeding of Americans with whites. <Similarly>, *mulattoes* arose from the interbreeding of whites with Negroes, and the *Kabugl*, or black *Carib*, arose from the interbreeding of Americans with Negroes. <These> are always recognizably marked [434] as hybrids, <which> proves their derivation from genuine [*ächten*] races. <139>

3. Of the immediate causes of the origin of these different races

The bases [*Gründe*] lying in the nature of an organic body (plant or animal) for a determinate development are called *germs* [Keime] when this development

concerns a particular part <of the plant or animal>. <When>, however, <such development> concerns only the size or the relationship of the parts among one another, I name them natural *endowments* [Anlagen]. <For example>, in birds of the same kind which are, nevertheless, supposed to live in different climates, <there are> germs for the development of a new layer of feathers. <These feathers appear> when <the birds> live in cold climates, but they are held back when they are meant to live in temperate climates. <Similarly>, the wheat kernel must be more protected against damp cold in a cold climate than in a dry or warm climate. Therefore, a previously determined ability [*Fähigkeit*], or natural endowment, lies in it to produce gradually a thicker skin. This provision [*Fürsorge*] of nature to equip her creature through <140> hidden inner provisions for a variety of future circumstances to the end that <the creature> might preserve itself and suited for the difference of climate and land is certainly admirable and with the migration and transplantation of plants and animals apparently produces new kinds, which, (18) <however>, are <really> nothing other than deviations and races of the same species whose germs and natural endowments have, in the long course of time, only now and then developed in different ways.¹ [435] <141>

Neither chance nor universal mechanistic laws could produce such matches. For this reason, we must view this sort of occasional development as *performed*. The mere capacity [*Vermögen*] to reproduce a specific, acquired character—even there, where nothing purposive is evident—is, however, already proof enough that a special germ or natural endowment is to be found in the organic creature. For external <factors> [*Dinge*] might well be occasional, but not productive causes from something that necessarily transmits and passes on resemblances [*anartet und nachartet*]. It is just as unlikely <142> that chance or physical-mechanical causes will add something to the generative power <of such a body> as that they could bring forth an organic body, that is, give rise to [*bewirken*] something that can reproduce itself when it is a particular form or relationship of parts.² Air, sun, and diet can cause modification in an animal in its growth, but they cannot furnish these changes together with a (19) generative power that might also be capable of also producing itself again without this cause. Something that is meant to reproduce itself must instead have already, in advance, been situated in the generative power, as previously determined, for an occasional development appropriate to the circumstances into which the creature can land and in which it should continuously <143> preserve itself. For nothing foreign to the animal must be able to enter into the generative power that might have the means to take the creature gradually away from its original and essential determination and to produce true degenerate forms that perpetuated themselves.

Human beings were destined [*bestimmt*] for <living in> every climate and any condition of the land. Consequently, various germs and natural

endowments must have laid ready in them to be at times either developed or held back so that they might become fitted in a particular place in the world and seem, as it were, in the succession of generations, to be native to and made for <these places>. We wish to go through the entire human species <as it can be found> all over the earth in accordance with these ideas and to adduce suitably purposive causes to account for the appearance of deviations in those cases where natural causes are not to be apprehended easily. <We also wish to adduce> natural <causes> <144> <in those cases> where we cannot become aware of the purposes. I note here only that *air* and *sun* appear to be [436] those causes that flow most intimately into the generative power and produce a long-lasting development of the germs and endowments, i.e., to be capable of establishing a race. A specific diet can surely produce a stock of humans, but the differences <that identify such a stock as distinct> quickly disappear with transplantation. Something that is meant to attach itself to the generative power should affect the source of life, i.e., the first principles of its animal organization [*Einrichtung*] and movement, and not <simply> <its> preservation.

Displaced into the arctic region, human beings had gradually (20) to develop [*ausarten*] a smaller build, because with a smaller build when the power of the heart remains the same, the circulation of the blood takes place in a shorter time; consequently, the pulse becomes quicker and the blood warmer. In fact, even *Cranz* found the Greenlanders <145> not only far smaller in stature than the Europeans, he also found the natural heat of their bodies to be noticeably greater. The disproportion between the full body height and the short legs of northern peoples is itself very suited to their climate, since these parts of the body suffer more danger from the cold due to their distance from the heart. Most of the currently known inhabitants of this region do, nevertheless, seem to have arrived later. For example, the Laplanders, who are from the same lineal stem stock as the Finns, namely, the Hungarian, have occupied their present place of residence only since the emigration of the Hungarians (from east Asia), <but> are, nevertheless, already acclimated to this climate to a tolerable degree.

When, however, a northern people is compelled to withstand the influence of <146> the cold of the arctic for a long time, even greater changes must come about. All development that causes the body only to squander its juices must be gradually impeded in a climate so dry as this. For this reason, the germs for hair growth are suppressed over the course of time so that only so much hair remains as is needed for the necessary covering of the head. On the strength of a natural endowment, the protruding part of the face, which because it suffers interminably from the cold, is <the part> least capable of being covered <by hair>, progressively—by means of a provision [*Fürsorge*] of nature—becomes flatter in order that this people might better survive,

since <this part of the face> suffers the most from the effect of the cold. The bulging, elevated area under the eyes <and> the half-closed and blinking eyes <themselves> seem to be arranged for the protection of this same part of the face, partly against the desiccating cold of the air and partly against the light of the snow (against which even the Eskimos need snow [437] <147> goggles (21)), but they could also be viewed equally well as the natural effects of the climate that are to be noted to a much smaller measure in milder climatic zones. Thus, little by little, the beardless chin, the snarled nose, thin lips, squinting eyes, the flat face, <and> the red-brown <skin> color with black hair, <or>, in one word, the *Kalmuckish facial formation* [Gesichtsbildung], arises. <This formation> takes root after a long succession of generations in the same climate up to <the point of becoming> an enduring race <and> preserves itself when such a people immediately thereafter acquires a new place to live in a more temperate climate.

Doubtlessly, someone will ask how I can justify deriving the Kalmuckish formation [*Bildung*], which we presently find in its greatest complement in a milder climatic zone, from the far north or northeast. <148> This is my explanation. *Herodotus* reported already in his time that the *Argippeans*, the inhabitants of a land situated at the foot of high mountains in a region we can believe to be the Urals, were bald and flat-nosed and that they covered their trees with a white covering (he was presumably thinking of felt tents). We now find this form [*Gestalt*], in greater or smaller numbers, in north-eastern Asia, but principally in the American northwest, <as> we have been able to discover, according to some recent reports, <that> the inhabitants of <the region extending> from Hudson Bay outward look like true Kalmucks. If we now bear in mind that both animals and humans must have passed <back and forth> in this region between Asia and America in the earliest time, as we find the same animals in the cold climatic zones of both of these regions, <and> that this human race first appeared to the Chinese in a region beyond the Amur river approximately 1,000 years before the Christian era (according to <149> *Desguignes*) and gradually drove other peoples of Tatar, Hungarian, and other lines of descent out of their places of residence, then this derivation <of this people> from out of the cold regions of the world will not seem completely forced. (22)

What, however, about the foremost <case>, namely, *the derivation of the Americans*? <The fact> that this is a people that has inhabited the northernmost part of the earth for a long time, but which has not fully acclimated itself to this region, is confirmed completely by the extended growth of hair on all parts of their bodies, except the head, <and> by <their> reddish, iron-rust color <when they live> in the colder regions of this part of the world and by <their> dark copper color in the hotter regions. For the red-brown <skin color> (as an effect of the acidic air) seems to be just as suited to the

cold climate as is [438] the olive-brown <skin color> (as an effect of briny bile of the juices) to the hot climatic zones. <150> <We can indeed> come to this conclusion without even considering the natural disposition of the American, which betrays a half-extinguished life power³ that can be seen as most natural for the effect of a cold region.

The most extreme *humid heat* of the warm climate must, on the other hand, show quite opposite effects to those previously examined on a people that has become old enough in <a region> to take on [*anzuarten*] fully <the conditions of its native> soil. <Conditions such as these> will produce directly the counterpart of the Kalmuck formation. The growth of the spongy parts of the body had to increase in a hot and humid climate, which explains the thick, turned up nose and thick, fatty lips. <151> The skin had to be oily not only to lessen the too heavy perspiration but to prevent the harmful absorption of the foul humidity of the air. The profusion of iron particles, which are otherwise found in the blood of every human being, and in this case, are precipitated in the net-shaped substance through the transpiration of phosphoric acid (of which all Negroes stink), is the cause of the blackness that shines through the epidermis; and the heavy iron content in the blood also seems (23) to be necessary in order to obviate the relaxation of all parts <of the body>. The oil of the skin, which weakens the nourishing mucus necessary for the growth of hair, hardly allows for the production of the wool that covers the head. Besides, humid warmth is generally preferential to the robust growth of animals. In short, there arises [*es entspringt*] <from these conditions> the Negro, who is well-fitted to his climate—<152> that is, strong, fleshy, <and> nimble, but, under the ample care [*Versorgung*] of his motherland, lazy, soft, and dallying.

The indigenous peoples of Hindustan can be viewed as a race that arose from one of the earliest human races. Their land is protected to the north by a high mountain range, and a long row of mountains cuts through <it> from north to south to the tip of the peninsula (I am including, to the north, *Tibet*, which was perhaps the common place of refuge for humankind during the earth's last great <geological> revolution and, in the period following, a plant nursery). <This land> [439] has the most perfect drainage system lying in a fortunate climatic zone (draining toward two different oceans), which no other part of mainland Asia lying in a fortunate climatic zone has. <This land> could, therefore, have been dry and inhabitable in the earliest times, since the eastern Indian peninsula, as <153> well as China (because its rivers run parallel instead of diverging from one another), (24) must have still been uninhabitable in those times of floods. A fixed human race could, therefore, have established itself <in this region> over a long period of time. The olive-yellow skin of the <Asian->Indians, the true gypsy color, which is the basis for the more or less dark brown <skin color> of the other eastern

peoples, is also equally so characteristic of these people and constant in the successive line [*Nachartung*] as is the black <skin> color of the Negro, and <it> seems, together with the rest of the formation and distinct natural disposition, to be just as much to be the effect of a *dry* <heat> as the <formation of the Negro seems to be the effect> of a humid heat. According to Ives, the common illnesses of <Asian->Indians are clogged gallbladders and swollen livers. <However>, their native skin color is, as it were, jaundiced and seems to manifest a continuous separation of the bile that enters into the blood, <154> which as saponaceous possibly dissolves and volatilizes the thickened juices and, by this means, cools off the blood in at least the outer parts <of the body>. A self-help [*Selbsthülfe*] of nature running upon <the process previously described> or out of something similar, <which>, by means of a certain organized system [*Organisation*] (the effect of which appears on the skin), continuously eliminates whatever stimulates the circulation of the blood, might indeed be the cause of the cold hands of the <Asian->Indians⁴ and <155> <could> perhaps <also account for> (although we have not yet observed this) a generally lower blood temperature, which (25) makes them capable of bearing the heat of the climate without detriment. (26)

We now have some conjectures about these matters which possess at least reason enough to counter the ideas of others who find the differences in the human species so incompatible that they prefer instead to assume <that there must have been> many local creations. To speak with Voltaire: God, who created the reindeer in Lapland <156> to eat the moss of this cold region, <and> who also created the Lapplander to eat the reindeer, is not so bad an inspiration for the poet, but <he is> a poor subterfuge for the philosopher, who is not permitted to abandon the chain of natural causes [*Naturursache*] except there, where he clearly sees them linked to direct destiny.

We now, with good reason, ascribe the different colors of plants to the iron precipitated through different juices. There is <also> nothing to prevent us from attributing the different colors of the human races to exactly the same causes, since the blood of all animals contains iron. Perhaps the iron particles in the reticulum were in this way precipitated red or black or yellow by the hydrochloric acid or the phosphoric acid or the volatile (27) alkaline content of the exporting vessels of the skin. In the line [*Geschlecht*] of whites, however, the iron dissolved in these juices might have been not at all <157> precipitated, thereby demonstrating both the perfect mixing of juices and the strength of this human stock in comparison to others. This is, nevertheless, only a sketchy incitement for investigation in a field with which I am too unfamiliar to be able to venture even mere conjectures with some confidence.

We have identified [*gezählt*] four human races under which all <of the> manifold diversity of this species should be comprehended. However, all deviations surely stand in need of a *lineal stem species* [*Stammgattung*], which

we must either pass off as <having> already died out or select from those existing, by <means of> which we can at most <approximate> [*vergleichen*] the lineal stem species. To be sure, we cannot hope now to find anywhere in the world an unchanged <example of the> original human form [*Gestalt*]. The human form must now—just from this natural propensity to take on the native soil [*Boden*] over many successive generations—be afflicted everywhere with local modification. <158> The region of the earth between 31 and 32 degrees latitude [52 degrees in the Akademie edition] in the Old World (which also seems to deserve the name Old World with regard to the population <living there>) can, however, be thought of as one in which the most fortunate [441] mixture of the influences of <both> the colder and the hotter regions and also the greatest riches in earthly creatures are to be found. <This is> also <the region> where human beings would have to diverge least from their original formation because <the human beings living> in this region are equally well-prepared for any transplantation from there outward. We do, however, to be sure, find white—yet brown-complexioned—inhabitants <in this region>, the form, therefore, we want to assume nearest to the lineal stem species. The nearest northern deviation to develop from this <form> appears to be the *noble blond* [*hochblonde*] of tender white skin, reddish hair, <and> pale blue eyes, which during the Roman era inhabited the northern regions of Germany and (according to other available evidence) <159> further to the east up to the Altai Mountains—but <regions> filled everywhere with vast forests in a rather cold part of the earth. Now the influence of a *cold* and (28) *humid* air, which draws a tendency for scurvy to the <bodily> juices, has produced a certain stock of human beings that would have blossomed into the constancy of a race if the progression of the deviation had not been so frequently interrupted by foreign interbreeding. We can, therefore, reckon this <stock of human beings> at least as an approach to the actual races [*zum wenigstens als eine Annäherung den wirklichen Racen*], whereupon this <account>, in connection with the natural causes of the origin of their genesis, can be conveyed <by means of> the following summary:

Lineal stem species

White of more brown-complexioned color <160>

First race

Noble blond (north<ern> Europe)
from humid cold

Second race

Copper red (Americ<a>)
from dry cold

Third race
Black (Senegambia)
from humid heat

Fourth race
Olive-yellow (<Asian->Indian)
from dry heat

4. Of the occasional causes of the establishment of the different races

No matter what explanation we might assume, the greatest difficulty presented by the manifold diversity of races on the surface of the earth is this: similar regions and climatic zones surely do not include the same race. America, <for example>, presents <us> in its hottest climates <with> no East Indians, still much less a Negro form native to the region. <Similarly>, there are <no peoples> in Arabia or Persia that have the olive-yellow <skin color> native to the <Asian->Indians, (29) even though these [442] lands very much agree in climate and air quality, etc. <161> As for the first of these difficulties, a sufficiently comprehensible response comes from <considering> the sort [Art] of population <living in> this climatic zone. For when a race has once established itself in consequence of the long residency of its ancestral people [Stammvolk] in n<orth>e<ast> Asia, or in the neighboring land of America, as <has now happened>, no further climatic influences could transform it into another race. For only the <original> lineal stem stock formation can develop [ausarten] into a race. This race, however, when it has once taken root and stifled the other germs, resists all <further> transformation for just this reason: because the character of the race has previously [einmal] become preponderant in the generative power.

How, then, are we to explain the particular region [Lokalität] <where we find> the Negro race,⁵ which is peculiar only to Africa (<and> in its greatest <162> perfection in Senegambia)? <Likewise, how are we to explain the particular region where we find> the <Asian->Indian <race>, which is also confined in a <well-defined> territory (except to the east, where it seems to have taken on a half-breed <form>)? I believe that the cause <of the confinement of these two races to these locations> might <be found> in an ancient inland sea that kept Hindustan, as well as Africa, separated from other, otherwise close lands. For the region that extends in an only slightly broken, <but> connected <land mass> from the Darien border across Mongolia, Lesser Bokhara, Persia, Arabia, Nubia, and the Sahara to Cape Blanco, looks, for the most part, like the bottom of an ancient sea. Buache calls the

lands of this region plate formations, <163> that is to say, high and, for the most part, horizontally placed, flat areas. Nowhere do the mountains to be found in <this region> have downward inclinations that extend very far, as their base is buried under horizontal layers of sand. For these reasons, the few rivers that we do find have only a short course and dry up in the sand. <These plate formations> are similar to the basins of ancient seas, because they are surrounded by regions of high altitude, and considered as a whole they hold whatever water that drains into them in their interiors, and, (30) consequently, neither take in nor let a river <flow> out. They are, moreover, for the most part, also covered with sand that might have been left behind from an ancient, calm sea. <Taking into account all these factors>, it now becomes comprehensible [443] how the <Asian->Indian character was not able to take root in Persia and Arabia, <regions> which still served as the basin of a sea at the time when Hindustan had presumably already been inhabited for a long time. In the same way, <these factors> <also> explain how the Negro, as well as the <Asian->Indian <race>, <164> could survive unmixed with northern blood for such a long time. <This occurred> because they were cut off by this same sea. We see, then, that the description of nature (the condition of nature at the present time) does not suffice to explain the manifold diversity of human deviations. We must, therefore, venture <to offer> a *history* of nature, if we are also—and, to be sure, justifiably so—very much opposed to the impudence of mere opinion. <This kind of history is, however>, a separate science that could well serve to move us gradually from opinions to rational insights.

Geographical History of Human Beings and the Universally Dispersed Quadrupeds (1778–1783)

E. A. W. ZIMMERMANN

Eberhard August Wilhelm Zimmermann (1743–1815) is identified on the title page of the three-volume work from which the following selection is excerpted as Professor of Mathematics and Natural Philosophy (*Naturlehre*) in the Collegium Carolinum in Braunschweig (often anglicized as Brunswick in conformity with the Low German spelling, Brunswieck). Zimmermann was then, we might correctly assume, a prominent, well-connected figure in his own lifetime, but to contemporary readers he is likely the least well-known of any of the figures with work included in this volume. The introduction to this selection will, therefore, include some extended discussion of his career and contributions to the development of geography in the latter decades of the eighteenth century through the 1820s. These comments will also make clear why the following text is as significant as it surely is for this volume and how and why Zimmermann's account of human diversity differs so greatly as it does from that of Kant.

No doubt the first thing that must be said about the text from which the following excerpt is taken is simply that Zimmermann's *Geographical History* was apparently a much-heralded, landmark work from the decade in which it was written, the 1770s, inasmuch as it comprises a comprehensive examination and classification of the 550 mammals that had been identified by the first year of its publication, 1778. The inclusion of excerpts from this work in this volume serves then at least two purposes. First, Zimmermann, in the following text, actually singles out Kant for explicit criticism of his views on race from the 1777 article, "Of the Different Human Races" (see above,

55–71). The fact that Kant’s investigations were taken seriously enough to merit detailed criticism from a relatively young, aspiring professor of mathematics and natural philosophy—who had studied at two prominent universities with continent-wide reputations in these areas—well demonstrates then that Kant’s interest in the subject of race in the 1770s was not a matter of merely minor significance or of no interest to others. But, second, familiarity with Zimmermann’s work, including an examination of the extensive references to the work of other investigators whose work he cites in the notes included with the translation of the text below, also provides the reader with a helpful “window” into the large—and, in many respects, still largely unexplored—body of literature that had already been compiled on the subject of human variability by the time Kant and Zimmermann entered the debate. Further exploration of these sources should thus be extremely helpful for anyone truly wishing to better understand the historical context in which Kant’s interests in “race theory” emerged and evolved. Familiarity with these sources can indeed help explain why Kant’s views could, when compared with the much less well-developed views of other prominent figures of this period, come to have the influence they arguably did.

But who was Zimmermann? The following, brief comments on the life and professional career of Zimmermann focus, first, on his student years and the circumstances of his appointment to a position at the Collegium Carolinum in 1766, and, second, on his many publications, which span the years from the completion of his studies in 1765 to the year after his death in 1816, and even into the 1820s, when some of his most popular work appeared in new editions. These introductory comments will conclude then with a brief comparison of the major points of difference between the views of Kant and Zimmermann, which concern not only points of detail but entirely different levels of interest in what was no doubt one of the most keenly debated issues in mid-eighteenth-century European science and letters: how are we to reconcile our accounts of “living” nature, or what Kant will later refer to explicitly as “organic being” (*organisches Wesen*), with the mechanistic view of nature that had become a central feature of the philosophical understanding of the modern scientific revolution in the period beginning with the metaphysical reflections of René Descartes (1596–1650) through the physics, or “natural philosophy,” of Isaac Newton (1643–1727)—although the two figures from the early modern period who perhaps best formulated the problem are arguably Baruch Spinoza (1632–1677) and, especially in Germany, Gottfried Wilhelm Leibniz (1646–1716). For Kant, of course, the search for a solution to this problem required systematic philosophical investigation that ultimately led to the extension of the critical investigations of the 1780s beyond the first and second critiques to the third. Zimmermann’s professional life, on the other hand, took a very different course, but one that, as we will see from the brief

account of his life and work to follow, is much more in line with certain mainstream developments in the field of geography in the period from the latter decades of the eighteenth century into the first several decades of the nineteenth than was Kant's.

As was apparently not uncommon in eighteenth-century Germany, Zimmermann spent the first several years of his life as a university student (1761–1764) at the prestigious University of Leiden, whose botanical gardens and natural history collections were at the time among the best in Europe; he then concluded his studies with briefer periods spent at three universities closer to his home: the previously prestigious Academia Julius in Helmstedt (where his father had studied), the University of Halle (where the prominent Leibnizian philosopher and mathematician Christian Friedrich Wolff [1679–1754] had taught and later served as rector in the period from 1706 through the end of his life), and the Georg-August-Universität in Göttingen, which had been founded only recently, in 1735, as a “modern,” reform-oriented university—that is, as an institution that placed greater emphasis on the development of faculties in mathematics and natural philosophy, including natural history and modern medicine (i.e., medicine as it was in the process of being transformed by Cartesian metaphysics and Newtonian natural philosophy) than on the traditional “higher” faculties of German universities, such as theology, philosophy, law, and (pre-Cartesian) medicine. However, even though Zimmermann was himself, as best we can now know, likely enrolled as a student in medicine throughout his studies, he completed his degree at Göttingen in 1765 with a publication on the analysis of imbricate, or regularly arranged, overlapping, curves, *Curvarum imbricatarum consideratio analytica* (Göttingen, 1765).

What might be said then in any effort to characterize briefly the period of Zimmermann's life spent as a student parallels what might also be said in any attempt to characterize his professional life, which began with his acceptance in 1766 of a second “call” to take a position at the Collegium Carolinum, a fledgling institution that had been established only a couple of decades earlier, in 1745. What might be said is simply that Zimmermann seems clearly to have taken advantage of the many opportunities given to him—both as a student and as a member of the Collegium faculty—to meet and become conversant with the best minds of his day, and his life story is most certainly punctuated with moments of brilliance; but he never achieved lasting fame in any particular area of study. Many explanations might of course be given to explain this fact and why Zimmermann is today an almost entirely forgotten figure. For example, the fact that Zimmermann never achieved any lasting fame might, in part, be a consequence of the circumstance that his instructional responsibilities at the Collegium Carolinum over the next three and a half decades were, apparently like his interests as a student, so diverse that he

could never fully devote himself entirely to any single, narrowly-defined area of research. This fact might, however, also be explained by noting that, first, Zimmermann was indeed a mathematician, but one who also developed a keen interest in many issues of taxonomic classification left largely unresolved despite the fame achieved a few decades earlier by Carolus Linnaeus (1707–1778), whose *Systema naturae* (System of nature), first published in the Netherlands in 1735, is typically credited with first establishing the binomial system of biological classification still widely taught and used today, but, second, he also lived during a period when the “natural history” of Georges-Louis Leclerc Buffon (1707–1788) first triumphed over the work of Linnaeus, but was itself, as reflected well perhaps in the trajectory of Zimmermann’s own career, to be supplanted by early work in many specialized areas of study that were at the time often oddly—by our standards—named, but to which we can now give names such as physical and cultural anthropology, biogeography, economic geography, history, sociology, political commentary, and even popular travel literature.

What must, however, be emphasized in the discussion of Zimmermann’s career as it contributes to the subject matter of this volume is only that after his early success with the work from which the following excerpts are taken, he never again published any identifiable self-standing work that was as significant, at the time of its publication, as was the *Geographical History*. To say this, however, is not to say that Zimmermann never published anything else of interest or that he was an insignificant figure, as a more detailed account of his publication record will show.

Zimmermann’s first publication after his appointment to the Collegium was a small work that well-represented his diverse early interests and talents—a report, published in 1775, of observations made during a walk to the top of the Brocken, or Blocksberg, the highest point in the Harz mountains of northern Germany (1,142 meters), including an account of an experiment to measure precisely the height of the mountain with the use of a barometer. There followed two years later a work in Latin, *Specimen zoologicae geographicae, quadrupedum et migrationes sistens* (The pattern of geographical zoology, situating the migrations of quadrupeds) (Leiden, 1777), which—in a translated and enlarged edition—becomes, in the five years to follow, the three volumes of the *Geographical History* (Leipzig, 1778, 1780, and 1783). To appreciate then just how significant the publication of this work was at the time of its publication, it is important to note that a Danish translation appeared almost immediately (1782–1784), a French translation immediately after that (1784–1785), and a Dutch translation the following year (1786). Further, as an indicator of Zimmermann’s subsequent expertise (especially in the final decade and half of his life after retiring from his teaching responsibilities at the Collegium in 1801) in what might roughly be described as “the

business” of academic publishing, he also published in 1778 excerpts from the three volume work under the title *Über die Verbreitung und Ausartung des Menschengeschlechts* (Leipzig, 1778), which—without detailed commentary on why determining the best translation of this title is in fact a matter of no little consequence—might be described as an investigation of “the dispersion and deviate forms of the human lineage.” Zimmermann seems, in short, to have had, from the very beginning of his professional life, a keen sense of what it was that the educated, general public—perhaps for a variety of reasons, as indicated by the titles included below—might be interested in reading, and he was much more interested in serving those interests and needs than in troubling himself with the systematic, philosophical investigations that engaged Kant.

Limitations of space naturally do not allow for a complete accounting of the many publications for which Zimmermann was responsible in the remaining roughly three and a half decades of his life after the initial success of the *Geographical History*. Their likely significance can nevertheless be easily appreciated if they are divided into four categories and briefly described, as follows: (1) both natural and social scientific monographs, including reports of research on the elasticity (*Elasticität*) of water, the component parts and decomposition (*Bestandteile und Zerlegung*) of water, and the embryos of elephants, as well as geographical-statistical studies of the economies of southern Italy, Australia, and the West Indies, and a coedited survey of the progress (*Fortschritte*) achieved in the last third of the eighteenth century in the different fields of geographical science; (2) serial publications, including two presumably intended for academic and state administrative readerships, *Annalen der Geographie und Statistik* (Annals of geography and statistics) (Leipzig, 1790–1791) and *Repositorium für die neueste Geographie, Statistik und Geschichte* (Repository for the most recent geography, statistics, and history) (Tübingen, 1792–1793), and two far more successful ventures clearly directed to a wider audience among the educated, general public, the *Taschenbuch der Reisen, oder unterhaltende Darstellung der Entdeckungen des 18. Jahrhunderts, in Rücksicht der Länder-, Menschen-, und Productenkunde* (Pocketbook of travels, or the entertainingly educational presentation of the discoveries of the eighteenth century with reference to knowledge of the lands, the peoples, and the products) (Leipzig, 1802–1813), and *Die Erde und ihrer Bewohner nach den neuesten Entdeckungen: Ein Lesebuch für Geographie, Völkerkunde, Productenlehre und Handel* (The earth and its inhabitants, according to the most recent discoveries: A reader for geography, ethnology, production, and commerce) (Leipzig and Stuttgart, 1810–1820), an eighteen-part series offering readers an overview of the entire world divided into regions, which also appeared in Swedish and Dutch translations between 1813 and 1826 and was republished in an

“improved” (*verbessert*) eight volume second edition after Zimmermann’s death with new editors (Stuttgart, 1820–1824); (3) translations of works both theoretical and practical by internationally renowned naturalists, explorers, geographers, and other personalities, including the Welsh naturalist and antiquarian, Thomas Pennant (1726–1798), the North American Indian trader, John Long (1768–1791), the Scottish naturalist William Smellie (1740–1795), the Italian naturalist Filippo Cavolini (1756–1810), the American speculator and diplomat, Gilbert Imlay (1754–1820), the American naturalist and author of popular travel books, William Bartram (1739–1823), the English author of books on agriculture, economics, social statistics, and travel Arthur Young (1741–1820), the Swedish Swedenborgian and prominent late eighteenth-century abolitionist Carl Bernhard Wadström (1746–1799), the American botanist and physician, Benjamin Smith Barton (1766–1815), the French voyager Jean-Joseph Dauxion Lavaysse (ca. 1770–1826), the English historian John Adolphus (1768–1845), the Danish-French geographer and political activist Conrad Malte-Brun (1755–1826), the French physician and naturalist Jean-Baptiste LeBlond (1747–1815), and the British mineralogist John Mawe (1764–1829); and (4) works of political and cultural commentary concerning especially the transformation of European and American culture in the period from the years preceding the French Revolution through the end of the century, including *A Political Survey of the Present State of Europe, in Sixteen Tables: Illustrated with Observations on the Wealth and Commerce, the Government, Finances, Military State, and Religion of the Several Countries* (London, 1787; Dublin, 1788; Lisbon, 1799–1800) and *Frankreich und die Freistaaten von Nordamerika: vergleichung beider Länder* (A comparison of the two countries of France and the United States), 2 vols. (Berlin, 1795), as well as a translation of the Swiss nobleman François-Louis d’Escherny’s (1733–1815) *Correspondance d’un habitant de Paris, avec ses amis de Suisse et d’Angleterre, sur les événements de 1789, 1790 et jusqu’au 4. avril 1791* (Letters of an inhabitant of Paris to his friends in Switzerland and England concerning the events of the years 1789 and 1790 and up to 4 April 1791).

Finally, it must be noted that no account of Zimmermann’s published work would be complete without mentioning that his correspondence with Carl Friedrich Gauß (1777–1855)—perhaps the most brilliant mathematician, physicist, and astronomer of the first half of the nineteenth century (whom Zimmermann had befriended and assisted during Gauß’s years at the Collegium Carolinum, 1792–1795)—appeared in 1987 in a series published by the Akademie der Wissenschaften in Göttingen.

Zimmermann’s fame and importance as a leading figure in the development of the field of geography in the period of transition after what might be called “the rise and fall” of classical natural history in the style of eighteenth-century luminaries such as Linnaeus and Buffon is thus beyond doubt. Zim-

mermann was indeed offered a position at the prestigious Academy of Science in St. Peterburg in 1786—which, however, for various reasons, including financial and other inducements from Karl Wilhelm Friedrich (1735–1806), Prince of Braunschweig-Wolfenbüttel and Duke of Braunschweig and Lüneburg since 1733—he declined.

Of greatest immediate interest to readers of this volume, however, is perhaps some account of the philosophical and theoretical orientation of the young Zimmermann, the author of the *Geographical History*. What clearly distinguishes the work of Zimmermann from that of Kant from the mid-1770s through at least the final years of the 1780s is that while Kant, following the publication of the 1777 article to which Zimmermann felt obliged to respond, becomes increasingly preoccupied with exploring various approaches to resolving what he would later, in § 2 and § 9 of the “Introduction” published with his third critique, the *Critique of the Power of Judgment*, identify as the problem of bridging the “gap” (*Kluft*) that separates the “two different domains” (*zwei verschiedene Gebiete*) constructed through the opposing legislations (*Gesetzgebungen*) of, on the one hand, the human cognitive capacity for understanding (*der Verstehen*), which follows the mechanistic orientation of modern Newtonian physics, and on the other, that of reason (*die Vernunft*), which follows the teleological orientation of the Leibnizian-Wolffian tradition, Zimmermann seems never to have shown even the slightest interest in such issues. In fact, Zimmermann seems in the text that follows to be generally unaware that such tensions even exist.

The careful reader will instead find many passages in the following excerpt from Zimmermann’s *Geographical History* that demonstrate his confidence that a completely mechanistic explanation of climatic influences alone—without any reference to internal structures such as the *Keime* and *Anlagen* of Kant’s “germs-and-endowments theory”—can account for all of the changes in the external features of the different living organisms of the world. For Zimmermann, like Linnaeus, Leibniz, and Wolff, also believed that life itself must have its source in the actions of a divine being who has ordered all of creation according to a schema by which every individual element is attuned to the purpose of the whole, and he tends, in his accounts of the growth and development of living beings, toward the preformationism of figures such as Albrecht Haller (1707–1777), who, as a professor of medicine in Göttingen from 1736 through 1753, had defended a view sometimes referred to as *ovism*—namely, the idea that the individual exists within the maternal egg prior to conception, or that of the Swiss naturalist and speculative philosopher, Charles Bonnet (1720–1793), who defended and further developed an extreme form of preformation, according to which each female organism contains within its “germs” an infinite series of preformed individuals, leading to an immortality and immutability of species that both individually and

collectively developed to a perfected condition harmonious with that of all other living beings.

A further, significant difference between the views of Zimmermann and those of Kant is thus that—even though there is evidence that Zimmermann's father was among the first German readers of the earliest volumes of Buffon's *Historie naturelle, générale et particulière* (Natural history: General and particular) (Paris, 1749–1789)—the system of classification that the younger Zimmermann employs in the *Geographical History* is usually described as derivative from that of Linnaeus and shows little influence of the work of Buffon. Kant, on the other hand, is already in the texts of the 1770s a devoted advocate of Buffon, and he also seems to have come already to the conclusion that preformationism cannot account for the variability that is all too obvious in the manifold diversity of human forms that we encounter inasmuch as some of the persistent traits that appear within some peoples, or, as we would say, populations, including, in particular, skin color, must be the result of internal structures that somehow transmit the characteristics acquired under certain climatic conditions to succeeding generations. Contrasted, in short, with the views of Zimmermann, we can see the extent to which Kant was, already in the 1770s, tending toward the epigenetic viewpoint that he arguably defends much more explicitly in the texts of the 1780s to follow—which will become central to the way in which he seeks to resolve the tension between the mechanistic and teleological orientations reflected, respectively, in the first and second critiques in texts such as his 1788 article, “On the Use of Teleological Principles in Philosophy” (see below, 169–94) and in the second part of the third critique, the “Critique of the Teleological Power of Judgment.”

Another way to contrast the views of Zimmermann and Kant developed in these texts might, however, be to do no more—but no less—than to reflect upon the difference between the meanings that might be given to the term *history* (Geschichte) as it is employed in the work of each of these authors. I nevertheless leave it to readers of this volume to develop this suggestion more fully.

For further, far more detailed discussion of both Zimmermann's life and the unsystematic theoretical orientation of Zimmermann's *Geographical History*, as well as a detailed examination of the complete text and its historical significance for the field of historical biogeography—a significant contemporary field of research for which Zimmermann is, as Ernst Mayr notes, “[w]ith some justification . . . considered by some authors the founder” (*The Growth of Biological Thought* [Cambridge, MA: Harvard University Press, 1982], 442)—the reader is strongly encouraged to consult the source from which most of the content of these introductory remarks regarding Zimmermann's life and professional work was obtained, Petra Feuerstein-

Herz, “Eberhard August Wilhelm Zimmermann (1743–1815) und die Tiergeographie” (PhD diss., Technische Universität Carolo-Wilhelmina zu Braunschweig, 2004), which may be accessed electronically at www.digibib.tu.bs.de/?docid=0001647.

The page numbers included in brackets below, e.g., [53], indicate the pagination from the first volume of the original published version of the text, which appeared in 1778. The Online Computer Library Center’s (OCLC) WorldCat FirstSearch search function identifies only a couple of dozen libraries worldwide in possession of all three volumes of the work, but all three volumes are now available online courtesy of Google Books either directly through FirstSearch or, with some persistence, by performing a search using the keywords *zimmermann geographische geschichte* at Google Books.

For more detailed information on the sources cited by Zimmermann, readers will, however, do better by consulting the notes below than the original text, as the footnotes included in the original text are by our standards barely serviceable. I have, therefore, given serious attention in preparing this translation of Zimmermann’s text for publication to reformatting and revising the notes in ways that correspond to contemporary practice—but, given the difficulty of that task, I cannot guarantee that my emendations are in all cases completely accurate.

* * *

First Part: Universally Dispersed Animals and their Degenerate Forms (*Ausartungen*)

First Section: Human Beings

SECOND DIVISION

[53] We saw <in the previous section that> human beings endure extraordinary, indeed almost inconceivable, changes in climate and diet. Their [54] machinery [*Maschine*] is, however, malleable <and> impressionable, and it must be like this if they were supposed to be <both> an enlivened creature [*belebte Kreatur*] and a lifeless mass! How, then, do they conduct themselves with all of these alterations? What do they suffer, and how far have they turned away from their original form? Could one and the same human species have turned through these changes into all of the forms [*Gestalten*] and degenerations [*Ausartungen*] we now find in the human lineage [*Menschengeschlechte*]? These are the questions that I see myself obliged to examine closely, with the greatest possible precision, for I find in <Kames>, Voltaire, and others

<authors> to be regarded as opponents. I, therefore, allow a noteworthy fact [*Thatsache*] to lead the way as a preparation, by means of which much else will subsequently resolve itself of its own accord. We might, however, first size up [*beurteile*] the history of humankind that is <presently> missing <in these matters> according to a synopsis <of it in its> entirety and not by extracting separate parts <from it> here or there. To begin, then, something from the natural history [*Naturgeschichte*] of the Germans. Who are we present day Germans, the descendants of the old Cherusci living in oak forests, compared to our ancestors? How does the climate in Germany in our time compare to that which prevailed two thousand years ago? And, finally, how do we live and how did our forefathers live?

We will report here the main points as briefly as possible <along> with a subordinate point [*Nebensache*] that will have very weighty influence on the following <discussion>. First, <what was> the climate of Germany in the time of Tacitus and Caesar? At that time, the Rhine frequently froze over completely; this now happens only very seldom. At that time, reindeer and elk lived in our forests; elk <now> live only in the upper parts of Prussia and reindeer begin <living> only first at 62° N in Europe.¹ Germany was, therefore, in general [55], much colder, and must also have been a land whose inhabitants, mere shepherds, hunters, and warriors, did not plough up the earth or dry up the lakes; the most prominent surface areas of <this land> <also> remained robbed of the heat of the sun in consequence of the vast forests.² For this reason, the German climate before 1500 is hardly to be compared only with the present climate of lands <lying between> 60–62° N. Conring, whose learned book about the Germans I have used here, certainly errs, therefore, if he believes that the climate of our fatherland has maintained itself without changes.³ <This climate> has <instead> certainly changed very much. Further, <we might> compare our present way of living <with that> of the old Germans. The old Germans lived simply, purely from the food that came from animals, from milk and from meat.⁴ Indeed, Pomponius Mela says that the Germans themselves ate raw meat.⁵ We have previously already seen how advantageous it is for our bodies to live on meat, especially in cold climates. Second, they drank no wine or still stronger, fiber-hardened drinks, but instead water or a type of beer⁶ that gave nourishment and assisted digestion as well. <They> hunted in moderation and without care in a time of peace, or <they> [56] watched over their herds. The young became hardened to the cold right away through bathing and for every hardship. When there was no business for <the men>, <they> slept in the arms of <their> chaste wives. And here, in chastity, <says Tacitus>, lies an important point of their bodily advantage: *Sera iuvenum venus, eoque inexhausta pubertus* [*Slow and late do the young men come to the use of women, and thus very long preserve the vigor of youth*]. Tacitus also introduces this as the source of their

strong bodies: *nec Virgines festinatur; eadem iuventa ac famillis proceritas, pares validique miscentur, ac robora parentum liberi reserunt* [*<Neither are the virgins hastened to wed. They must both have the same sprightly youth, the like stature, and marry when equal and able-bodied. Thus the robustness of the parents is inherited by the children>*];⁷ and Caesar attests to a *<comparable claim>*. The vices corrupting to the human lineage common to us, adultery, pederasty, masturbation, *<and>* sodomy, were fully unknown *<in this land>*.⁸ The body, nourished up to the thirtieth year with simple, succulent food, and strengthened by means of the cold and movement, kept within itself the total sum of its powers. The semen was not immaturely squandered *<but instead>* returned through the reconveying vessels back again into the measure of the juices and was turned into the balm of all nature.⁹ The natural disposition [*Natur*] of humans generally develops later in cold lands. At present, the young men among us mature properly in the twentieth to twenty-fourth year *<and>* young women in the eighteenth, while there are mothers of eleven, indeed, of only eight years, in hot lands. For this reason, there is with us nothing so very repulsive in the course of nature as procreation [*Zeugung*] in the fourteenth or fifteenth year. We now gather together the result [*Summe*] from these facts. The German in the time of Tacitus and [57] Caesar, not weakened by lust, tenderness, *<a>* warm *<climate>* [*Wärme*], hot drinks, cares, and mental work, *<and>* made hard in a cold, raw climate, must have been strong, muscular, large, and healthy; and *<they must>* have produced similar children. And this is also how it was with the entire German nation [*Nation*]. Pomp^onious Mela refers to them explicitly as human beings of enormous strength, limbs, size, and courage (*immanes animis et corporibus*).¹⁰ Caesar portrays them in the same way,¹¹ and Tacitus confirms this in different places.¹² They were so large and fearful that the Gauls could hardly bear their sight in battle.¹³ We need not believe, however, that our ancestors comprised a nation of giants. They were only of a stature unfamiliar to us now because *<in them>* size and strength coincided. According to the best authors of that time, as Corning has collected them, the Germans were approximately seven feet *<tall>* by the Rheinisch measure.¹⁴ According to two measures found on the gravestones of two Roman architects, the old Roman measure is determined in such a way that it comports to the present Parisian measure as 11:12.¹⁵ Maternus de Cirano, on the other hand, assumes this proportion to be 1324½:1440,¹⁶ and a third *<source>* *<assumes it to be>* 1306:1440.¹⁷ It is possible, indeed, probable, that all three [58] have likely erred somewhat. I take, therefore, the average [*Mittel*] of these proportions, which makes 7 ft. of the old Roman measure *<equivalent to>* 6 ft. 3 in. and 5 ⁷⁶/₁₀₀ lines [*Linie*], or, in order to use an easier number in a matter that is not fully decisive, 6 ft. 3½ in., *<according to the>* Parisian measure.¹⁸ These were, to be sure, colossal figures—as the Patagonians, about whom more will

be found below, appeared so exceedingly massive to the English and French—and yet <they> hardly reached this height. There were, therefore, entire armies of this size, or rather the entire German nation was so stoutly built; for this is what all of the authors of that time claim. Now, <however>, we would search in all of Germany <to find> a thousand of these colossi; for we are not talking about individuals. There might be, to be sure, still a few men of the first rank or mercenary foot-soldiers, although even the large men of our time are thereby seldom very strongly built. Not the hundredth part of the nation is now over 5 ft. 3–4 in. <tall>, <according to the> Parisian measure. Do we not, therefore, stand further <apart> from the old Germans, our true, original lineal stem stock [*wirkliche Urstamm*] than the Laplanders <stand apart> from us? <Consider, then, what effect factors such as the following, especially when they are working together, could have upon the human form:> a milder climatic region, emasculation [*Entnervung*] as a consequence of excessive sexual intercourse begun at too early an age; warm drinks; brandy <and other spirits> [*Brantenwein*]; wine and liqueurs that, when partaken at too early an age, make the fibers that are not yet fully developed stiff and disrupt their growth;¹⁹ more nourishment from plants than from animals—[59] that is <to say>, fewer juices and nourishment that provides juices of diminished strength; abstention from <taking> cold, strengthening baths; nagging worries begat by means of luxury and vice; a sedentary life style; <and> frequent, fatiguing mental work. What <effect> could these <factors> have upon human beings when they <work> together other than producing unhealthy, small, <and> weak figures? Through <their> continuing agency, <these factors> turn the colossi into a powerless dwarf. This is undisputedly proven <in this case> by experience. Following this preparation, I now proceed—already with less timidity—to <consider> the deviate forms [*Abartungen*] or varieties [*Varietäten*] of the human lineage [*Menschengeschlechts*].

We will not look here into every facial feature or small differences. <To do this> would not only <make this presentation> too detailed, but also superfluous, since we find the diversity [*Verschiedenheit*] of the human species [*Menschengattung*] mapped out with great precision in the great works of Buffon, in the admirable work of Schreber on mammals, in Hallen's natural history, and in the <work of> others. Besides, I must admit that the changed or changeable facial figures do not appear very noteworthy to me unless some student of nature [*Physiker*] is permitted to lay out <the details> that give an account of this, since every family, indeed, the individuals anew in every family, often diverge so greatly from one another. It is also obvious that when I show <how> the greatest varieties <among> human beings <could> possibly have been produced by means of climate and diet, every reasonable critic will think <that> the lesser or lowest grade degenerate forms [*minden oder untern Grade der Ausartungen*] originated

still <even> more [60] easily by means of these causes. I begin, first, with the figure [*Figur*] of human beings.

The typical human being is between 5 ft. 4–6 in. <tall>, <according to the> Parisian measure. The smallest people [*Nation*], so far as we know, stands 4 ft. or 3 ft. 9 in. <tall>, and the <tallest> reaches <a height> of 5 ft. 9 in. to 6 ft. I am talking here about the entire nation and not at all about individuals, for Bebe, the dwarf <in the service> of King Stanislaus, <measured> only thirty-six inches, and nine years ago Gold was allowed to see a eunuch named Gilli who was eight feet tall. The tallest people [*größte Nation*] we presently know is <said to be> [*ausgemacht*] the Patagonians. Pauw may also say whatever he wants, <for example>, that there exists in the lower regions of South America a nation of colossi who were sometimes encountered in the Strait of Magellan,²⁰ <but> if Pauw gives no credence to Girandais, he cannot at the same time dismiss the testimony of Bougainville, Commerson, Carteret, and Byron, five esteemed seamen and to some extent learned men. Bougainville <first encountered> the Patagonians in Boucault's Bay, 52.5° S.²¹ None of them, he says, were less than 5 ft. 6 in. <tall>, and none <were> over 5 ft. 11 in. Commerson had, in the meantime, surely found some of the very largest, <who were> 6 ft. 4 in. <tall>. <He writes:> “Their extraordinarily broad-shouldered build, the size of the head, and the unwieldy [*plumpen*] limbs were <the reason> [*Schuld*] why they appeared to us <to be so> gigantic. Their bodies are robust and fit, their sinews [*Sehnen*] are strong, <and their> flesh <is> firm and compact. They are people [*Leute*] of a simple [61] nature <who> yield to the nourishing juices <and> have attained the full growth that the human body can attain. <Their> figures are not totally disagreeable. They have a round but somewhat flat face, lively eyes, very white, broad teeth, and long black hair. I saw a few with not very thick, but long and hairy, turned-up mustaches. Their skin is brass-colored, as <is the case> with most <of the indigenous peoples of America> [*Amerikanern*].”²² <He writes> further (p. 130): “This people [*Völker*], I believe, lead as equally inconstant life as the Tartars. They wander about on the wide plains of South America, are perpetually with <their> wives and children on their horses, and follow the wild game [*Wildprete*] or other animals with which these great flat <expanses of land> are filled. They prefer to live from the meat of guanaco and bison. Some of them had complete quarters from <bison> hanging on their horses, which they ate raw. They wore a simple pelt to cover their genitals, but otherwise go naked. This practice has hardened them against the cold; for when we were there in December, therefore, in <their> summer, the Réaumur thermometer never rose above 10° (54 ½° F.)” Commodore Byron testifies likewise that these colossi, as he calls them, were fully seven feet tall.²³

<Byron> then gives a [62] description of <these colossi>, which I can dispense with because it agrees in almost <every detail> with that of Bougainville.

The sea captains Wallis²⁴ and Carteret also saw this monstrous people [*Nation*]. <Wallis> measured them precisely <and> found most of them <to be> six feet <tall>. Captain Carteret refers to them in his report for the London Society of Sciences as equally so large and strongly built;²⁵ he also notes that they live from raw meat. Contrary, however, to the customs of a philosopher, Pau rails against Byron, <saying> that he reported the Patagonians <to be> nine feet <tall>, when, indeed, the commodore explicitly estimated <their height to be> only about seven feet. For the small report that initially came out about Byron's voyage was written by a ship surgeon or comparable <officer> and never from the commodore himself.²⁶ But if it is proven that the Patagonians are very large and strong, the fanciful ideas of Abbot Perneti, who still readily imagines them <to be> 9–10 ft. high, fall on the other side, fully away. <Perneti> seeks in vain to hide behind the different standards of measurement; for when the London foot comports to the Parisian <at the ratio of> 135:144, nine London feet are still every time more than eight feet <according to the> Parisian standard, as surely the largest <number> mentioned in all credible reports <is> only somewhat over six feet.²⁷ The fatherland of these Patagonians is, however, certainly not <the region> next to the Strait of Magellan that butts up against America. This <most southern> part of America <cannot be the fatherland of the Patagonians> because [*denn*], as we will see below, <this region> is inhabited by a small, wretched nation [*Nation*]. The Patagonians belong instead higher up on the plains [63], <lying> between Chile and Paraguay, or perhaps in bands <living in> the lower regions of Paraguay. I make this conclusion, first, because they are supplied with horses, which we find only higher up <in South America>, <and> second, because they feed and clothe themselves from guanaco and not at all from seals. The true inhabitants of the Strait of Magellan and Tierra del Fuego live from fish, shellfish, and seals, and <they> also clothe themselves from the hides of the latter. Finally, the Chileans also give reports of a gargantuan people [*riesenmäßigen Volke*], who they call Chaucahues, <who are> supposed to reside directly behind Chile. Bougainville was, however, received by the Patagonians with the cry, "Chaoua!" This makes it likely that the Patagonians are incontestably the same imagined giants who, therefore, lived on the plains behind Chile, and as Bougainville correctly says, are at times to be encountered in the Strait of Magellan due to their inconstant way of living.

We now compare this nation [*Nation*] with our ancestors, the Germans, from the time of Tacitus. The previously cited measure of the Germans also assigned a <height to them> of over six feet, according to the Parisian measure, like that of the Patagonians. They were therewith, like <the Patagonians>, built like a colossus. The climate was, however, at that time, certainly equally so cold as the region in which the Patagonians lived. We have, to be sure, so far as I know, no meteorological observations for this region

<except that> Magellan's Land is frightfully cold. For Bougainville certifies with amazement that the thermometer in the middle of the summer stood only at 54.5° F, since in <Saint> Petersburg, which does indeed lie eight degrees more distant from the equator than Boucault's Bay, it often rises in summer to 70° F. However, Banks and Solander demonstrate the coldness of this region far more perspicuously. They were on a trip <in the region near> Tierra del Fuego in the middle of the summer there and nearly died along with [64] their entire group due to the coldness. Two manservants actually did freeze to death, and Solander was saved only with great effort. This is such an extraordinary phenomenon, which is hardly ever witnessed in <the regions surrounding high> mountain peaks. Solander, who was not unfamiliar with the cold of the Norwegian Alps, also says that he had never heard of such comparable coldness in Norway.²⁸ Tierra del Fuego extends nevertheless only to 54° S. Byron²⁹ and Wallis likewise attest to similar weather in these regions. I justifiably believe, therefore, the plains, where the Patagonians are at home, to be just as cold as Norway, or which is all the same as Germany was in former times, since the southern part of America, namely, Magellan's Land and Tierra del Fuego, hardly stand to be compared with Lappland. But the diet of the Patagonians also agrees with that of the old Germans: both nourish or nourished themselves from meat. Indeed, Bougainville and Carteret even say <that> <the Patagonians> ate guanaco meat raw. Carefree, praised from the hunt, in constant movement, <and living> in a cold climate, they must, therefore, have grown up like our ancestors, and this also proves right with experience.

However, that a considerable degree of coldness is indeed required to cause [*lassen*] the human body to grow so strong as possible, is also shown by <the fact that> the nations with the largest people [*die größte Nationen*] live in our northern hemisphere. For the Swedes, the inhabitants of southern Norway, and the Danes, as the largest human beings of the Old World, are to be found <in cold regions> here. <Further>, another beautiful, large people [*Nation*], the Akansas [*Akansas*], existed in the New World in former times.³⁰ [65] To be sure, they lived much further south than the just named Europeans. I can, however, with Pauw and Buffon, already assume in advance as proven, that North America, just like South America, is comparatively much colder than the Old World. These Akansas, <who lived> below 45° N, were perhaps the remnant of the oldest inhabitants in America, for they distinguish themselves from the rest of the <indigenous peoples of America> [*Amerikanern*] by means of their great growth, white skin, blond hair, and <their> eyes. Presumably, there are now few still remaining from this lineage [*Stamme*]. The Europeans, who lay waste to everything, and small pox, which accompanies them <everywhere they go>, have also almost totally decimated them. If I now consider these peoples [*Nationen*] of large stature altogether, I

find them with one another in recognizably cold lands. The cold probably has, therefore, an important part in <determining> their size. No one would object that the Swedes, whose climate might approximate that of the old Germans, are nevertheless not fully so colossus-like in their build as our ancestors. For this, <their> way of living is certainly at fault. If <the Swedes> lived and ate as did <our ancestors>, they would most likely be their equals in all respects. Besides, local causes could minimize the power [*Macht*] of the climate, and they do certainly do this. I do not, however, claim as well that the lands noted are the oldest inhabited <regions of the earth>, or <that they were> the original lands of the human lineage [*des menschlichen Geschlechts*]. This issue [*Frage*] will, <however>, be considered [*vorkommen*] in passing below. I am, however, only convinced that the human machine obtains its greatest and strongest growth only <when it is subject to> raw climatic conditions [*rauher Himmelsgegend*].

Now, then, to the contrasting phenomena, to the most inferior human form [*niedrigsten Menschengestalt*!] The smallest peoples [*kleinsten Nationen*] are the Eskimo, Greenlanders, Lapps, Sami, and Ostjacken. They <stand only> four foot high but are therewith [66] rather firmly built. These peoples [*Völker*] reside <in the region> beginning with 65° or 66° N. There are few animals and only small plants <in this region>. Sujef attests that the cattle brought into <the region> above 66° N, beyond Berezov, live scarcely five years, that the earth thaws out to any depth only for a short time in the summer, and that all of the trees that to some extent still survive shrivel up and remain only shrubs.³¹ The valuable reports of Cranz give the same account from Greenland.³² <He reports that> the birches, willows, and alders only creep around on the cold ground and that no shrubs at all are to be seen above the height of a cord measure. The fox <found in this region> is also much smaller than <ours>, and the hound is mute and so stupid that <it can hardly be used> to conjure up a bear.³³ Blumenbach, whose valuable treatise concerning the diversity of humankind [*menschlichen Geschlechts*] I can very much recommend to the reader, compared different plants from Labrador with some of the very same kind from Greenland and Germany. The German <specimens> were the largest, followed by those from Labrador, <while> the <specimens from> Greenland had for the most part lost their first stature.³⁴ When I now find nature dead in these frozen lands, the plants dwarfed <and> the animals, which in other places are strong, bold, and feared, here small, mute, and stupid; when I likewise see human beings fallen down to a low level and diminished; do I then conclude improbably that this crouching down [*Zusammenkriechen*] of the human figure is also to be ascribed to the climate, to the coldness which stunts everything? The highest degree of [67] cold does not allow human fiber to extend fully. A smaller degree, on the other hand, does not <cause it> to shrivel up, but instead gives it strength and power.

One and the same cause can definitely have somewhat differing effects upon dissimilar objects. Human beings become small in the most extreme degrees of cold; the hound, mute and stupid. The body shrinks <in size> there, <but> instinct or understanding <come> more together here.

Nothing, however, corroborates more clearly the sameness [*Einerleyseyn*] of the human <forms> that have grown larger and the Lapplanders than the esteemed discovery of Father Sainovic. <Working together with> the celebrated Hell, he found that the Lapp and Hungarian languages are very closely related with one another.³⁵ Sainovic and Hell conclude from this, therefore, that the Lapps and the Hungarians must be from one lineal stem stock [*Stamm*]. Indeed, Lord Kames goes still further and claims bluntly that, according to the newest reports, the Lapps might be only degenerated [*ausgeartete*] Tatars, such that the Hungarians, the Tatars, and the Lapps might have come from one lineal stem.³⁶ How, then, can this admirable man proclaim in the very same moment in which he <makes this claim> that it is fruitless to ascribe the ugliness and small stature of the Eskimo and the Lapps to the climate?³⁷ The Tatars remained Tatars in their own land, <that is to say>, <of> average sized build and ugly in appearance. Near the pole, the cold compressed <them> <and> also made <their> features not <any> more beautiful. <They> became Lapps. <The Tatars living> in the milder climate of Hungary, on the other hand, became larger and more beautiful. <They> [68] became Hungarians. No one could, in one single line, more strikingly refute himself than Lord Kames, and it is inconceivable how he, a man who is otherwise certainly not lacking in perspicacity, could not have seen this. Lappland, he continues, is, it is true, extremely cold, but Finland is also just <as cold as> the northern part of Norway, and yet the inhabitants <of these regions> are large, well-built people [*Leute*]. <But> a single glance at the map of Sweden disproves this entire objection. Where does <the region inhabited by> the Lapplander begin? It first <begins> only at the polar circle. The French academics first sighted <the Lapplander> the other side of Pello, and Regnard found the true Lapp at Swapovara, at 68° N.³⁸ Where, however, is anything said about Finland? For everything that lies on the far side of the polar circle in Europe, except for a small part of Russia, Pezora, is called, and indeed is, Lappland, <or, to be more precise>, Danish, Swedish, or Russian <Lappland>, each depending upon who controls it. <The region> lying next to Finland above Sweden is indeed not Lappland, and is also, just like Finland, by far not so cold as <Lappland>. The Lapp border region [*Lappmark*] of Asele still has suitably large men, who, to be sure, are also called Lapps, but they far surpass the northern Lapps in size.³⁹ <As for> that which concerns Norway in particular, I believe justifiably that this realm [*Reich*] is exposed to a cold still lesser than Sweden. For <Norway> is separated from Sweden by mountains running the entire length <of the border between these

two lands>. <These mountains> protect the land against the cold northeasterly wind, and the wind from the sea is certainly warmer. I introduce this <point> here only incidentally, however, for I do not think it is needed to defend myself against <Kames>, [69] because <the inhabitants of> the uppermost part of Norway, namely, Danish Lappland, come equally as close <in build> to Pygmies, as <do> <the other inhabitants> <of> lands <lying at the same latitude>. Farther east, below the polar circle, <lies> [folgt] Pezora, which, like the <neighboring> [darauf folgenden] lands lying at the same latitude, are inhabited by the Sami and Ostjacken, <who are> also dwarfs. How then [doch] does it happen that all of these extremely cold lands are all together [mit einander] inhabited by extremely small human beings? These dwarfs are, therefore, what they are most probably in consequence of the cold. <The cold> presses them together just like <it does> all other creatures and deforms their entire figure. The Greenlanders and Eskimo, who comprise only one people [Nation],⁴⁰ are, by the way, also unpleasant to Europeans because their sweat smells of whale blubber and their hands feel as clammy as bacon. Cranz says that their blood has become thick, hot, and fatty in consequence of eating so much dull food and must produce a similar perspiration.⁴¹ They are not black, but instead a dirty yellow. <In fact>, nowhere in the polar regions are there Negroes, as some have alleged. This olive-brown color becomes, however, in consequence of their dirt [ihren Schmutz] darker, although a ruddy red glistens through in some of them. There are also some who are tolerably white. The eyes are small and black. The face is, to be sure, flat, with raised, full cheeks; the nose, however, is not indented, but rather somewhat elevated. The mouth is small; the upper lip thick. They have strong, stiff, pitch black, and long hair, but seldom a beard, because they painstakingly [sorgfältig] pluck out the hair <on their faces>.⁴² Kant describes these [70] facial features <as follows>: “All development which causes the body only to squander its juices must be gradually impeded in a climate so dry as this. For this reason, the germs for hair growth are suppressed over the course of time so that only so much hair remains as is needed for the necessary covering the head. . . . [In precisely this way] the protruding part of the face . . . became [flat]. . . . Thus, little by little, <the> beardless chin, the snarled nose, thin lips, squinting eyes, the flat face, <and> the red-brown <skin> color with black hair, <or> in one word, the *Kalmuckish facial formation* [Gesichtsbildung], arises. . . .”⁴³ If the esteemed philosopher had not overstated a few things only <in this passage>, we could assuredly not deny him full approval. However, the Greenlanders have, to be sure, a small, but not an indented nose. Not only Cranz attests to this, but also Blumenbach,⁴⁴ who likewise confirms it using accurate illustrations of the Eskimo that he obtained from herdsman [Herrnhütern] who, <since they lived> in Labrador, <could> draw them from life. Moreover, <Kant> is just as wrong about the

beardless chin. Pauw⁴⁵ gives credence to the lack of a beard on the <indigenous peoples in America> just as much as does Kames,⁴⁶ and thinks that it proves that <these> Americans are weak-natured. This opinion arose simply in consequence of the reports of a few travelers who had encountered Americans who had pulled out <their> beards. Cranz, however, first certifies that the Greenlanders have beards.⁴⁷ [71] Charlvair also claims <this true> of the Eskimo.⁴⁸ Oldendorp, a very thorough man, says explicitly that the Caribbeans, with whom he spent a respectable <period of> time, did not have beards only because they pulled them out with their roots.⁴⁹ Wafer encountered this same practice among the <indigenous> American <peoples> on the Panamanian isthmus.⁵⁰ Bougainville found beards on the Patagonians,⁵¹ as did Parkinson on the inhabitants of Tierra del Fuego.⁵² From one pole to the other, therefore, there are, contrary to the view of Kant and Kames, bearded <indigenous peoples in America> [*Amerikaner*]. Kant, however, had important reasons [*Ursachen*] to ascribe all of these effects to the cold. He wants, namely, to derive the Kalmuck facial form—and, later, the entire Kalmuck nation [*Nation*]⁵³—from <a people who lived in the most northerly regions>. For this reason, he makes the Greenlanders and Eskimo to be uglier than the Kalmucks. Unfortunately for this system, the Kalmuck are actually more flat-nosed than the Greenlanders; for Pallas says explicitly that this is one of the most universal distinguishing features of the national formation of this people [*Nationalbildung dieses Volks*].⁵³ In addition to this, Pallas mentions, as equally general signs, the corner of the eye running at an angle downwards against the nose, the broad, [72] thick lips, and large ears. The thick lips and large ears would not in the least befit them, according to Kant's <view>, because, if they descended from <a people that lived in> the most northerly regions [*aus dem höchsten Norden stammten*], the nature of these parts <of their faces> would rather have been reduced in size. Also, the formation of the Lapplanders does not agree with <Kant's> view. According to Kant, the present day Lapps, who he correctly assumes to be the descendants of the Hungarians, have <become native> [*einheimisch*] to their land or climate in a shorter <period of time> than the Greenlanders, and they must, therefore, according to this view, also have noses with less indentation <and> not so ugly, <nor> so small, <as those of> the Greenlanders. Regnard, however, says explicitly <that> they have large heads, flat and broad faces, snarled [*gepletschte*] noses, small eyes, large mouths, heavy, flowing beards, <and a> height of approximately four feet.⁵⁴ The Lapps are, therefore, much truer in their figure to the northern climate, that is, they are uglier than the Greenlanders or Eskimo <who have been native to this region much longer>. If, however, the Greenlanders and Eskimo, except for their size, diverge in other bodily attributes from the Lapps or Sami, as, for example, with respect to the beard, which is heavier on the Lapps than on the Eskimo, this is

indisputably due to the different air or <their> way of living. The <Eskimo> nourish themselves almost purely from fish, while the <Lapps> get their sustenance from their reindeer. <Further>, there are even differences among the Lapps. The mountain Lapps live differently than the sea Lapps. Indeed, the two are somewhat different in their build [*Körper*]. Who can assign the causes that explain why the Greenlanders have bigger [*dickere*] heads and smaller extremities than the Ostjacken? Why does some one not also demand of me <that I should> know the causes [73] <that might explain> why I do not look exactly like my reader? Or why one family in Germany is whiter than another? Why do parents of large stature sometimes beget small children? To deny, however, the effect of climate and collateral causes because I do not understand [*einsehen*] the way in which they operate would be <like> wanting to deny the weight of the falling stone, the cause of which I comprehend just so little.

I am, then, fully convinced that if the land near the South Pole extended still only a few degrees <further south> we would also come across dwarfs there. In the meantime, the nethermost part of South America is already sufficiently cold to bring about a reduction in the size of the human body. The evidence for this is as follows. The Strait of Magellan and Tierra del Fuego are very cold regions, as previously indicated, and are inhabited only by small, wretched human beings. Bougainville found a nation of small stature [*kleine Nation*] at 53° 40' S in the Strait of Magellan. He called them Pecharies, because they greeted him with this word. These Pecharies are, according to the report, small, ugly human beings of unbearable stench⁵⁵ who nourish themselves mainly from shellfish. Their clothing is composed primarily from the hides of seals; only a few had <clothes made from> guanaco pelts. They are otherwise the most indigent people [*Nation*]; they are lacking in everything. Randisch came across this nation of small people [*kleine Nation*], <but> he described them <to be> only six spans high, which is exaggerated.⁵⁶ Cook, however, also describes them as small and ugly.⁵⁷ Their [74] fatherland is not so utterly [*völlig*] cold as Greenland, for [*denn*] it still has a fair number of trees. <This region> cannot, therefore, <bring about a reduction in size of the people who live there> as much as <Greenland>. We can nevertheless justifiably conclude, if we were to find inhabited land in the regions further south, closer to the South Pole, what the human figure would have become <in these regions>, as the diminishment <of the human form> [*die Verkleinerung*] already begins here.

Besides these northern dwarfs, there are, here and there, even in the hottest regions of the earth, supposed to be still <other> small peoples [*kleine Nationen*]. The individuals who compile the <accounts of travelers to all parts of the world> mention the Matimba [*Matimbaer*] dwarfs, and Commerson, whose contributions to the study of nature have unfortunately been curtailed by his too early death, gave a report to de la Lande concern-

ing the Quimos, a people [*Nation*] <living> in the interior of Madagascar.⁵⁸ <Commersen> says that these Quimos, who have very long arms, are true dwarfs, for a woman of this people [*Nation*], who he measured, stood only 3 ft. 8 in. high. The Quimos are in other respects very contentious and live in the mountains of the interior part of this island. Commersen believes that the Quimos might have degenerated into dwarfs in consequence of the altitude of their place of residence, but by this way of reasoning it would certainly seem that the inhabitants of alpine regions everywhere, as even the residents of Quito, since they live at an elevation of around twelve thousand feet above sea level, must likewise be dwarfs. The <formation of> <this type of human beings> [*Menschengattung*] cannot, <however>, be ascribed to the climate, since, as Abbot Pichon says, <to say> that the most extreme cold and the greatest heat produce one and the same effect would mean <that> the entire Negro race, or, in general, all of the inhabitants of the hot zone [*heißen Zone*], are demonstrative for dwarfs [*zu Zwergen demonstriren*]. If the Quimos of the interior of Madagascar are in every particular truly dwarfs,⁵⁹ as was the [75] woman adduced as an example above, then I believe that this people [*Nation*] has assigned its <very> being [*Daseyn*] to a few deficient individuals. For it is not contrary to experience that parents of small stature [*kleine Eltern*] beget small children, and if they do not interbreed with people of differing stature, I might find this sort of nation of dwarfs [*Zwergnation*] possible in every climatic region, in which case, to be sure, the climate would bear no responsibility <for this outcome>. But the previous determination of the origin of the Lapps and similar peoples [*Nationen*] is also not canceled out [*aufgehoben*] in the least in consequence of the Quimos, in the event that they actually do exist.

The two contrasting sizes of human beings, namely, that of the Patagonians and the Eskimo, are thus not yet fully two feet apart from one another [*von einander unterschieden*]. Consequently, the average, or typical [*gewöhnliche*], human being is exceeded <in height> by the Patagonian by approximately just as much as they themselves exceed <the height of> the Lapps. The bodily volume [*Inhalt*] of the Patagonian or the German might, however [*indeß*], be three or four times as much as that of the northern dwarf, although still more exact measurement is certainly needed in order to be able to determine this. This shows again the strength of human nature. With their ability to endure in every climate, human beings consistently remain more similar <to one another> than do, comparatively speaking, any four-footed animal that can to some degree be compared to them in <geographical> distribution. The smallest hound crouches down up to one twelfth<th> its mass compared to the bulldog or the English Great Dane, and there are degenerate forms [*Ausartungen*] of oxen that are six to eight times smaller than other races [*Racen*] of just this kind [*Art*]. <However>, before we [76] come to

the second important difference in the human grouping [*Geschlecht*], I must recall that the human figure is developed [*ausgebildet*] most beautifully in the more temperate regions. The Georgians, Circassians, Persians, and Greeks are not only respectfully large, <they are> also slender and very proportionally built. They have large, beautiful eyes, and their wives, says Chardin, are in every particular so beautiful that we hardly ever get to see a middling face <among them>. Both sexes [*Geschlechter*] are sly and timid, and the old, splendid works of the Greeks and the surrounding regions show that nature—here, in this part of the earth—seems to be especially propitious to human beings. To be sure, the intelligence of the Georgians and Mingrelians does now turn almost entirely upon pure machinations and the extravagant vices. They <also> bring along with them, without fail, the enslaving <forms of> government; for to what else can despotism and its companion, uncertainty, lead? I speak here only of the greatest differences <among humans> [*unseres Geschlechts*], while, to be sure, unknown local causes often produce considerable changes. Habits and abstention from foreign interbreeding can also <lead to significant distinctions>. Besides, the bones of humans themselves must, to be sure, also be able little by little to take on differing forms [*Formen*], as we can see from Fisher's treatise.⁶⁰ For this reason, Monro also claims that a skilled anatomist can [*müsse*] immediately distinguish the head of a Turk, a Hollander, a German, and an Englishman.⁶¹ [77] This type of distinction rests, as he correctly notes, primarily upon particular practices, <but> I cannot entertain <any discussion of these matters> here.

The second important distinction <among the members of the human lineage> [*Geschlechte*] concerns the differing colors of skin. By this means new races [*Racen*] also come into being, which themselves support many lineages [*Geschlechter*]. Just as with <the foregoing discussion of> the human stature, I will begin here with the two races that stand furthest apart from one another. These are the white and the Negro; for as soon as the sameness of these two differences [*Verschiedenheiten*] is made probable by means of a few important observations, the many shades <of color> that lie between <them> are explicable on their own accord, e.g., the olive-colored, yellow, and brown human beings. In order to set aside here every impulse toward system-building, simple facts shall do the talking [*sollen bloß Thatsachen reden*], for this is the only way in the study of nature to obtain proper concepts from any of the phenomenon [*Erscheinung*]. I begin with the following important observations, which concern all of humankind [*Menschengeschlechte*]. The greater the heat of a land, the more deeply colored, or blacker, are the people [*Mensch*] who live there; and when the heat is diminished, the color of the skin turns pale. Last of all, <the color of the skin> becomes fully white under cold climatic conditions. The evidence for this is <as follows>. In Senegal and the neighboring lands the thermometer frequently stands at 112° or even

117° F. <This is where we find> the blackest human beings, the Negro of a lustrous ebony color with wool on his head. The heat is proportionally <as hot> [*groß*] in <the> Congo, Loango, <and> in the land of the Anzikos; and <in these lands> we also find nothing but Negroes. Further [78] below this region to the south or further to the north in Morocco and on the Cape of Good Hope, the heat is diminished but nevertheless sufficient to color the Hottentots blackish and the Moroccans—whose fatherland is cooled in consequence of the snow of the Atlas mountains (because this chain of mountains holds off the burning south wind)—dark brown. Asia does not extend to the equator and is, moreover, cooled by means of the east wind that comes over the Great South Sea [*groß Sudsee*]. <Asia is>, therefore, not as hot as Africa, and only yellow, and, in its hotter parts, olive-brown <peoples> [*Mensch*] live <there>, <namely>, the Malabar, the Malayan [*Malaner*], and the Hindustani. Europe has brownish people [*Mensch*] in its warmest <regions>, <such> as Spain, Portugal, and some parts of Italy. However, as we come higher upwards, or to speak more strictly, into colder climatic regions, we see the color <of the skin> becoming lighter in the same way [*wie*] that the northern part of Spain itself already has whiter inhabitants than the southern, and the dazzling white of the Germans, Danes, and Normans is to be found only with a considerable coldness. These are pure, generally well-known facts. For this reason, I <do not think it necessary to provide the references>, <but> whoever wants them can, in the meantime, look them up in Buffon.⁶² From <all> this, however, a striking conclusion emerges, namely, that this degree of heat, or in general the temperature of the climate, seems to stand in the most exact connection with the color of the skin. This statement alone might already be sufficient to remove a lot [*Menge*] of doubt <that> has been produced against the sameness of the Negro and whites. There are, however, still a few observations [*Observationen*] that are not easily removed.

The second important observation [*Bemerkung*] is this: the Saracens and Moors, who in the seventeenth century [79] took possession of northeastern Africa and were then brown, are now—after they strayed more deeply <into the continent toward> the equator—so similar to the true Negro that <there is> nothing by means of which they <can be> distinguished from them. Their language, says Demanet,⁶³ their morals [*Sitten*], and their religion changed this part of Africa <just> as they themselves were reciprocally [*Gegentheils*] changed in consequence of the climate. The same thing happened to the Portuguese, who in the fifteenth century settled in Africa not far from the Senegal <River>. They came brownish <colored> out of their fatherland, but are now, according to the well-grounded testimony of <Demanet>,⁶⁴ so degenerated [*ausgeartet*] that their descendants cannot be distinguished at all from the Negroes. <As for the possibility that> the Saracens interbred with the former inhabitants of the hotter regions and <that they> degenerated gradually in consequence of

this into Negroes, this has not yet once been proven. Moreover, it is surely the case that <at least> one family of these Portuguese might have remained unmixed, since they diverged so very much from the Senegalese Negroes in the manner of religion. But this observation goes still further. The Jew Tudela says explicitly <that> Jews who have settled in Abyssinia are as black as the Abyssinians themselves.⁶⁵ Now Tudela may or may not have been traveled, for this is certainly still an important question.⁶⁶ [80] He nevertheless did have a report of this noteworthy degeneration [*Ausartung*] of his people, who, as Pauw correctly remarks, regard, from religious superstition, interbreeding with foreign blood as a blasphemy; for this reason, <this report> certainly yields appreciable evidence <for this case>. The Italian physician Caldani saw a Negro who was brought to Venice as a child and <who>, in consequence of the long stay in this less warm climate, had so very much lost his blackness that he <now> appears only yellowish.⁶⁷ Whites can, therefore, become black, and, conversely, blacks <can become> white, and this alteration depends in turn on the degree of heat or cold.

Third, there are from one and exactly the same people [*Nation*] those individuals and also families who are more exposed to the heat of the open sun <and> more darkly colored than those who are under lesser necessity to do this. Among us, <people who live in the country> are browner than city dwellers, and in hotter regions this difference becomes extraordinarily large. A noteworthy passage concerning this is to be found in the Tranquebar Mission Reports. <According to this passage>, the farther to the north the Malabar live and the more refined they are [*je vornehmern Geschlecht sie sind*], the more their black <skin> color devolves into brown-red and yellow. The lineage from the reef [*vom Barrier Geschlecht*] are usually very black, for they allow themselves to be roasted by the heat of the sun by working all day long in sweat and dirt. <But> more refined people do not spend so much time in the sun, and are consequently, also not so black.⁶⁸ [81] The long-armed <and> small people previously mentioned, the Quimos,⁶⁹ live on <the island of> Madagascar among Negroes. They have, to be sure, wool on their heads, but are at the same time [*dabei*] more lightly colored than the rest of the Madagascarians. What accounts for this [*warum*]? They live in the mountains, that is, in a cooler air. For exactly the same reason, the Bedas, a savage people living in the middle of Ceylon, are lighter than the rest of the Ceylonese; for they inhabit thick forests, where the sun cannot penetrate. These Bedas are, however, as Pauw notes quite correctly in his admirable chapter on the <skin> color of <the indigenous peoples of America> [*Amerikaner*], certainly <every bit as much> [*eben so wohl*] Ceylonese as the remaining inhabitants of this island. For otherwise they would incontestably speak their own language instead of the common coastal <language> [*Randische*].⁷⁰ These observations are truly decisive. <Indeed>, to find the degree of heat so apposite with the

degree of blackness of the skin and nevertheless not assume that the former is the cause of the latter means not to want to see. However, because Kames is surely for good and all [*doch einmal*] a philosophical writer who is read with pleasure, I have <perhaps> still occupied myself with some of his plausible [*scheinbaren*] suggestions longer than might otherwise be necessary. A few words in advance <then> about another opponent. Voltaire has likewise naturally not allowed the Negro to come into being in consequence of the climate. He also does not permit this because he gladly assumes several ancestral fathers for humankind [*des menschlichen Geschlechts*] in order to make an attack upon religion. <But> no one can contest this thesis more unskillfully than he does. For he does nothing more than straightforwardly deny the facts without offering any sort of reasonable cause for this denial.⁷¹ [82] The man does not deserve a minute of anyone else's time. He contests the chain of being that is conspicuous to every reasonable person; he considers polyps to be mere plants; and he sees the fossils growing daily on his fields—or he would have them carried <there> entirely by the pilgrims from the Holy Land in their pockets. How, indeed, can such insane nonsense exist within a single human brain next to so many good poems, witty, inspired ideas, and exacting philosophical knowledge! Now, then, a few objections of the unassuming Kames, which can find a place here. Shaw, he says,⁷² [83] mentions a people [*Volk*] in Barbary who inhabit the Aurès Mountains that border Algeria in the south. <This people> seems to be completely distinct from the lineage [*Geschlechte*] of the Moors. Their <skin> color is anything but black-brown, but is instead rather white and brown (“fair and ruddy”).⁷³ <Their> hair, which with the other Kabyle is of a black color, is dark yellow. For this reason, Shaw believes that this lineage [*Stamm*] is a remnant of a small band of people that fled into these mountains,⁷⁴ <even> if he must admit immediately <thereafter> that they do not have a distinctive language. This objection from Kames is, however, removed simply on its own accord, since these Aurèsians partake of mountain air—hence a colder air than the neighboring Kabyles. Additionally, were Shaw's supposition true, this would still be <an even more decisive turn of events> <to the advantage of> my view, since the small band of people that fled into the mountains could then never become so black by natural means as the Kabyle, who have lived longer and deeper or in a hotter air. Marmol also reports explicitly in several places that the inhabitants of the mountains of this northern part of Africa look whiter than those who live on flat land.⁷⁵ These objections are just so easily refuted with regard to the inhabitants of the Sahara and the Abyssinians. <Kames> asks why these two peoples [*Nationen*] are not so black as the Guinean Moors. Why? Because the heat of their land is by far not as great as that of Guinea. First, the Sahara Desert does not lie so [84] far south [*tief*] toward the equator as Guinea, and, second, the wind that comes down from the Atlas mountains must cool this region

still more, since these mountains are just as much covered in snow as our Alps at their highest elevation. The west wind <in this region> is, however, a sea wind and also lessens the heat. Besides, I would really like [*doch wohl eigentlich*] to know what <Kames> knew about the Sahara, that is to say, the movable [*beweglichen*] sands <of this part of the world>. I do not, at the least, recall having ever read a proper report from the interior of this land beyond the Kingdom of Dara. As, however, for the climate of Abyssinia, this is by far not so hot as Monomotapa or even Guinea. For, first of all, the hottest north-east wind blowing over Persia and Arabia is cooled by means of the Red Sea. Further, the north wind from Egypt passes over a great chain of mountains, where it there loses its heat. The eastern and southern winds are, however, almost purely sea winds, so it could only be the southwest and west winds that could strongly warm Abyssinia, as they pass over a large <expanse of> flat land. These <>winds>, however, are for the most part robbed of their heat in consequence of the Mandara Mountains, which run from the Cape up to the Atlas mountains, as we will have the opportunity to show in the fourth part <of this work>. We might now compare <this region> with the coastal regions [*Küste*] of Guinea or the Congo. The truly blazing sun is likewise not the only <thing> to have an effect <in these regions>. For, with the exception of the west wind, all of the winds <that have an effect> on these coastal regions pass over enormous <stretches of> flat plains and the lands heated there. <As for> the northwest wind, <it> <passes> at the least more than four hundred miles over regions that are all almost perpendicular <in relation to the sun>, and the east wind as well as the south wind must pass crosswise over the entire continent of Africa, which in a natural way continuously brings about a higher degree of warmth <as it passes over this land mass>. There are, to be sure, [85] in the course of this passage, certainly also mountain ranges. However, since <these mountainous regions> alternate with sand deserts and flat plains, the heat of these lands must become unbelievably elevated. The Abyssinians enjoy for this reason just as much as the inhabitants of the entire Zanguebar coast a far <more> temperate air. They can also, consequently, not, by far, be as black as the Guineans. Now, however, an objection from <Kames>, which in his opinion, has <the> consequence of overthrowing the entire system of Buffon <in so far as it> concerns <skin> color (for <Buffon's theory> also derives the color of the skin from the climate). The objection is that all of <the indigenous peoples of America> [*Amerikaner*] are without exception of a copper color. <This is a serious objection>, since surely every possible difference in climate prevails in this enormous land.⁷⁶ <Further>, since Kames thinks this objection is so very important, I will not only examine it very exactly, but also the question which pertains to it, namely, why America, even below the equator, has not produced any proper Negroes? As for <Kames's> question, it can be easily answered <by pointing out> <that he has

it all wrong>. There are in America, <the same as> in the Old World, peoples [*Menschen*] of different colors. The evidence for this follows. First, the Eskimo are not dark red, as they must be according to <Kames>, but are instead olive-color<ed>. Cranz⁷⁷ and Ellis⁷⁸ <both> attest to this. <Second>, there are among the <indigenous> Canadians, who for the most part are red, in their turn again, the white people [*Nation*] who were previously already noted, the blue-eyed Akansas. The Californians, Mexicans, and the other peoples [*Nationen*] living below them are brass-color<ed>, as <are also> a portion of the Peruvians. [86] A very respectable diversity of colors also prevails, however, even in this region. Gumilla says explicitly that the peoples [*Nationen*] on the Orinoco are extraordinarily different colored. <Those> living in the forests are white; <those> residing on open, flat lands [*Flächen*], on the other hand, just like the Otomaker, many of whom live on the shore and on boats, are blackish and brown colored.⁷⁹ Condamine says that the inhabitants of America are more or less brown depending on <whether> their lands lie nearer to or most distant from the equator;⁸⁰ and Bouger found these Peruvians, who live farther south on the western slope of the Andes at the base of the mountains toward the Pacific Ocean [*Sudmeer*] (where the <cooling effect> of the south wind <prevails> and the Andes obstruct the heated winds blowing over South America), almost as white as Europeans.⁸¹ On the other hand, <the Peruvians>, who <live> more distant from the Andes and lie more exposed to the hot winds, are brass colored. So, the information <provided by> <Kames> is false. The color of the <indigenous peoples of America> [*Amerikaner*] changes equally as much according to the degree of heat as in the Old World.

Another question that <has a place in this discussion> is this: why are there no Negroes in America? Buffon,⁸² Pauw,⁸³ and, after him, Robertson, have sufficiently answered this question. <They say that> America is not so hot as Africa. Robertson, who has begun to supply us with an admirable history of this part of the world, has quite correctly identified the main reasons that explain the colder nature [*Kältersein*] of the [87] New World compared to the old.⁸⁴ I only need to produce the main points <of this explanation> in such a way that any student of nature [*Physiker*] could himself easily find them. First, the wind below the equator [*heißen Erdzirkel*] passes over the Atlantic and the Ethiopian Sea before it comes to America. Since it cannot warm the water very much because of its transparency and <because> other movements continuously bring new, colder water into <the flow>, the wind is cooled off by this, and also comes <cooled> in this way to America. Second, America itself is cut into deeply by great oceans, as, e.g., by the Gulf of Mexico, by means of which this same cooling takes place in this manner even more. Third, the New World has an enormous amount of inland water. Compared to the great rivers <of America>, e.g., the Mississippi, the Lawrence River, the Maroni, the Orinoco, and the Rio de la Plata, our greatest

rivers are in every respect, excluding not even the Danube, only streams. Not only do <these rivers> flow for hundreds of miles in length, they have at times a width of more than ten or fifteen German miles even thirty miles above their mouths. Father Cattanea confirms this as an eyewitness;⁸⁵ for he found the Rio de la Plata, at Montevideo, more than a hundred and fifty English miles from the [88] mouth, still so wide that he had to sail for an entire day before the opposite shore came into sight. From the d'Anville and new English maps⁸⁶ it is known that the Lawrence River itself has a width of over ten German miles, sixty German miles from its mouth. From this enormous amount of water, which flows straight across America, we can best convince ourselves from the large d'Anville map,⁸⁷ which is indebted to <the map of> Condamine, <that> an extraordinary number of rivers equally as large as our Danube plunge into the Maroni. <We can also convince ourselves from the d'Anville map that the Maroni>, this chief [*Haupt*] of all known rivers, swells up almost <to the size of> a flowing sea. To this, we can add the many floods and marshes, in consequence of which large <expanses of> land frequently resemble standing seas.⁸⁸ Fourth, the forests, which block [*den Zugang versperren*] the heat of the sun, are proportionately enormous, as anyone can assure themselves from the reports of Bouguers,⁸⁹ Condamine, and Oviedo.⁹⁰ Finally, <the fact that> the ground <in America> is—because of the small number of agrarian peoples—almost entirely uncultivated also contributes appreciably to the coldness of the New World. <Further>, <because the ground is uncultivated> the large [89] number of salt particles, which is much increased by the coldness, can never <become a part of> the atmosphere. These are the main reasons why America is so exceptionally cold. However, besides <all these reasons>, <the fact> that North America and the lower part of South America are so immoderately cold is still due to collateral causes determined by the position of the land. North America extends to beyond 80° N and has a <width> of at least 57° up to 40° N. The upper parts of this unmeasurable land are, according to their position, extremely cold. For this reason, if a wind blows over such an astonishingly <large> stretch of frozen land, it must by natural means increase continuously in coldness in consequence <of this>, and it must bring with itself an extraordinary coldness into the warmer regions, especially when it blows over great stretches of ice (which Baffin Bay and Hudson Bay really are for months on end). Also, as Robertson says, a northeast wind and excessively cold <>wind> are equivalent expressions throughout all of North America. <As a consequence>, Caire⁹¹ ascribes to this cause alone the frightful coldness of North America, by which he nevertheless certainly goes too far. As, however, for Patagonia and Tierra del Fuego, the hot north wind coming from the equator warms this land almost not at all because the shape of all of southern America. South America almost makes a right-angled triangle constructed <on a line stretching from> Cape Blanco to Cape St. Roque. Tierra del Fuego lies at the peak

<of this triangle> and the eastern side from Cape St. Roque to [90] Tierra de Fuego comprises the hypotenuse.⁹² The warm column of wind—from 20 to 50 degrees long as calculated by Ferro—which blows over South America travels, therefore, exclusively into the Pacific Ocean, and only the rhumb [*Windstrich*] from 50–66° S could warm Tierra del Fuego and Patagonia. First, however, the coastline of South America below the Tropic of Capricorn is cut up somewhat deeply.⁹³ For this reason, the wind <there> passes [*geht*] once more over a large sea and is cooled off. Second, Magellan's Land and Tierra del Fuego are at the end of <a> large chain of mountains, the Cordilleras. The north wind coming from Peru, which still hits these lands, is, for this reason, because it passes over true icebergs, more a colder than a warmer wind. And, doubtlessly, the main reasons why even the summer months in this region are so astonishingly cold lie in <these circumstances>. <But> since I will have the opportunity to demonstrate the coldness of the New World in the following parts <of this work> in yet another way, <namely>, on the strength of certain kinds of animals, and <because when I do this> I must assume familiarity with these claims, which I have made reference to in advance <of that discussion> in order to compare more exactly the climates of the Old and New Worlds, I see myself obliged to conclude the discussion of the materials <that needed to be presented> <at this point> with <some> decisive observations about the weather <in the New and Old Worlds>. I have taken some of these observations from the Cotte Meteorology,⁹⁴ but the rest <come> from trustworthy reports [91].

<Temperatures> (according to the Réaumur scale)

<i>Place</i>	<i>Latitude</i>	<i>Highest Temperature</i>	<i>Lowest Temperature</i>
America			
Quito	0° 13'	28°	8°
Mexico	20°	25°	8°
Quebec	46° 55'		33°
Rio de Janeiro	23° S	22 ² / ₉ °	—
Boucault's Bay	53° S	10°	—
Old World			
Pondicherry	11° 56'	32 ¹ / ₂ °	17°
Senegal	16°	38 ⁹⁵	14°
Bourbon Island	20° 51'	28°	21°
Chander Nagar	22°	33 ¹ / ₂ °	—
Paris	48° 50'	27°	15°
Foothills of the			
Cape of Good Hope	33° 55' S	29°	4 ¹ / ₂ °
Utrecht	52° 12' N	25 ¹ / ₃ °	—

[92] We truly [*lediglich*] see, all told, from all this <information>, the answer to the question holding good with the view previously <expressed>, namely, because America is so much colder it also does not have inhabitants as black as Africa. Guyana is the hottest <land in all of America> <and> also has the darkest <people native to America> [*Amerikaner*].

Now an objection that seems to have more weight. Why do Negroes transplanted into a colder climate not again become white, since surely whites <living> in the hot zone, according to Demanet's observation, are able to become black? This objection also belongs principally to Kames; for he introduces an example of Negroes in Pennsylvania who have remained black throughout four generations [*Geschlechte*].⁹⁶ To respond to this objection so far as is possible, I see myself obliged to introduce something about the seat of the blackness of the Negro. It was <previously> known that the color of the skin has its location mainly in the mucous bodies (*corpore mucoso*), but the distinguished Berlin anatomist Meckel has more recently shown that the Negro is darkly colored not only <for this reason> but also because they have a darker brain than whites.⁹⁷ Meckel believes that the liquid which colors the brain, which is also extremely fine, can easily transpire through the ends of the main nerves, and in this way <it can also> color the network of veins, or the mucous bodies. I include the words of this great anatomist [93] in a note.⁹⁸ But is it not also possible that Meckel's thesis should be stated in the reverse order? Since I see that the blackness is determined by the heat of the sun, and, moreover, that the heat of the sun initially and most strongly has an effect on the surface of the skin, would we do <anything> wrong if we were to think that the blacker brain comes about from the mucous membrane in which the nerves come to an end, which is thickened by means of the heat and consequently <also> darkly roasted? This is to say <that> the nerve endings might take this blackish material from out of the *corpore mucoso* and bring the finest particles from it into the brain. Such particles could at the least spread through the nerves up to the brain. Further, since there are a large number of recovery vessels in the Malpighian network and in its crust, the epidermis, could we not assume that they might carry that blackness or the blackened particles which develop from the influence of the heat of the sun on the epidermis and by this means have colored the blood, <or>, as we might say, in short, <that they might have> colored the blood, the semen, <and> the bile, or, in short, the principal fluids of the [94] human body? The semen <of the Negro>, according to Le Cat,⁹⁹ and <their> blood together with their bile, according to Barrere,¹⁰⁰ is truly darker than in whites. I venture bringing up this new explanation for the origin of the blackness here for the reason that it does not appear to contradict nature, since the pathways from the mucous membrane to the brain and to the blood do indeed actually exist. I would, however, gladly withdraw it as soon as an accomplished

physiologist convinces me with <an> opposing view. But if this explanation were not inconsistent, we would not find it necessary to call upon the bile on every occasion for help as the primary means <of explaining> the <skin> color of the Negro. Santorin and Barrere take this blackness for granted, but I do not recall that they found <Negroes> to be truly black. They believe that <the blackness> discharges itself into the blood <and> colors it and by this means blackens the remaining juices of the body, as well as the skin. No one has been so lavish after them <in relying upon> the bile <to explain this blackness> as Abbot Pichon¹⁰¹ and also his translator, Springer.¹⁰² As for the Frenchman, I must note here in passing that I have never read an author who might have been so frivolous <in his treatment of> such an important subject. What could <Pichon> <possibly have to> say <of any value> about the effect of the climate on the human lineage [*Menschengeschlecht*] that takes history into consideration? [95] What nonsense has he instead produced! We see only his idle chatter about the western and eastern climates <and> his total division of the earth according to these fanciful ideas. Since he permits the dividing lines to separate the peaks of mountains,¹⁰³ the line 70° N is supposed to cut through Lithuania and the Himalayas, and the human beings on the far side of this line all become small and more slender. After that, a large number of small fibers are supposed to be found in the blood of the northern peoples <like those> we find in the blood of bulls and wild boars,¹⁰⁴ whereas, on the other hand, the blood of southern peoples [*Südländer*] is dissipated and volatile like that of hares and stags. Northern peoples [*Nordländer*] are, for this reason, supposed <to be> savage and bullish, and southern people frivolous and timid. What a <bunch of> indigestible nonsense! And what sort of miraculous mixture of hare and bullish parts might there be in the blood of the Abbot <himself>! He <refers to> two different kinds of bile, yellow and black. They are supposed to mix with one another frequently and then produce the different shadings of human beings, according to their <skin> color and temperament. Springer has likewise very <much> taken up <the view> <that> the bile <is responsible for skin color and temperament>.¹⁰⁵ He believes that because the bile was surely in the blood before it was discharged, that it could thereafter (without <causing any> disease) be made use of again in the blood. Moreover, he thinks that the bile surely promotes the fermentation of the blood, but nevertheless hinders its coagulation. <The bile> is <said to be> very combustible and can heat <up> and thicken the blood greatly without causing it to coagulate. However, because of the way in which all of the parts and juices of the human [96] body do indeed exist in the blood, <the bile> is nevertheless not permitted to pass [*gehen*] back into the blood again after <being discharged> without bringing about great changes. Would we, for example, be able to assume that gastric juice, tears, milk, or urine, which surely likewise once lay in the blood, as milk or urine,

etc., be permitted to pass back into the blood without doing harm to the healthy condition of the body? I have always maintained <that> the bile, if it returned again into the blood as bile, however and in whatever way this were to happen, <would be> an occasion for jaundice or other illnesses. But since I would not trust this physiological investigation to myself, I asked Wagler, a physician, with his superior knowledge, to come to my assistance. The explanation that he amicably shared <with me reads as follows>: “The color of the hair (*choroideae oculi*) and the skin are not deducible from the bile, or else they must have taken their color in consequence of a blockage in the natural conductor of the discharge of <the bile> caused by the bile in jaundice and the black disease, <which is> also a proportional alteration in the color of these parts. They <cause this change in> color, however, in consequence of the translucence of the skin and the *albugineam oculi* in exactly the same measure as <the bile> has discharged itself into the blood, at times yellow and at times greenish or blackish. As soon as the outflow is again produced by means of the opening of the bile duct, the color of the skin is gradually lost again. <The fact> that <bile> is, to be sure, secreted <in a jaundiced condition> but reabsorbed again because its egress is blocked, is proven by the pale color of the extremities, the poor digestion and the gall stones <found in> autopsies, or <by> other mechanistic hindrances which hamper the outflow into the intestines.”

[97] “The whimsey <dating> from antiquity <and> drug <out> time and time again of a black bile differing from the yellow has only a single defect, <namely>, that no one has ever shown the actual location and the particular vessels of this black bile in the human body. Brownish-complexioned individuals [*Personen*] have a bile that is no different form that of <the> fair-skinned.”

“An excess of bile does not warm the blood to <the point of> inflammation and to the coagulation of the gelatinous part caused by this. The bile does precisely the opposite and rather dilutes the blood and makes it more liquid.” There seems, in general, to be a contradiction in the account of the differing temperaments of the southern and northern <peoples> <given by> the Abbot and Springer. According to them, the southern <peoples> should, because of the heavier evaporation, have too little water in <their> blood. Their blood would, therefore, <be> thicker, <and> <it was> surely just this blood that was previously described as volatile. Accordingly, <there would> apparently <be> more water <flowing> in the blood of the northern <peoples> because the evaporation would be smaller. We see from this that the bile does not have the decisive role <in accounting for> the blackness of the Negro that many assign to it. It is nevertheless very certain from the previous discussion that in the Negro the most important fluids are colored. But is the semen itself now colored? For how indeed can we then require

that this, the substance <which> changes the innermost <being> of humans only first after many years, <that is>, after several generations [*Zeugungen*], should, in consequence of the opposed effect, be again exiled or extinguished so immediately? When a number of generations are required in order to change a white into a Negro, then I am convinced that a much longer time is needed to whiten the Negro again. Everyone [98] knows how quickly a brown-red spot reproduces itself in the skin in consequence of the fire <when some one gets burnt>. But how long a time is proportionally required <for> this redness to be lost? Now, although the heat of the sun has an effect upon the Negro that is certainly different from that which the fire has, there is nevertheless a comparison here between these two that is not totally unjustified. At the least, something similar happens in the two cases. Pauw tells us that all penetrable bodies take on coloration more easily than they again lose it.¹⁰⁶ It is, therefore, not totally inconceivable to me that the Negroes in Pennsylvania, a region that is still not very cold, would need a very long time in order to lose this burned-in blackness. In the meantime, Demanet claims that the Negroes living in Europe, especially in the event <that> they were begat [*erzeugt*] in the American colonies or even in Europe, are by far not so darkly colored as the Negroes in <the places where they principally reside> on the Senegal River and in Guinea. For this reason, it is still <a> question if the Negroes presently <living> in Pennsylvania are truly still so *jet black* as their forefathers.¹⁰⁷ To know exactly how much time and <how many> generations are required to turn a lineage [*Stamm*] of Senegalese blacks into northern whites, we would need to bring them not to Pennsylvania or to France, but instead to Denmark or Greenland. <We would also need> to expose them to the open air, guard them from all interbreeding with whites, and give them entirely the same diet which is in accordance with this northern climate. For I think myself suitably convinced that such a transformation, although slowly, could and would truly take place. For precisely this reason, however, Negroes [99] who were transplanted from their hot into a warm climate could well nigh never be able to become anything different <from what they are>. This is also proven by the examples of the Papuan on New Guinea and the other islands <in that region>.

The opponents of the <climatic explanation of the origin of the Negro> [*Klima*] are used to citing the thick lips, indented nose, and especially the wool or the woolied hair of the Negro <in support of> their doubled lineal stem stock [*doppelten Stamm*]. I confess, however, that for me these three <features> [*Stücke*] are of no special importance. For thick lips can be found everywhere. The Eskimo and Kalmuck also have them, and we can easily adduce <examples of> thick-mouthed families. Besides, there are Negroid nations [*Nationen unter den Negren*] that have neither thick nor indented lips. The Ialofs, a Negroid people [*Negernation*] <living> on the Gambia <River>

up to the Senegal, are very black, <but> have, as Moore attests, beautiful facial features and neither broad noses nor thick lips.¹⁰⁸ Pigafetta says explicitly that the Negroes in the Congo have curly, black hair, but they also frequently have red hair.¹⁰⁹ They are suitably similar to the Portuguese except for the color. The eyeballs are black in some <but> sea green in others, <and> they do not have the thick lips of the Nubian. Finally, Dampier claims in his description of Natal that the inhabitants of <this region> are, to be sure, black, and they do have curly hair, but <at the same time> they <also> have a longish face, well-proportioned noses, white teeth, and a pleasant countenance.¹¹⁰ Why, then, does anyone consider it necessary to take refuge in the imaginative power of the mother in order to explain the flat nose of the Negro [100], <that is, conjecture that> because she might have been surrounded with people whose noses had been artificially crushed, <she> might have been frightened by this, and, consequently, might have given birth to children with similar <features>? No one labors equally so hard to explain the flattened noses of the Kalmucks or <those> of some European families. For it is highly probable that European parents <with the same characteristic facial feature> would, if they were never to interbreed with others, likewise produce a race with indented noses that the philosophers might find just as much a fascinating topic for hair-splitting reasoning in a few hundred years as they now find the noses of the Negroes. The hair of the Negroes is in fact more noteworthy than their noses or lips. I hardly believe that <their hair> can be compared fully with <that of> our curly haired Europeans, as Buffon thinks. Curly-haired parents do, to be sure, easily produce curly-haired children. They do not, however, come out with wool or with wooly hair, but only with curly <hair>. Pauw offers the explanation for this curiosity that seems to me most probable.

“All of the hair-like filaments [*Haare*] of the body,” Pauw says,¹¹¹ “have their bulbous roots in the skin. They perforate the retina [*Nezhaut*] in large numbers and the epidermis, which is nothing other than the surface colored by the gelatine with which the skin is covered. Since the hairs of the Negroes now have to break through a much more glutinous and thicker medium, they wind and curl around themselves, and they do not become so long because they find less nourishment in the tissue of the skin and its covering.” But even if the wool of the Negro is also not sufficiently explained in this way, it is to me nevertheless by far not so important, or rather such a [101] prominent difference, as their blackness. Also, since I can now ascribe <skin color> to the power [*Macht*] of the climate, I consider it superfluous to believe <that> this smaller difference did not originate for the <same> reason.

I deem in this way to have now provided the main reasons from which we might conclude that every type of human being [*alle Menschengattungen*] originated from one and the same lineal stem stock [*Stamm*] or at least could have originated <in this way>. For since the difficulties with respect to the

Patagonians and Eskimo and the Negroes and whites can be superceded, I hardly believe that any one <would> have <any> desire to bring forward new doubts due to the peoples [*Nationen*] <comprised> of middle-sized <individuals> or because of brownish or yellow colored peoples [*Völker*]. But if some readers—<even> after <reading> all this—nevertheless prefer in the meantime to want to think <that there are> different ancestral progenitors [*Stammväter*], <that is, to think that> a differing original individual seems to be necessary every time for each deviate form [*Abartung*] of <human being> [*unseres Geschlechts*] for every region of the world, this is of entirely no consequence to me. For me it is sufficient to have shown to some extent what influence the effect of the climate might have. I admit that it is <yet> again another question if the climate has really manifested itself in this way. We will, <however>, never be able to be able <to answer this question> <with> mathematical certainty, and in so far <as this is so> <anyone who wants to> is, after all, permitted to assume multiple ancestral progenitors.

I see in the meantime a possible, unforced, simple way to derive all human beings from just the same kind [*Art*]. I assume this in the case of many other quadrupeds that are likewise very diversely developed [*ausgeartet*]. Consequently, I hardly conceive why we demand, contrary to the reasons <previously> noted, something extraordinary only for human beings alone. Some people cannot conceive how so many human forms [*Menschengestalten*] could have been produced by means of one ancestral progenitor. [102] I, however, would like to ask if any one can even conceive how the single ancestral progenitor came into being? The one who might make this possible could, it is true, just as well have created, all at one time, one as <well as> several lineal stems. But could he not equally so easily equip human nature in such a way that a single lineal stem was fitted [*paßte*] for all climates?

I readily admit nevertheless that there remain other degenerate forms [*Ausartungen*] of human beings that we are not completely in a position to explain. We are far from knowing exactly all the ways in which differences in diet influence the animal body. Why do red-colored roots immediately color only the bones of hens <yet> have absolutely no influence upon their feathers, since surely the bottom of the pinion feathers are doubtlessly comprised of component parts equally so hard as the thinnest bones? What effect do medicines, poisons, and <other things of this sort> have on the entire animal economy, and how do they frequently alter it so noticeably? Consequently, when I cannot directly say why the principal <skin> color in America is the red-brown color¹¹² <or> when I cannot explain precisely every difference by means of which the Greenlander, the inhabitants of St. Thomas, the Georgian, the Patagonian, and the Tatar stand apart from one another, <neither of> these <circumstances> is any kind of evidence at all that these differences are not to be ascribed to the climate and diet. <They are> rather

merely evidence of my incapacity, my lack of knowledge, and I very readily admit <that this is so>.

[103] Further, we might also pay attention to how diseases are in a position to alter our external <features> in <presently> inconceivable ways, and how these changes sometimes reproduce themselves. Hippocrates says explicitly that children whose parents are afflicted with elephantiasis are born with this disease because the semen of the parents is infected.¹¹³ [104] The so-called *porcupine man* who showed up in London some twenty years ago provides an important example of such heritable diseases of the skin. His hair was covered with warty, red-brown growths the thickness of a piece of string and only <his> face, <his> palms, and the soles of <his> feet were free from this <affliction>. The points <of these growths> were stiff and made a noise when the hand was passed over them. We can see the drawing from the hand of <his> son (of which I will immediately speak) in Edward's¹¹⁴ or in Seligmann's engraving,¹¹⁵ and a far more extensive report of this is to be found in the estimable work of Schreber.¹¹⁶ The most remarkable <thing about this example> <is> that this man begat [*erzeugte*] six children, boys and girls, who resembled him. They received the <previously> mentioned bristles, just like the father, eight weeks after they were born. They have, in the meantime, I have heard, all died, except for a single son. This son now still lives with the famous animal trader Brook in London, where he shows himself and curiously strange animals for money. Assume, then, [105] that this bristly family, detested by other human beings, was once compelled to establish itself in an uninhabited region or on an island. Since they would be continually forced to marry within their own family, they would without fail produce a marvelous human race that would stand out much further from us in its external appearance than the Negro. Now imagine that this land or island was discovered after many years by travelers. How delighted the philosophers would be to have found an extraordinary, new human being [*Menschen*] so unlike us! Some of <these> philosophers would employ all their intelligence to find the causes of this degenerate form [*Ausartung*] in the land itself. Others, however, <would say that they were> fully convinced that multiple ancestral progenitors were needed <to explain how this form could have developed>. For, <as they would say>, who would want to be from one and exactly the same lineal stem with such bristly creatures! <But>, in the meantime, might not all of them have gone astray? I am not entirely certain that some of the important deviate forms [*Abartungen*] in our lineage [*Geschlecht*] did not actually originate in this way; but no one can completely deny that <they> might possibly have originated in this way. For although heritable diseases frequently die out again after a few generations, it has certainly not yet been determined how long they are able to reproduce themselves when diseased persons beget children only with <other> diseased persons, especially in regions of the earth that might favor <the> disease.

<I wish> now to return to <the discussion of> the shadings [*Nüancen*] which lie between the Negro and whites. There is a great diversity [*Verschiedenheit*] here, or rather a gradation [*Stufenfolge*]. Whites [*Der Weise*] are fair-skinned or brownish-complexioned. The fair-skinned <whites> live in the northern regions, <such> as Sweden, Denmark, <and> the upper part of Germany, and <they> typically have blue eyes and frequently red hair. The brownish-complexioned whites are to be found in the southern regions of Europe; [106] <they> readily have brown or black eyes and hair. The brownish <human beings> <are to be found> in Spain, Portugal, <and> a large part of upper Asia; the brown in North Africa, Arabia, and similarly situated lands. <This is also where> nature passes over through the Hottentots and Moors [*Mauren*] into the Negro. Further, <yet> another mixture, namely, the olive-brown <Asian->Indian, inhabits the southern most part of Asia. <As for> the differences of the <indigenous peoples of America> [*Amerikaner*], I have already <provided an account of these>, according to climate, above.¹¹⁷

Some philosophically <inclined>, expert <students of nature> [*philosophische Naturkundige*] have attempted to bring all of these differences of humankind [*menschlichen Geschlechts*] into certain classes or principal races [*Haupttracen*]. [107] Linnaeus initially referred to [*giebt . . . an*] two different kinds of human beings. The first of these is, according to him, the rational, daytime human being [*Tagmensch*]; the second is the <nighttime human being> [*Nachtmensch*].¹¹⁸ For this erroneous division, he was only too sharply reproached by Pauw. I do not need, therefore, to say anything more about <this division> except that this great man erred so far that he had declared the pallid Negro <and> the Kakerlak, <(or albino Negro)>, who simply constitutes a diseased individual of the Negro race, <to be> a totally separate kind. There is, so much as we now know, no such second kind of human being [*Menschenart*]. He divides the daytime human being, or, therefore, the true human beings, into four races, according to the four parts of the world, namely, into <indigenous> Americans, Europeans, Asians, and Africans. I note here only in general that it is altogether impossible to divide the human species [*Menschengattungen*] according to <a division of the world based on purely political designations>. For many parts of Asia have climates that are entirely the same as <those of> some European lands, and nature has not at all separated these two parts of the world. This can in certain respects also be claimed of the other parts of the world. Second, the division of humankind [*Menschengeschlechts*] <into distinctly different groups> is still difficult in consequence of an important collateral cause, namely, the migration of peoples and the interbreeding that arises as a consequence of this. It is, to be sure, certain that the European is in this matter especially unsettled. But what migration of peoples has not also happened in Asia? Do we not still have in our own day the noteworthy example of an emigration of many thousand families out of Siberia? In exactly the same way, the upper parts of Africa

were occupied by the Saracens, and who knows what <kinds of> similar cases might have occurred in America? [108] There arises, however, in a natural way, in consequence <of these events>, such a mixing [*Verwechselung*] of the human form that many years <are needed> to alter these strangers to take on [*anzuarten*] the climate or to produce the human form as the climate would have formed it. As an example, assume that an observer, like Demanet, had come to Africa a few hundred years earlier. Would he not have found the Portuguese <living there> much whiter, or at least not so black, as they are now? <What if> Hell or a similar man had visited Lappland much earlier? Would the Tatars who emigrated there <away> from the <other> Tatars not be still much larger? The power of the climate might, therefore, have been able to manifest itself in these two cases all the same <only> far more weakly, because the time <that it had had to effect change> was too brief.

If, therefore, we take the climate as the principal cause for the altered human form, we might by this means possibly be permitted in the following way to come up with a hypothetical account that explains why this or that people [*Nation*] is here or there <comfortably> domiciled. If we knew, for example, how much time was needed to make a Negro from a white in a given climatic zone (let's assume five hundred years), <and> further, about how much the blackness increases with time in every century, then, were we to meet up with a whitened <figure> in the hot <climatic> zone, we would be permitted to determine the date [*Zeit*] of their emigration from a foreign, less hot region with some probability. This method [*Saz*] could, however, also be employed in the investigation of other peoples [*Völker*], as perhaps with the Tatars, with whom we might, along with the <skin> color, look in particular at the same time at the stature and the color of the hair and the eyes and like <features>. This is, to be sure, only a casual thought, [109] the realization of which would require great attentiveness and spirited observation together with a superior knowledge of natural philosophy [*Naturlehre*] and the natural history of human beings. Linnaeus took the <indigenous peoples of America> [*Amerikaner*] to be equally brown-red everywhere in his division, which they certainly not all are. He called them choleric, since their distinguishing character is rather <one of> weakness and timidity, which are not frequently found together with the choleric temperament. When I ascribe one and the same temperament or character to so many peoples [*Nationen*] <living in> so many different climatic zones, <I am>, however, generalizing altogether too much. The European is supposed to be universally sanguine and the Asiatic [*Asiate*] universally melancholic. We might only <too easily> see, <however>, how little the first of these <generalizations> holds good for the Spaniard or Italian, and the Georgian is equally so little melancholic as the Kamchatkan. The different Negro and Moor nations [*Neger- und Mohrnationen*] in Africa are also not all so malicious or flat-nosed; not every Negro

woman has low-hanging breasts, and the Fulier are very industrious. The Hottentots are well-tempered, when they are treated well, and many of the peoples [*Nationen*] from the coast of Guinea are very well built.

It would, therefore, be far more appropriate to the nature of the matter to pay more attention to the climate when dividing up humankind or breaking it up into differing races. To be sure, Blumenbach has observed this <recommendation> in part in his admirable treatise about human beings.¹¹⁹ He likewise settles on four different primary races for humankind [*Geschlechts*]. The first <of these> is comprised of the Europeans, the inhabitants of the lands this side of the Ganges and north of the Amur, including the [110] <indigenous peoples of North America> [*Nordamerikaner*]. Blumenbach himself admits that great differences prevail among <the peoples that make up> this first race, but considered altogether they would be rather similar to one another. The greatest <and> first difficulty to be found <with this division> might be the depth, or the distance, southward where the Ganges lies compared to the respectably northern latitude of the Amur; what a stretch of land, inhabited by what different human beings [*Menschen*] <is to be found> between these two rivers. <A> second <difficulty is that> the Tatars [*tatarischen Nationen*] are among themselves so very diverse that it might—because of frequent migrations—hardly be possible to permit all of them to count as one race. The Kirghiz, Kalmucks, <and> Bashkirs <also> deviate much from one another, as we can see in the brilliant reports of Pallas, even when they frequently live quite close to one another. And how far do the Kalmucks not stand out from the Georgians? But <in Blumenbach's division> they belong to one race! The <indigenous peoples of North America> [*Nordamerikaner*] do, however, have very many similarities with the Asiatic <peoples> lying opposite them, as the facial formation of many Canadian lineages [*Stämme*] appear to have something Tatarish <about them>. Untermann attests to the great similarity of the Tungusian with some <of the indigenous peoples of North America> [*nordamerikanischen Nationen*]¹²⁰; and we still hold the illustration [*Abbildung*] that Catesby has given <us> of an <indigenous> North American [*Nordamerikaner*] together with the Tatar facial form only to further convince ourselves of this.¹²⁰ The second primary race includes the Asiatic peoples [*Nationen*] beyond the Amur and the Ganges, including the inhabitants of the Asiatic and the Pacific islands. However, if I correctly understand Blumenbach in other respects, the Chinese together with the true [111] <Asian->Indians comprise a single race, since to me the Chinese form always seems to be more degenerated Tatarish than <Asian->Indian. The most important <source for> doubt <in this case> might be the great diversity of the inhabitants of the Pacific islands. These <peoples> are <so> extraordinarily different that if we follow the most cogent travelers step-for-step in this sea we can scarcely trust that we have read cor-

rectly. Brown, black, olive-colored, ugly, small, beautiful, large, long-haired, and people [*Leute*] with Negro wool frequently live so densely close to one another that it seems that all peoples [*Nationen*] had agreed with one another to send colonists to this marvelous part of the world. This is not the place to investigate this <matter> more precisely, <but> I do consider it in Part Four. This much is, however, certain, that these peoples [*Nationen*] could never be counted <as> one and exactly the same race. The third primary grouping [*Hauptgattung*] is the Negro race in Africa, <but> we can never [*auch nicht einmal*] throw the Moors into this <race>, as they have not inhabited the hot climate of the Negroes, or at least <they have> not <inhabited> it long enough. Finally, the fourth <primary race> is comprised of the remaining <indigenous peoples of America> [*Amerikaner*] <living> more or less from Canada to Magellan's Land. This division has, as we can easily see, very many advantages over the Linnaean <system>. For even the objections <that I have> brought forward could be partly answered by <saying that> when we meet with completely opposed human forms in exactly the same region [*Erdstriche*] this is due to the smaller <period of> time since one of the newly arrived peoples has resided <there>. I certainly hardly believe, however, that every doubt can be removed by means of <this type of explanation>.

Errleben, who, <unfortunately> for the sake of the sciences, died much too early, apparently used in his admirable [112] system of nature the classificatory <system> for human beings [*Menschenklaßifikation*] of his esteemed predecessor. He named five races, or if one prefers, varieties of humankind [*Varietäten des menschlichen Geschlechts*].¹²² The first <of these> is the one that I have previously considered at some length, namely, the northern dwarf, who <in his system> receives the general name Lapp. All peoples comprised of individuals of small stature [*kleine Nationen*] <living> in <the region> from the Arctic Circle to the pole in both <the New and Old World belong to this <group>. This is a very accurate division, which conforms to the climate! Next come the Tatars who live in Asia <in the region> extending from the Himalayas up to the border of the Lapps. I was <more than> a little pleased when I came across this division <in his work> <just> as I had conceived it, since I thought it simplest to search for the primary races <to the greatest extent> possible <to be living> in great <expanses of> land neighboring one another <but> separated by means of great mountain chains. (I will be more explicit about this in a moment.) The third division is comprised of the Europeans. It is, <however>, not possible to divide Europe up according to political geography; for nature never made these boundaries and the River Don (*Tanais*) cannot possibly serve as the border <between> two human races or <between> two climatic regions, as if this were the same as <the border between> two counties. The Africans make <up> the fourth race, and the <indigenous peoples of America> [*Amerikaner*], that is to say, exactly as

noted in the foregoing, i.e., <these peoples> with the exclusion of the dwarfish arctic peoples [*Polarmenschen*], the last <race>. The division <used by> Errleben has been constructed with much criticism and makes use of <the work of> his predecessors, and it agrees in many respects with <the division> that Kant has recently given.¹²³ <Kant's division>, briefly stated, is as follows. <He>, like Linnaeus and Blumenbach, [113] <identifies> four primary races. <These four> comprise all of the collateral kinds [*Nebenarten*] of the human lineage [*menschlichen Geschlechtes*]. First <comes> the northern European, noble blond from humid cold. Second <is> the American, copper red from dry cold. The Kalmuck is supposed to be derivable from the American; the Kalmuck form [*Gestalt*] is to be found in the <regions> furthest north, as I already explained. Third comes the Negro, from humid heat; and, fourth, finally, the olive-yellow <Asian->Indian on the other side of the Ganges. The remaining differences <among humans> originate then through these four races. So, for example, the Tonginese and Chinese arise by means of the Tatars and <Asian->Indians. I have already introduced <well->founded doubts against the descent of the Tatars from <indigenous> Americans living in the Arctic, and <if this is so>, it is certain <that> the descent of Huns from <indigenous> Americans did not take place. Consequently, a fifth race is always needed to aid <this division>. Further, we would still very <much> have the question of whether all <the indigenous peoples of America> [*amerikanische Nationen*] can be derived from one lineal stem. The Peruvians have a totally different form [*Form*] than the Galibis, and yet <these two peoples> live not far from one another. And as far as North America is concerned, we also find extraordinary differences there. I have previously already brought forth some exceptions, and I can <now> introduce yet another exception that was first discovered only recently. In 1774 a Spanish frigate found a people [*Nation*] on the west coast of North America <in the region> above California at 55° 44' N that was white and blond.¹²⁴ This noteworthy fact will give rise anew to the <construction> of differing systems; for who would want to touch on something [114] <that no one else has profited from> without writing a book about it? Perhaps this people, in the event that it really does exist, is <along> with the Akansas from one race.

If we look over all of these systems and at the same time [*dabey*] pay attention simply to all of the differences in our lineage [*unsers Geschlecht*] introduced in this second section [*Abschnitt*], we find each one of them to be exceedingly dubious. I would think that to some extent the human races can be derived <without forcing> <the matter> in the following way. <Let us assume> with Pauw, Pallas,¹²⁵ and Bailly¹²⁶ that the most earliest human beings <lived in east Asia in the region more or less between 32–44° N, or indeed, possibly 50° N, and 95–125° E>. <Then, assuming this>, we can in <a> suitably natural <way> derive the <many> varieties that came after them <by taking

into account two additional factors that support this assumption>. <First>, it is certain—pursuant to barometric observations¹²⁷—that <this region> comprises one of the largest inhabitable elevated places of our earth on account of the two great rivers of Asia that flow outward from it. <Second>, the greatest mountain chains emanate from this great elevated region [*Büchel*] of the earth. <We might then assume that> because of the increasing number of people [*Volksmenge*] <living in this region> they needed to look around for <even> more expansive lands, and <eventually> [*nun*] a few families descended from their elevated fatherland into different regions of the world. Some of them <subsequently> ascended into <the high plains> [*Fläche*] beyond the Urals to occupy <the region> lying between them and the Caucasus, or in the event that this region was still flooded, they moved higher up and in time eventually <reached> Europe. By that time, a second <group> on the northern side of the ancient Asian mountains had not only given the northern peoples [*Nationen*] of Siberia their fathers, [115] they had also produced the present Kuriles and <some> of the peoples living in the northernmost regions of North America [*Nordamerikaner*] (for perhaps at that time there was no Russian archipelago and America was connected to Siberia).¹²⁸ The third primary group to migrate [*Hauptzug*] descended southward from this elevated region <and> populated Arabia, India, and the islands belonging <to this region>. Perhaps there was at that time still no Red Sea, and Africa was connected to Asia by means of a great expanse of flat land. Africa could <then> have been easily populated. The human beings <inhabiting this region> gradually took after the climate [*artete dem Klima nach*] <and> became Negroes. This could certainly also have happened <with people moving> outward from Europe. Finally, a southeastern colony produced the Chinese, the Koreans, and the other peoples <living in this region>. Since human beings were little by little transplanted into every climatic region, the influence of the climate soon turned them into Georgians or here into Negroes and there into the Eskimo. This thought [*Einfall*], for I do not present it as anything more than this, seems natural to me for three reasons: <first>, because it was previously clearly shown what influence changes in the climate or diet can have upon human beings; second, because no other single great elevated region of the earth so easily explains the origination of the differing peoples [*Nationen*]; and, finally, <because> there exists truly historical certainty for the great antiquity of the human <inhabitants> of this part of Asia.¹²⁹

If, on the other hand, we were to assume that the fatherland of the first human lineal stem [*Menschenstammes*] <is to be found> in a large expanse of elevated land [*großen Buckel*] in Africa we would encounter far greater difficulties. First of all, we still <have>, so far as I know, no decisive observations <concerning> where this elevated region might actually lie in Africa. Further, no similar evidence is to be found for <the view that> the most ancient place of human habitation <was in Africa>, as <we have> for Asia. Finally, [116]

the investigations [*Wissenschaften*] that have originated from Asia are also opposed <to this view>. The doubt based on physical grounds would, however, <also> be <threefold>. First, the Negro requires a much longer period of time to become white [*bleichen*] than the white <needs> to become black. <Second>, Negro children are born white, and the signs of their future color are to be seen only somewhat on the navel and the genitalia. Finally, whites are also proportionately more intelligent [*klüger*] and more active [*thätiger*] than blacks. This is a consequence of the climate, but it certainly also demonstrates [*ein Beweis ist*] that we are not permitted to compare whites with the albino or diseased Negro. For as soon as we might think the European to be somewhat similar to the white Negro, not only is the inability of the albino Negro to reproduce an objection to this, but <it is> principally their great weakness. It is quite [*wohl*] true that the noble blond human being [*hochblond Mensch*] with red hair seems to be a little weaker than the less white. However, in the event that we wish to make the comparison, the fair-skinned Europeans surpass <in a> totally extraordinary <way> their lineal stem in efficiency [*Wirksamkeit*], intelligence, and at times bodily strength.

If, therefore, the previously designated region of Asia did constitute the place where the earliest people resided [*den Siz der ältesten Nation*], this people [*Nation*] must indisputably have been white or perhaps brownish-complexioned. They gave birth to the human races that appeared later, as was noted above, and the remaining peoples [*Nationen*] arose in consequence of the interbreeding of these races that took place elsewhere, or could at least have arisen <from such interbreeding>. Frequently, unknown local causes have indisputably promoted more expeditious changes in a lineal stem, and it might all the same be possible that <these causes>, especially diet, as Schreder believes, could greatly accelerate or prevent whites from becoming black. As for the rest, I leave it to the writers of history with a philosophical bent to investigate this material further. [117] A <person with a> limited mind will perhaps find it easy and natural <to construct> a system because they do not possess enough knowledge and penetrating intellect enough to look over [*übersehen*] all of the difficulties that could come to the fore <in a project such as this>. <But it is> enough that I have stated some of the reasons by means of which we can not only derive all of the deviate forms of humankind [*unsers Geschlechts*] from one lineal stem, but rather also, at the same time, make it possible to indicate the possible dispersion of human beings from a single part of the earth.

THIRD DIVISION

I conclude this investigation of human beings with a couple of questions that it seems important to me to answer because they have been raised by timid individuals [*gescheuten Menschen*]. Was the first human being two or four-

footed? Was he an orangutan? Monboddo¹³⁰ and Rousseau¹³¹ attach the value [*würdigen*] of being a human being down to the orangutan, and Moscati has called on his entire anatomy for help in permitting us to walk on four feet. Since Buffon, Pauw, and Blumenbach have in part exhausted <the discussion of> this material, I will briefly present their investigations here together with a few additions. The history of the orangutan belongs to this discussion only in so far as I have noted the difference between <the orangutan> and human beings.¹³² I take <my account of> the most important differences of the build <of the orangutan> [118] compared to ours from the famous anatomy edited by Tyson¹³³ (because Camper's <anatomy>, so far as I know, has not yet been made known) and from the description of Buffon and Daubeton.¹³⁴ Daubeton says that the orangutan [119] distinguishes itself not little from human beings in the articulation of the head with the neck and in the direction of the flat <surface> of the large cavity on the back of the head. This cavity and the surrounding nodes stand more to the back in the orangutan, which means nearer to the back of the head. This difference between the jocko (or small orangutan) and human beings is the reason why humans would not, by far, so easily point their faces forward as the orangutan, provided that they place their hands on the ground in order to appear <to be> four-footed. <This difference also explains why> the jocko, when it wants to point its face forward, finds it necessary to incline the head when it stands upright, like a human being. I have added this passage from Daubenton on purpose here not only because it contains a real difference between human beings and the orangutan, but instead for the reason that, in the event that anyone, like Moscati, did not also want to take the forward placement of the large cavity as a valid proof that we walk upright, <they might> nevertheless <take> the <fact that> this cavity lies more to the back <in the orangutan> to be an even more important proof that the orangutan frequently <moves about> on four feet and that it distinguishes itself from us very much at least in consequence of this. A second difference is, in addition, to be found in the cranial bones of the orangutan. The orangutan has, namely, like the other apes, a special bone, a wedge-shaped insertion that contains the incisors of the jaw bone, while, on the other hand, this part is composed of no special bones in human beings. Blumenbach has learned in detail from the famous Dutch anatomist Camper that the <anatomy of> the orangutan is in this regard in keeping with that of the rest of the apes. We can see this bone most clearly in the illustration that Blumenbach has given of the head of a <tufted> baboon (*Simia mormon*).¹³⁵ Schreber's illustration of the head of an ape also shows <this bone>,¹³⁶ <as does> already <the illustration> that Eustachi has made from it.¹³⁷ [120] The third difference <between humans and the orangutan>, which seems to me to be the most important, is the number of ribs, as human beings have only twelve ribs on each side and the orangutan has thirteen.

Thus, this animal has two ribs more than we have. To Pauw, this fact [*Umstand*] does not seem very important, because we have occasionally also found human cadavers with twenty-six ribs. These, however, are individual cases that do not prove anything, since [*da*] we are not talking here about <a> deviation [*Ausweichung*] of nature. If any one wanted to assume Tyson's dissected orangutan likewise <to be> such a deviation of its kind, <it can only be said that> this has not yet been proven, and even if it were, it would indeed certainly be curious that we would have straight away captured such a rare individual from among the orangutans, which are themselves already rare, as if the case were not almost too impossible. <Fourth>, the foot of the orangutan is also similar to the foot of apes in that <the orangutan> has a true thumb instead of a large toe [*Zähe*], and they therewith have a longer foot <with> distinct, longer toes than human beings have. These toes themselves cannot, however, possibly in consequence of the <constant> climbing, <become so very long>, since the bones of the toes even in the young orangutans already have a longer measure than <we find in> human beings. I admit, as Pauw says, there may well be a few human races that have a large toe that stands out farther from the remaining <toes> than <is the case> with us. I, however, at the least, am not familiar with any whose feet are so close to the illustration of the hands as <is the case> with the orangutan. For although the foot <of the orangutan> is not exactly so very much like a hand, as <is the case> with the rest of the apes, <the point> just cited shows nevertheless a more obvious flexibility for climbing than <we find> in human beings. Finally, the arms are also proportionately much longer in these apes than in human beings. These four considerable differences show clearly, however, the correctness of Blumenbach's observation, namely, that the orangutan does not constantly move about on two feet in a natural setting; for even if [121] he is much more skilled at doing this than any other ape, the previously noted differences are nevertheless clear proof that he has not yet attained the ability [*Fähigkeit*] that human beings have to <move about> in an upright <position>. And this will subsequently be able to help us respond again to Moscati's objections. I intentionally pass over the many small differences between the orangutan and human beings noted by Tyson, because it is certain that we might well find just as many <differences> <were we to examine> individuals from human races that stand far apart from one another. From <among> the rest of the distinguishing features by means of which human beings undeniably distinguish themselves from the orangutan, language is easily one of the most prominent. It is in fact strange that the orangutan, which has all of the organs that serve speech, does not talk. But, as Pauw admirably notes,¹³⁸ were the orangutan to speak, he would cease to be <something> less than a human being; he would fully be a human being. Buffon is <similarly> amazed that <the orangutan>, which has a brain so similar to the human brain, does not

think at all. <I have>, however, <three questions in response to Buffon>. First, can we indeed not truly know if <the orangutan> does not think at all? Second, is the difference indicated by a greater or lesser mental power perhaps not perceptible to the <student of nature who measures such things only> anatomically? Third, <can we be> certain <that> the reason of an Australian aborigine [*Neuholländers*] and <that of> Newton stand further apart from one another than the mental powers of the orangutan and the Australian aborigine? No one has assigned <to the orangutan> its proper place better than Pauw. For why, since nature does not allow gaps anywhere, should this half human being not stand between the apes and humans, and why, as Buffon says,¹³⁹ should <there not> be, <for the sake of> pleasing our self-love, an immeasurably greater distance between the orangutan and human beings (since Buffon himself certainly <also> admits that the behavior of this creature comes so close to that of humans)? [122] We do, however, I admit [*freilich*], greatly surpass <the orangutan> in reason, for <the orangutan do not comprise a> people [*Nation*] <and> might be as wild as they wish to be without language. I say a people [*Nation*], for if we were to leave a single human being alone for a long time he would surely at long last lose entirely his language. The well-know <Alexander> Selkirk—who subsequently gave impetus to the Robinson Crusoe <story> (and after this to so much poorly-constructed Robinson stuff)—attests to this. This Scot remained completely alone for hardly three years on the island of Fernandez and had already forgotten his language to such an extent during this time that his liberators could no longer understand him.¹⁴⁰ This example alone might have been sufficient to convince Rousseau how invalid his sudden inspiration is that he denied humanity itself language in the natural, wild condition. There is, <however>, no such wild condition of human beings, and <such a condition> has never existed anywhere. For <Wild Peter, from near Hamelin, Germany> [*die hamelsche <J>unge*], <Memmie Le Blanc>, the <wild> girl from Songy, and other similar, neglected human beings, lived alone, and are, as Schreber correctly notes, not all suitable examples to teach us <anything about> the natural condition of humankind [*des Menschengeschlechts*]. They signify exactly so much as <what we would know> if we wanted to base physiology on <the study of> the most dangerously ill. Show me only a society of from ten or twelve human beings in any part of the world without language and I will then gladly concede that the orangutan or something still completely lower were our ancestors. We have, however, seen thirty and more orangutans together,¹⁴¹ and for the most part they now still live in this way. <In the case, then>, that they were sociable, they could have come together <to form> a social order [*Societät*], and yet no human being has ever observed anything at all resembling language among them. <Perhaps> they have <simply> neglected their vocal organs, as Rousseau believes. If this were so, <it would, however, be> just as remarkable [123] that

only they and not also the human beings who stand so near them have not also neglected <their vocal organs>. They <instead> clearly do not have the mental powers to be able to use <these organs>. <The same can be said of> apes, <who> will never use a stick as a lever, <although> the untaught child very frequently employs <sticks> <in this manner>. Indeed, <the untaught child> will set <him or herself> down farthest from the fulcrum in order to have a stronger effect without, to be sure, having any kind of accurate, theoretical conception of the cause of this phenomena.

Another advantage of human beings about which, so far as I know, no one has yet <paid> much attention, is their ability to disperse themselves widely, by which they so greatly surpass the orangutan as much as is only possible. For <the orangutan>, which is a creature so similar to <human beings>, as will be shown <in greater detail> in the third part, is restricted exclusively to the hot zone of the Old World. This prerogative of human beings is the basis for a very much better or more solidly built body. We have a striking example <of this> here <when>, with much circumspection, we must estimate the capacity of these two animal kinds, so similar to one another, to distribute themselves widely. If someone wanted to say that the number of orangutans might be too small to be able to spread itself about widely, <we might note> that this was, at least in earlier times, not the case. Besides, there are animals whose kind [*Art*] includes only few individuals, which, in spite of this, occupy large parts of the world. Some kinds of armadillos and anteaters are certainly just as limited in numbers as the family of orangutans and are to be found in widely different climates [*Klimaten*], yet <they have> a much more limited capacity for movement. Why does the orangutan, strong and lively in the hot zone <and> <well> equipped for climbing and running, not venture into more distant lands, which no doubt hold still exactly the same food supply that he needs as <does> his fatherland? <Could this be the result of a> feeling that he does not have the capacity to persist in another climate? And now, <as for> human beings, how easily [*ruhig*] <we> get around <all> over the entire earth! Nature has, therefore, certainly distinguished human beings very exactly from the orangutan. [124] <Nature> has placed <us> a rung higher <and> given <us> greater mental abilities that, <when> taken collectively, make <us> the occupant of the entire earth and the master of all animals.

There still remains the second question, namely, do human beings move about naturally [*von Natur*] on four feet, or, to express myself more clearly, is the build <of human beings> so constructed <that we might> more comfortably walk on four feet than on two? I justifiably follow here Blumenbach, who has worked <his way> through this material as a good anatomist and <with a> philosophical mind. I believe it necessary, nevertheless, to be somewhat more precise in the refutation of Moscati.

The head of human beings most comfortably rests and moves itself in the upright position of the body. If we were once to position a human being on four feet, then the head <would> obviously transfer its weight <in relation to> the earth, since he is now, at least with respect to the greatest part <of his body>, <better> supported. But since the little brain (*Cerebellum*) and, in general, the greatest measure of the brain, lies in the back of the head, and <since> the anterior part of the head, <such> as the nose and the interior of the mouth, are partly hollow, the back of the head obviously outweighs the anterior <part>, and it is incontestable that the present position of the large cavity is admirably structured for the support of the head, as it only could be. Further, if we pay attention to the organization [*Einrichtung*] of the upper part of the throat, <do we not see that> this <area> is not flat <and that it is> without extensions that touch one another, as in most animals, even most apes? <It is> also only necessary that <this area> would be exactly like this when the head rests perpendicularly upon it, and it is thereby supposed to be superiorly advantaged <for> all necessary movements. Eustachi, the most perspicacious anatomist of his time, justifiably admires this magnificent construction in which nature, as he says, has so admirably known <how best> to support the strongest bones by means of very weak <bones>. <Nature has in this way> procured sufficient security for the head without [125] failing to allow it every <imaginable> sort of movement <that it> might need <to make>.¹⁴² How, then, could it occur to Moscati to think that this position of the head is uncertain or not adequately supported?¹⁴³ Did human beings not have at one time the so-called hair growth [*Haarwuchs*], a white, strong sinewy [*tendinöses*] ligament by means of which the head of the animal is held up and pointed forward?> Linnaeus notes explicitly that this ligament, which he called <the> paxwax, is to be found neither in apes nor in humans.¹⁴⁴ If we were now also to concede to Moscati that this skin would gradually reproduce itself in the event that human beings were four-footed, it is, nevertheless, not to be found in the apes abandoned to themselves, who also frequently walk upright. This deficiency is, however, supplanted <by> the structure of the bones of the upper throat, which touch one another, but which are not to be found in human beings. Besides, the position of the eyes and ears <in human beings> is not arranged at all <in a manner suitable> for a four-footed animal. The axial points of the eyes in human beings stand nearly perpendicular to a vertical line drawn through the middle of the head. They make, however, in animals, except for the great apes, an acute angle, that is, the eyes of human beings would be turned more toward the earth, were they to stand on four feet, than <is the case> with animals. Nature has also given the animals up to the orangutan, which <in this> is again also in agreement with humans, a unique muscle (*Suspensorius oculi*), which is lacking in human beings, to hold

the eyeball in an elevated position. Will Moscati also allow <this muscle> to increase <in size>? Were we, consequently, to move about on <our> hands and feet, not only would the vision of human beings be more restricted than that of any other animal, but this would also be equally the case with <our> hearing. For the ears would likewise also <be positioned> [*stünden*] straight [126] to the earth. On the other hand, the backbone <of human beings> is <also> constructed better for walking on two legs than <is that> of any other animal. Do the vertebrae not increase in strength when they have more <weight> to carry? For this reason, the bones in the hip are <also> much stronger than all the rest <since> they carry the entire trunk [*Stamm*] of the body. This was unnecessary for a <creature that was> long horizontally. For precisely this reason, this proportion is not to be found in animals.

Blumenbach, with few words, has <already> admirably determined <how> the construction of the rest of the body is <well> furnished for moving about in an upright position.¹⁴⁵ He says that we might compare the oval, cylindrically-formed pelvis of animals next to their broad sitting bone and their hip bones, which stand apart from one another, with the broad hip bone (*ilia*) of human beings, which culminates in the contracted lower pelvic or sitting bones (*ischia*) <and>, further, <with> our short pelvic bone, which is wide at the top and converges close by <at the bottom>, whereby it becomes exactly so large that it allows sufficient space for the embryo—but thereby <also> hinders prolapse [*Vorfall*] in the mother. At the same time, we might pay attention in both to the construction of the muscles of the blood vessels and the fibula and then judge the kind of walking for which human beings and the animals have been equipped. <Further>, <an examination of> the longer and only gradually downward slanting neck of the thigh bone (*cervix oslis femoris*) in humans, which even in apes is merely short and comes into the diagonal (or almost horizontal) in the large socket (*acetabulum offis sichii*), also belongs <to this comparison>. Finally, the fibula, the very sturdy thigh bone, the entire assembly of the human foot, <and> the strong heel are <all> reliable testimonials of the upright movement <of human beings>.

We might, <however>, still add to <all this> convincing evidence that the apes do more frequently and more comfortably move about on two feet inasmuch as their build does come close to that of human beings. The baboons <move about in this way> more than the long-tailed apes, and the orangutan [127] <moves about in this way> most often and most comfortably. Indeed, <even in the case of> other animals where there exists only a distant similarity between their feet and the human foot, the animal <may> also raise itself up to move about more often and more skillfully on its hind legs. The bear, whose feet actually have some similarities with <the feet of>

human beings,¹⁴⁶ is a clear example of this. This animal also walks <in an> upright <position> with more comfort than most of the rest.

After these considerations, the rest of Moscati's objections must seem very forced. What sort of fanciful idea is it, for example, to imagine human beings—who now have well-built hands and feet—eminently capable of performing <all> functions <even> if they had the hooves of horses or misshapen limbs <simply> because deformed humans without fingers have been capable of sewing, writing, and working? We can train an elephant to walk a tight rope, but it was never created for this. <The fact> that human beings stand more firmly on four feet than on two is indisputable. Would we, however, prefer to place the nose or the eyes on the tip of the finger in order to smell or see at a greater distance and yet cause all the other advantages of their present position and security to come to an end [*aufgehen*]? It all depends on the sum total of the advantages and the entire arrangement <of the individual parts>. We must not judge any part or function individually alone; <for> in other respects it might also have been better that nature had placed yet a third eye on the back of the head. The diseases that Moscati blames on the upright <posture> would, however, also be prevalent with any other arrangement of the human body. It is, for example, certain, that lying down during the night, if it were to last continuously, on one side or on the back, would bring about great discomfort. Should human beings, for this reason, not <sleep> lying <down>? The strain on the muscles <that comes> with walking on two legs is real, [128] but if nature has now supplied us with the strong muscles needed for this, such as the muscles of the fibula, the thigh, and the back, then <she has> also certainly given us powers sufficient for a small repose to pursue this walking. The upright walking is supposed to be responsible <for the fact> that the embryo, which toward the end of the pregnancy lies with the head turned downward, has such an excessively big head <and> that human beings become ill more <frequently> than <any> other animal with diseases of the head, strokes, dizziness, and insanity. The embryo is obviously in a sitting position in the first stages of pregnancy. It <then> turns itself about gradually and only toward the fifth or fully the sixth month does the head stand totally straight below. However, in the first months the <individual> parts <of the embryo> are naturally the softest <and> the most capable of becoming distended. <This is also the time> when the head does not stand toward the bottom. Consequently, it must be the feet that are excessively distended <during this period> if the position is to have very much influence <on the development of the embryo>. Do we, then, find only the head of the <human> baby alone so very large? Is the <head> of a newborn dog not also excessive<ly> <large>? The bitch, however, surely carried the embryo horizontally, or at least not in the same way as the <human female>. <As for> diseases of the head, <they> are unfortunately prevalent

enough among us, but they have only become prevalent since <the time when we began to> live unnaturally. The old Germans, the Canadians, and <peoples who> live similarly, <that is>, <who> live simply, peoples [*Nationen*] who think only <very> little, had and have far fewer <cases of such diseases>. They defy the strongest horizontally lying bodies of animals with their endurance. <Humans> do die on account of age from strokes, but so do animals. As for insanity, Moscati has certainly not thought about <the fact> that every year unequally more dogs than human beings become mad. We kill the <dogs> but <only> confine the <humans>, <and> as a consequence, they become still madder, and therewith their number becomes more noticeable. [129] Melancholy, hypochondria, and the related forms of insanity that belong with these apparently increase, however, with much mental work, a sedentary lifestyle, and warmer drinks. For it is certain that the sum total of mad or confused people [*Leute*] a thousand years ago is surpassed considerably by the current <number>. But we doubtlessly walked exactly so well on two feet a thousand years ago as <we do> now. Were we, however, to move about now with our excessive mental work on all four <feet>, Moscati himself must certainly admit that the moving force [*Trieb*] of the blood would then be unequally stronger than <it is> in the perpendicular position. And this would be the response to the most important objections against the upright walking of human beings.

Determination of the Concept of a Human Race (1785)

IMMANUEL KANT

Kant's 1785 article, "Determination of the Concept of a Human Race" (*Bestimmung des Begriffs einer Menschenrace*), first appeared in the *Berlinische Monatsschrift*, a leading liberal journal of the German Enlightenment (*Aufklärung*) published between 1783 and 1811. This is also the journal that must have been particularly favorable to the dissemination of the leading ideas of the critical philosophy, for Kant published no fewer than sixteen articles in this prestigious Berlin periodical between 1784 and 1797, including many of his most important article-length contributions from the 1780s. For example, in the years prior to and following the publication of this article, there appeared in the same journal no fewer than four of Kant's most well-known articles—including, in 1784, "Idea for a World History from a Cosmopolitan Point of View" and "An Answer to the Question: What is Enlightenment?" and, in 1786, "Conjectural Beginning of Human History" and "What Does it Mean to Orient Oneself in Thinking?" But, as noted, Kant also chose this journal for significant article-length contributions to the further development of the critical philosophy in the 1790s—such as, in 1791, "On the Miscarriage of all Philosophical Trials in Theodicy," in 1792, "Concerning Radical Evil in Human Nature" (republished as the first part of *Religion within the Limits of Reason Alone* the following year), in 1793, "On the Proverb: That May be True in Theory But is of No Practical Use," and, in 1794, "The End of All Things."

Among all of these articles, this one, from 1785, is clearly the least well known and most difficult to approach. The difficulty, however, stems not simply from the text itself, but from the fact that it was published during a period of significant creativity in Kant's life during which he produced a

number of other works that are usually—for good reason—considered of far greater importance, including not only the four articles published in the same journal in the previous and following year already cited, but also, in 1783, the *Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as a Science*, in 1785, the *Groundwork for the Metaphysics of Morals* and reviews of the first two parts of Herder's *Ideen zur Philosophie der Geschichte der Menschheit* (Reflections on the philosophy of the history of humankind), as well as, in 1786, the *Metaphysical Foundations of Natural Science*. The need to focus on these few publications alone from the years 1783 to 1786 could then easily explain why no more attention has typically been given to this article than to the two other little-known contributions by Kant that also appeared in the *Berlinische Monatsschrift* in 1785, “Concerning Volcanoes on the Moon” and “On the Wrongfulness of the Unauthorized Publication of Books.” Moreover, the following four years, 1787 through 1790, were each marked by the publication (or completion) of works of comparable or arguably even greater significance than the 1781 first edition of the first critique—namely, in 1787, the second edition of the *Critique of Pure Reason*; in 1788, the second critique, the *Critique of Practical Reason*; in 1789, the *First Introduction to the Critique of the Power of Judgment* (first published, 1914); and, in 1790, the third critique itself, the *Critique of the Power of Judgment*.

For mainstream Kant scholars, it has, therefore, been easy either to overlook this article entirely or to dismiss Kant's interest in formulating a rigorous definition of the notion of race as a remnant of concerns from the “precritical” works of the 1760s and 1770s, such as the 1764 *Observations of the Feeling of the Beautiful and the Sublime*, in the final section of which (“Of the National Characteristics, so far as They Depend upon the Distinct Feeling of the Beautiful and the Sublime”) Kant is generally well-known to have expressed—citing agreement with the views of the Scottish philosopher David Hume (1711–1776) on the same topic—some rather unflattering comments about “the Negroes of Africa,” including a reference to Hume's claim (from a note added to the second, 1742 edition of his essay, “Of National Characters”) that “there never was a civilized nation of any other complexion than white, nor even any individual eminent either in action or speculation” (trans. Goldwaith [Berkeley: University of California Press, 1960], 110–11), as well as the 1775 course announcement and 1777 article translated above. The suggestion implicit in dismissing such concerns as “precritical” is of course that Kant, whose culminating work in political and moral philosophy, the 1797 *Metaphysics of Morals*, both includes harsh statements in condemnation of the colonial practices of the period but relatively few, if any, passages suggestive of earlier interests in the issue of race, must surely have purged himself entirely of any racial prejudices evident in texts from before 1781 and the mid-1780s.

A close reading of the text below makes clear, however, that the issue is not nearly so simple as the generally liberal Kant scholars of the past century and a half have tended to assume for several reasons. First, the division of human beings into four “fixed” races developed in the texts of the 1770s is retained in the 1785 *Berlinische Monatsschrift* article without any significant revision. Second, the core theoretical framework for this view developed in the previous decade—namely, “Buffon’s law” and “the germs-and-endowments theory”—is also retained in this text with only minor alterations to other elements, e.g., Kant further develops (see below, 139–40) his previous explanation for the black skin color of Negroes with greater reference to the then current phlogiston theory of the German chemist Georg Ernst Stahl (1660–1734). Third, the rigorous definition of race that Kant does provide in this text based upon this theoretical framework—namely, that the concept of race is “*the class distinction of animals of one and the same line of descent [Stammes] in so far as it is invariably heritable*” (see below, 136)—clearly presupposes that “skin color” is the only true marker of descent from one of the four original “fixed” races found within the human species (see below, e.g., 137). Finally, although the text does not contain any explicitly racist comments of the kind present in the 1764 and 1777 texts, Kant does attribute not only the skin color of the Negroes but also their “strong smell . . . which cannot be avoided by means of any <degree of> cleanliness” to the “*purposive suitability [Zweckmäßigkeit]*” to be found in nature as an “organized system [*Organisation*]” (see below, 139). The “white race” itself, however, he concludes, in distancing himself further from the view presented in the 1775 text that “the <race> of *whites*” surely has “the greatest similarity” to that “*first human lineal stem stock*” (see above, 54)—which he had already begun to back away from in introducing the summary chart of the human races provided at the end of the third section of the 1777 text—is described here as “only the development of one of the original endowments that was to be found next to the others in <that first lineal stem stock>” (see below, 141).

Kant’s interest in the concept of race as a significant element in his lifelong interest in the developing field of natural history, as understood during the second half of the eighteenth century, can thus hardly be questioned. Debate within the scholarly community over the significance of this interest during the period in which the viewpoint of the critical philosophy is beginning to emerge fully—that is, from around 1785, the year in which Kant published both the reviews of Herder’s *Ideen* and the *Groundwork* as well as the article translated below through the publication of the final critique, the *Critique of the Power of Judgment*, in 1790—continues, however, with some scholars suggesting that this continued interest is indicative of a racist agenda at the very “core” of the critical philosophy and others claiming that while significant, such interests are either hardly central to the development of the

critical philosophy or that they were ultimately either purged entirely or are at least “trumped” by the continued development of Kant’s moral and political philosophy in the 1790s, (For more detailed discussion of this controversy, see the Translator’s Introduction, especially the first section, “Recent Work on Kant’s Race Theory,” above, 3–18.)

The numbers included in simple brackets below, e.g., [92], indicate the pagination of the text as reproduced in the Akademie edition of Kant’s works (AA 8:91–106); the numbers in parenthesis, e.g., (340), indicate the pagination in the text as reproduced in Immanuel Kant, *Schriften zur Ästhetik und Naturphilosophie, Werke*, vol. 3, ed. Martin Frank and Véronique Zanetti (Frankfurt am Main: Deutscher Klassiker Verlag, vol. 135, 1996), the edition of the text that was consulted most frequently in the preparation of this translation; and the numbers in angle brackets, e.g., <391>, indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 3, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001), and is also available online by searching the website, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, at www.ub.uni-bielefeld.de/diglib/aufklaerung/.

* * *

The reports [*Kenntnisse*] that recent travelers are spreading about the manifold diversities [*Manigfaltigkeiten*] within the human species have previously contributed more to stimulating the understanding to investigate this topic than to satisfy it. It matters very much to have determined well beforehand the concept we wish to illuminate through observation before we for its sake turn to experience; for we find in experience what we need only when we know beforehand <what it is> that we should be looking for. There is <presently> much talk about the different *human races*. Some understand this <to mean> <that there are> entirely different *kinds* [*Arten*] of human beings. Others, however, certainly limit themselves to a narrower meaning, but they seem not to find this distinction any more important than that which humans make among themselves by painting their faces or <through> dress. My intent at this time is only to define [*bestimmen*] precisely this concept of a *race*, if there is within the human species <something> of which <this is a concept>. To explain the origin of the races that are truly extant that we believe to be qualified for this designation is only a secondary project, of which a person can think <391> whatever he will. And yet I see that men, who in other respects are sharp-witted, in judging those things which were said a few years ago solely with the intent <of defining this concept>¹ focused their

attention on this secondary project, namely, the hypothetical application of the principle; but they touched only lightly on the principle itself, upon which surely everything depends. <This is> a fate which befalls many investigations that return to principles. For this reason, <this fate> advises everyone against <engaging in> controversies and exculpations <involving> theoretical (340) matters [*spekulativen Dingen*], but on the other hand, <it> can extol the closer determination and clarification of misunderstandings as alone commendable.

1.

Only that in an animal species which passes on [*anerbt*]
can justify a class distinction in <that species>.

The Moor (Mauritanier), who in his fatherland is baked brown by the air and sun, differs very much by dint of skin color from the German or Swede [92] <392> <as well as from> the French or English Creole in the West Indies, who looks pale and exhausted like <he had> only hardly recovered anew from an illness. <But neither the Moor nor the Creole> is because of this to be counted even a little to a different class of the human species than is the Spanish peasant from La Mancha, who walks around dressed black as a schoolmaster because the sheep of his province generally have black hair. For when the Moor has grown up indoors, and the Creole, in Europe, neither of them <can> be distinguished from the inhabitants of our part of the world.

The missionary *Demagnet* behaves like a person with <privileged> standing, as if he alone—because he has spent some time in *Senegambia*—could properly judge the blackness of Negroes, and disputes every judgment <in these matters> of his countrymen, the French. I contend, however, that <anyone> in France—in so far as he wishes to determine, according to <skin> color, the class difference <for Negroes> compared to other human beings—could far better correctly judge the color of Negroes who have lived there for a long time, or even better, those who were born there, than <would be possible> in the fatherland of the blacks. For that <coloration> which the sun impressed into the skin of the Negro living in Africa, which is, therefore, only accidental to him, must fall away <when he lives> in France, leaving only the blackness that was a part of him at birth, <393> which he further propagates, and which, for this reason, can alone be used for a class distinction. We can still not form a reliable notion of the primary (341) color of the South Sea Islander on the basis of all the descriptions <we have been provided> up to now. For if the color of mahogany wood is to be attributed directly to some of them, <I would need to know>—but certainly do not know—how much of this brown might be mere coloration attributed to the effects of the sun

and wind and how much to birth. A child <born> of a couple <from the South Sea Islands living> in Europe would alone reveal, without ambiguity, the peculiar skin color <they have> *from nature*. From a passage in the travels of *Carteret* (who on his sea expeditions admittedly set foot on little land, but who, nevertheless, observed a variety of islanders in their canoes), I conclude that the inhabitants of most <of these> islands must be white. For he first saw, as he says, the *true yellow* of the <Asian->Indian skin color on *Freewill Island* (in the vicinity of the islands counted to be part of Indian waters). We will, accordingly, not be able to determine decisively for a long time if the formation [*Bildung*] of the heads on *Malikolo* is to be attributed to nature or to artifice [*Künstelei*], to what extent the *natural* skin color of the Kaffirs differs from that of Negroes, or of many other characteristic properties, if they are hereditary [93] and from nature itself in birth or if <they are> only impressed <upon them> accidentally. <394>

2.

We can assume four class differences in human beings
with respect to skin color.

We know with certainty no more heritable differences of skin color than these: the *whites*, the *yellow* <Asian->Indians, the *Negroes*, and the *copper-colored red* Americans. It is noteworthy that this character [*Charaktere*] seems to be especially suited for the division of human beings into classes, *first of all*, because each of these classes is rather isolated with respect to their places of residence (i.e., separated from the rest <of the classes>, but in themselves united). The class of *whites* <inhabit the region> from Cape Finistere across North Cape, the Ob River, Lesser Bokhara, (342) Persia, Arabia Felix (Yemen), Abyssinia, <and> the northern border of the Sahara Desert to the White Foothills in Africa, or the mouth of the Senegal. <The class of> *blacks* <inhabit the region> from <the mouth of the Senegal> to Cape Negro and, with exclusion of the Kaffirs, back to Abyssinia. <The class of> *yellows* <inhabit> Hindustan proper to Cape Comorin (a half breed of them <inhabit> the other half of the Indian peninsula and several islands lying nearby). <Finally>, the *copper-reds* <live> in a totally separated part of the world, namely, America. <Consequently>, although a difference of colors might appear very insignificant to many, the *second* reason why this character, <namely, skin color>, is especially suited for the division into classes <395> is that discharge through perspiration must be the most important part of the precaution [*Vorsorge*] of nature in so far as the creature—displaced into a variety of differing climatic and geographic regions where it is very differently

affected by air and sun—should preserve the nature [*Art*] that is least in need of artifice [*Kunst*] in each individual, and the skin, viewed as the organ of this discharge, bears the trace of this difference of natural character, which justifies the division of the human species into observably different classes. — I ask, by the way, that the sometimes disputed *heritable* difference of skin color be conceded until the occasion is found to confirm this in the following. <I also> ask to be permitted to assume that there are no more heritable, people<-distinguishing> characters [*Volkscharaktere*] with [94] respect to this natural livery than the four named, because there is evidence for this number but none save it can be demonstrated with certainty. (343)

3.

No other characteristic property [*charackteristische Eigenschaft*] is necessarily *heritable* in the class of whites except that which belongs to the human species in general; and <this is> also the case in the other <classes>.

Among those of us who are whites, there are many heritable qualities by which families and even entire peoples distinguish themselves from one another that do not belong to the character [*Charaktere*] of the species, <396> but none of these are also passed on *invariably* [unausbleiblich]. Instead, those who are affected with <such qualities> also produce—with others from the class of whites—children who lack this distinguishing quality. Thus, in Denmark the difference of fair [*blonde*] <skin> color is dominant, while in Spain (but even more so among the peoples in Asia who are counted among the whites) the brownish [*brunette*] skin color (with its result, the eye and hair color) is predominant. This <brown skin> color can even be passed on without exception in an isolated people (as with the Chinese, to whom blue eyes appear laughable), since no <one> <who is> fair-skinned is to be found <among them> who could bring <this> color into the generation. When, however, a brown<-skinned> man has a fair-skinned wife, he produces brown or even fair-skinned children, after which they turn out on one side or the other and like this but reversed [*und so auch umgekehrt*]. <There> lies in certain families heritable consumption, slanted growth [*Schiefwerden*], insanity, etc., but none of these innumerable, heritable maladies is *invariably* heritable. For although it might be immediately better to avoid carefully such unions by directing attention to the family stock in marriages, I have, nevertheless, observed many times myself that a healthy man with a consumptive wife produced a child <397> that resembles him in all facial features and is healthy as well and in addition, another <child> that looked like the mother and was, like

her, consumptive. In the same way, I find in the marriage of a sane man to a woman who comes from a family in which insanity is heritable, but who was herself sane, among numerous (344) sensible [*klugen*] children, only one insane child. There is *resemblance* [Nachartung] <in these cases>, but it is not inevitable [*unausbleiblich*] in that by which both parents are different. — We can with confidence lay down the same rule for the [95] rest of the classes. Negroes, <Asian->Indians, or Americans also have their personal, familial, or provincial differences; but none of them will, in interbreeding with those who are *from the same class*, bring and reproduce their respective peculiarities *invariably* into the generation.

4.

In the interbreeding of each of the four classes named with one another, the character of one is passed on *invariably* to the other.

The white man with a Negro woman, and vice versa, gives rise to the *mulattoes*. <The white man> with the <Asian->Indian woman gives rise to the *yellow*, and with the American woman, the *red* mestizoes. The American man with the Negro woman, and vice versa, give rise to the <398> *black Carib*. (No one has yet investigated the interbreeding of <Asian->Indians with Negroes.) The character of the class is passed on *invariably* in heterogeneous interbreeding, and there exist absolutely no exceptions to this. Those who say they have found exceptions base their claims on a misunderstanding, as they have taken an *albino* or *kakerlak* (both monstrosities <of nature>) for whites. This transmission is, then, every time two-sided and never simply one-sided in one and the same child. The white father imprints <the child> with the character of his class, and the black mother that of hers. Consequently, an intermediate breed, or bastard, must arise every time <in unions such as these>, <but this> hybrid type gradually dies out in more or fewer members [*Gliedern*] of the generation within one and the same class. When, however, <these hybrid types> restrict themselves only to those who are like them, they will without exception further reproduce and perpetuate themselves. (345)

5.

Reflection on the law of necessary half-breed generation.

Since there are so many heritable characters in the human species, some of which are important and even hereditary for families, it is ever a very

noteworthy phenomenon that no single one of them within a class of human beings characterized by means of simple skin color <399> passes on [*anerbt*] necessarily, but this last character, <skin color>—even though it might seem insignificant—passes on [*anartet*] universally and invariably both within the class as well as in the interbreeding of one class [96] with the remaining three. Perhaps we can make some conjectures from this curious phenomenon about the causes of the transmission [*Anartens*] of such properties that do not belong essentially to the species simply from the fact [*Umstände*] that they are invariable.

First: to decide a priori what contributes thereto, that in general something might be capable of being passed on that does not belong to the essence [*Wesen*] of the species, is a hazardous undertaking. <For when> the sources of knowledge are <so hidden> in darkness, the freedom of the hypotheses is so unlimited that it is only to the belittlement of all our trouble and toil to concern ourselves with refutations, since every one will follow his <own> head in such cases. For my part, I look in such cases only to the specific *maxims of reason* from which each <of us> begins, according to which <we> usually also know <how> to get hold of the data [*Facta*] which supports them. After that, I look for the <maxims> that I have [*die meinige*] which make me skeptical toward all of these explanations even before I know <how> to make clear to myself the counterarguments. If I now deem my maxim reliable [*bewährt*] for the use of reason precisely suited for the scientific investigation of nature and alone useful for a logically consistent way of thinking, I follow <400> it without turning to those would-be facts [*Facta*] which borrow their credibility and sufficiency in support of the assumed hypothesis almost entirely from that maxim previously selected (346)—to which, moreover, we can oppose a hundred other opposing datum without difficulty. <Consider, then, some of the> explanations <that have been given for the transmission of heritable characters>. <Some have accounted for such> transmission through the operation of the power of imagination of pregnant women or indeed even that of mares in <their> stalls. <Others have explained> the plucking out of the beards of entire peoples as well as the shortening of the tails of English horses <by saying that> nature is compelled to let a product from her generations, which she organized from the very beginning, fall away by this later time. <Finally, some have said of> the flattened nose initially formed artificially by the parents of the newborn children <that the formation of such a nose> might have been taken up into the generative power in the succession from nature. These and other explanations would gain credibility only with great difficulty based on the data [*Facta*] that have been given in their defense (which we can counter with far better, proven <facts>) had they not received their recommendation from <that> otherwise totally correct maxim, <401> namely, better to venture everything in conjectures based on given

appearances than to adopt for their benefit special primary forces of nature or creative [*anerschaffene*] endowments (according to the maxim: *principia praeter necessitatem non sunt multiplicanda* [*<principles should not be multiplied beyond necessity>*]). For me, however, there is another, opposing maxim that [97] restrains *<the former maxim>* from saving superfluous principles, namely, that individual creatures in the whole of organic nature preserve in all changes the species [*Species*] of *<the creature>* unchanged (according to the scholastic formula: *quaelibet natura est conservatrix sui* [*<anything in nature is the preserver of itself>*]). Now it is clear that if a capacity were given to the magical power of the imagination or to the artistry [*Künstelei*] of human beings upon animal bodies to alter the generative power itself to redesign the primordial model of nature or to deform it through additions that were persistently preserved immediately afterwards in the following generations, we would no more know from which original nature might have emerged or how far from *<that original>* the modification could go and—because the human imagination recognizes no limits—to what monstrous shape the species [*Gattungen*] and kinds [*Arten*] might at length be permitted to run wild. In conformity with this consideration, I take it as a maxim to allow absolutely (347) no tampering influence of the power of imagination to count in the generative work [*Zeugungsgeschäft*] of nature and to bring into the generative power and make heritable—through external artifice—no capacity of human beings to effect modifications in the original of the species, or kinds. For if I allow only one case of this type *<of explanation>*, it is as if I were to accommodate only a single ghost-story or sorcery. The bounds of reason are then once breached and delusional ideas [*Wahn*] *<402>* by the thousands *<can>* push their way through this same opening. There is also no danger that I, with this decision, could deliberately make myself blind to real experiences or what is the same, become callously skeptical. For all similarly fantastic events [*Eräugnisse*] carry indiscriminately the distinguishing feature in themselves, *<namely>*, they permit absolutely *no experiment* but want instead to be substantiated only by fishing around for fortuitous observations. What is it, however, about this type *<of explanation>* if it is at once very easily capable of *<employing>* experiments but, nevertheless, does not sustain a single one or with all manner of pretext constantly avoids them? Nothing but folly and invention! These are my reasons for not acceding to a type of explanation, which fundamentally encourages the fanciful inclination for the magical art that—even *<if it involves only>* the smallest concealment—suits everyone. *<Specifically, I refuse to accede to any explanation which maintains that>* the transmission *<of heritable characters>*—even that which is only accidental, which is not always successful—could ever be the effect of a cause other than that which lies in the germs and endowments of the species itself. [98]

If, however, I wanted to grant *<existence to>* characters arising directly

from accidental impressions <that> nevertheless become heritable, it would surely be impossible, on this basis, to explain how these four differences in <skin> color, among all transmitting <characters>, are the *only ones* passed on *invariably*. What else can be the cause of this except that <these four skin colors> must have been placed in the germs <403> of the—to us unknown—original lineal stem stock of the human species and, what is more, that <they were placed in this original stock> as the sort of natural endowments that belonged necessarily to the preservation of the species, at least during the first (348) period of reproduction, and, for this reason, have appeared invariably in the following generations?

We are, therefore, compelled to assume that *different human lineal stem stocks* might once have existed that resided in approximately <the same regions> where we now find them in order that the species—carefully fitted by nature to the different parts of the world—might have preserved itself. Consequently, <these lineal stem stocks> were also differently organized, of which the fourfold skin color is the external sign [*Kennzeichen*]. <This sign> is now passed on necessarily not only in its place of residence by each line of descent, but is instead—provided the human species had already sufficiently strengthened itself—also preserved undiminished in every other part of the earth in all generations of precisely the same class (it might be that the full development <of the human species> could come into standing only by degrees or <that> the cleverness [*Kunst*] of nature was gradually able to provide assistance through the use of reason). For this character is necessarily attached to the generative power because it was required for the preservation of the kind. — If these <differing> lineal stocks were instead original, then it could not at all be explained and conceived why the character of their difference is now directly, invariably passed on in the reciprocal interbreeding <404> of the resulting lines among each other, as in fact really happens. For nature had originally given each line of descent its character with reference to—and for fitness with—its climate. Thus, the organization of one <of these lines> has an entirely different purpose than that of the other. <Further, if we were to assume> different original lineal stem stocks, we could not at all conceive <how> these characteristic differences, irrespective of the generative powers of two <stocks> even in this point, should fit together in such a way that an intermediary breed *could* not simply spring up, but *must* instead invariably ensue. Only then, when we assume that the endowments for every class difference must necessarily have been placed in the germs of a *single first lineal stem stock* in order that [99] <this original stock> might be useful for the gradual populating of the different parts of the world, (349) can it be understood why—if these endowments developed at times differently in conformity with <these different parts of the world>—different classes of human beings must have emerged that necessarily also had to bring their determined

character in the succession into the generation with every other class. <This is> because <the character> appertained to the possibility of their existence. Consequently, <it> also <appertained> to the possibility of the reproduction of the kind and was derived from the necessary first endowment in the lineal stem species. We are, therefore, compelled to conclude from such invariably <405> transmitting properties—<which are>, to be sure, <invariably transmitting> even in the interbreeding with other classes, yet half-breedish—that their derivation <is> from a unified lineal stem stock, because without this it would not be possible to understand the *necessity* of the transmission.

6.

Only that which is *invariably passed on* in the class differences of the human species can justify the designation of a separate human race.

Properties that belong essentially to the species itself, which are, therefore, common to all human beings as such, are no doubt invariably heritable. <These properties> are, however, not taken into consideration in the division of *races*, because no distinctive difference <among> human beings is to be found in them. Physical characters by means of which human beings (irrespective of gender) *distinguish* themselves from one another—but, to be sure, only those that are heritable—come into question (see § 3) in order to establish the division of the species into classes. These classes, however, are to be called races only when that character is passed on *invariably* (<both> within the same class as in interbreeding with every other). The concept of a race includes, therefore, <406> first, the concept of a common line of descent, <and> second, <the> *necessarily heritable* characters of the class distinction of the descendants of the <line> from one another. By means of the latter, certain grounds for the distinction will be established, (350) according to which we can divide the species into classes. <These classes> must, then, because of the first point, namely, the unity of the line of descent, in no way be named kinds [*Arten*], but instead only *races*. The class of whites is not distinct from blacks as a separate kind in the human [100] species. There are absolutely no *different kinds of human beings*. For if there were, the unity of the lineal stem stock from which human beings might have arisen would be denied. We have, <however>, no reason <for denying this unity>, which has been proven from the invariable, hereditary transmission of their classic [*klassischen*] characters, but rather a very important <reason> for <doing> the opposite.² <407>

Hence, the concept of a race is: the *class distinction of animals of one and the same line of descent* [Stammes] *in so far as it is invariably heritable*.

My primary intent [*Absicht*] in this article is only <to offer> this determination <of the concept>. The rest can be regarded as secondary, or as mere garnish, and accepted or rejected. I believe only the first <point> to be conclusive and, moreover, to be serviceable as a principle for the investigation of nature in <the field of> natural history because it is capable of experimental testing. <Such experimentation> can securely guide the application of the concept, without which it would be shaky and insecure. — When (351) differently formed human beings are placed in circumstances <where they can> interbreed and the generation is half breedish, there is already a strong supposition that they might well belong to different races. When, however, this product [*Produkt*] of their interbreeding is every time half breedish, this supposition becomes a certainty. If, on the other hand, even only a single generation does not present an intermediary breed, we can be certain that both parents belong to the same species, <408> however different they might also appear, but still to one and the same race.

I have assumed only four races of the human species. <I have not taken this view because> I am absolutely certain that there is nowhere a trace from still more, [101] but rather simply because <the case> for that which constitutes what I require for the character of a race, namely, the half-breed generation, has not been demonstrated sufficiently with any other class of human beings. Pallas, in this way, says in his description of the Mongolian peoples that the first generation of a Russian with a Mongolian woman (a Burjäten) will immediately yield beautiful children. He does not note, however, if any trace at all of the Kalmuckish origin of this child is to be found <in these offspring>. <It would certainly> be noteworthy if the blending of a Mongolian with a European should obliterate completely the characteristic features of the <Mongolian>, which are surely still to be found more or less recognizably in the blending of Mongolians with more southern peoples (presumably with <Asian->Indians) in the Chinese, <the>Burmese, <and the> Maylasians, etc. However, the peculiar feature of the Mongolians really concerns their build [*Gestalt*], not <their> color, which as the character of the race is the only <feature> that previous experience has taught to be an invariable transmission. We also cannot determine with certainty if the Kaffir form of the Papuans and those similar to them living on different islands <409> of the Pacific Ocean indicate a particular race, because we do not yet know the product from their interbreeding with whites. <They are, however>, sufficiently distinct from the Negroes in consequence of their bushy, though curly, beards. (352)

Comment

<The> present theory, which assumes certain original, entirely real, *laid out germs* [angelegte Keime] in the first and common human lineal stem stock

for the racial distinctions that exist at the present time, rests entirely on the *invariability* of <the> transmission <of these germs>, which, for the four races named, has been confirmed by every experience. Whoever thinks that this explanation requires the unnecessary multiplication of principles in natural history and believes that we can dispense with this sort of special natural endowment and account for the remaining so-called races as having arisen in the succeeding generations [*Folge*] from chance impressions caused by <the effects of> air and sun upon the later descendants by assuming that the first parental lineal stem stock was white, has still proven nothing if he says many other peculiar feature<s> might have also ultimately become heritable and constituted a physical character of the people merely as a consequence of <their> long residence in exactly the same region. He must introduce an example of the *invariability* of the transmissions of such features, which is, to be sure, not in <just> the same [102] <410> people, but rather in the interbreeding with every other (which deviate from it in this respect) so that the generation, without exceptions, comes out half breedish. He is, however, in no position to accomplish this. For there is no example that serves this purpose [*Behuf*] in any other character except the one of which we have spoken—and whose beginning precedes all history. If he would prefer rather to assume different *initial human lineal stem stocks* with the same hereditary characters, this would, *first*, be of little benefit for philosophy, which would then have to take recourse in several <acts of> creation and in doing this permanently forfeit the unity of the species. For animals, the diversity of which is so great that just as many different creations might have been necessary for their existence, could well belong to a *nominal species* (in order to classify them according to certain similarities) but never to a *real species*, which absolutely requires, at the least, the possibility of descent from a single pair. (353) Finding <a real species> is, however, strictly speaking, a job for natural history; the individual who <only> describes nature can be satisfied with <nominal species>. <A> *second* <difficulty that arises from assuming different initial human lineal stem stocks is that this makes> the curious agreement of the generative powers of two different species—which in respect to their origins are totally alien to one another but which can, nevertheless, fruitfully interbreed with one <411> another—completely gratuitous and to be accepted without any other explanation except that it pleases nature. If we, in order to prove the latter <view>, introduce animals in which, notwithstanding the variety in their first lineal stem stock, <fruitful interbreeding> nevertheless occurs, we would, in such cases, disavow this last assumption and rather conclude for that very same reason that a case of such fertile interbreeding has taken place by reason of the unity of the lines of descent, as in the interbreeding of foxes and dogs, etc. The *invariable transmission* of the peculiar features of the parents from both sides is, therefore, the only true

and at the same time sufficient test of the difference of the races to which they belong and a proof of the unity of the lineal stem stock from which they originated, namely, the original germs placed in this lineal stem stock which developed in the succession of generations—without which these heritable, manifold diversities would not have come into being and, in particular, could not have become *necessarily heritable*.

The *purposive suitability* [Zweckmäßige] in an organized system [Organisation] is surely the general reason on the basis of which we conclude <that there must have been> a suitable outfitting [gelegte Zurüstung] for this plan originally <existing> in the nature of a creature [103] and—if this end [Zweck] was to be achieved only later—<that there must be> creative germs, <too>. To be sure, this purposive suitability of peculiar features is at present proven in no race to be so clearly <412> feasible [möglich] as in the *Negro race*. The example that is taken only from this <race> also entitles us, however, to suppose, at least analogically, exactly the same <sort of purposive suitability> in the other <racess>. We now know, namely, that human blood becomes black simply by being overloaded with phlogiston (in the same way that a cake of blood is seen on the underside). The strong (354) smell of the Negroes, which cannot be avoided by means of any <degree of> cleanliness, is already a reason to suppose that their skin removes a great deal of *phlogiston* from the blood and that nature must have organized the skin in them in such a way that the blood can dephlogistisize itself by means of <the skin> in far greater measure than happens in us, <in whom such dephlogistization> is for the most part an activity of the lungs. However, the genuine [echten] Negroes also live in regions in which the air is so phlogistisized in consequence of thick woods and areas overgrown with swamps that, according to *Lind's* report, it is mortally dangerous for the English sailors to travel for even one day up the *Gambia River* in order to buy meat. It was, therefore, a very wise arrangement of Nature to organize their skin in such a way that the blood might be able to dephlogistisize itself by this means much more strongly than in us, since the blood, by means of the lungs, does not remove nearly enough phlogiston. <The blood> must, therefore, have transported a large amount of phlogiston into the ends of the arteries. <413> Consequently, at this spot, which is under the skin itself, <the blood must be> overloaded <with phlogiston> and shows through black even though it is red enough directly inside the body. Besides, the difference in the organization of the skin of the Negro from ours is already noticeable even from <its> feel. — As for the purposiveness [Zweckmäßigkeit] of the organization of the other races, we cannot, I admit, <make any inferences> based on color that have the same degree of probability. We are, however, not entirely without explanations of skin color that could support the previous supposition of purposiveness. If Abbot *Fontana* is correct when he claims (in

opposition to <the view of> the knight *Landriani*) that the fixed air [*Fixluft*] pushed out of the lungs with every exhalation is not precipitated out of the atmosphere but might instead come from the blood itself, there certainly could be a human race with blood <so> overloaded with this acidic air that the lungs alone could not remove it. The skin [104] receptacles would, therefore, also need to contribute <to this process> (though not in the air form, but bound instead with other transpired substances). Based on this (355) case, the aforementioned *acidic air* would give the iron particles in the blood the reddish rust color that distinguishes the skin of the Americans. The transmission of the skin quality can, accordingly, have received its necessity from <the fact> that the <414> present inhabitants of this part of the world <are> from the northeastern part of Asia and could, therefore, get to their present places of residence <by moving> along the coasts or perhaps only <by crossing> over the ice of the Arctic Ocean. The water of this ocean must, however, in its continual freezing also continuously give off an enormous amount of fixed air. <Consequently>, the atmosphere <of this region> presumably comes to be more overladen <with fixed air> than anywhere else. Accordingly, nature might in the organization of the skin have cared in advance for the removal <of the fixed air> (since <the atmosphere>, when inhaled, does not sufficiently remove the fixed air from the lungs). In fact, the skin of the original American has apparently been perceived to be far less sensitive, which could be a consequence of this organization that is also preserved—even in warmer climates—when it has once developed into a racial distinction. For the exercise of <the> work of <the skin>, however, there cannot be—even in this—a lack of material; for every means of nourishment contains in itself a large amount of fixed air, which is taken in by means of blood and can be eliminated in the aforementioned way. — The *volatile alkali* is yet another substance that nature must remove from the blood. <Nature> might likewise have laid out certain germs for the special organization of the skin for its separation in those descendants of the first lineal stem stock, who, in the first <415> period of human development, would find their residence in a dry and hot region of the earth, which made their blood especially capable of excessive production of this substance. The cold hands of the <Asian->Indians, <even> if they are at the same time covered with sweat, seem to confirm an organization different from ours. — For philosophy, there is surely little comfort in <the construction of an> artifice [*Erkünstelung*] from hypotheses. They are, nevertheless, perhaps useful to pay back an opponent—who, when he knows nothing clever to say in response to the main thesis, (356) is jubilant that the assumed principle can never even make the possibility of the phenomenon comprehensible—<for> *his* game of hypotheses with a like one, <which is> at least equally as plausible. [105]

Whatever system we wish to assume, however, this much is certain: The presently existing races could never die out if all interbreeding were prevented among them. The *gypsies* who we find among us, of whom it is established that their descent is from *India*, offer the clearest proof of this. We can trace their presence in Europe back for far more than three hundred years, and they have still not degenerated in the least from the form of their ancestors. The would-be *Portuguese* who have degenerated into Negroes <living> on the Gambia are the descendants of whites who <416> *bastardized* themselves with blacks. For where is it reported—and how is it even only probable—that the Portuguese who first came to <this region> might have brought just so many white wives <with them> who all lived long enough or <who> were replaced by other white women with the view of establishing a pure descent of whites in a foreign part of the world? <We have>, however, better reports of what happened during the reign of King *Johann II* from 1481 to 1495. Since all of the colonists he sent off to *St. Thomas* died out, he populated this island with pure, christened Jewish children (of Portuguese-Christian confession) from whom, so far as we know, the whites presently <living there> are descended. The Negro-Creoles in North American <and> the Dutch on Java remain true to their race. The cosmetic coloration [*Schminke*] that the sun places on their skin, which is removed by a cooler climate, must, however, not be confused with the proper color of the race; for the former is surely never passed on. Thus, the germs that must have been placed originally in the lineal stem stock of the human species for the production of the races must have already developed in the earliest time, according to the requirements of the climate when <they> stayed for a long <period of> time in one place. Thereafter, <when> one of these endowments was developed in a people, it obliterated (357) entirely all of the others. For this reason, we also cannot assume that a mixture of different races advancing in <a> certain proportion <417> could now still construct anew the form of the human line of descent. For otherwise, the hybrids produced from this unequal pairing might again—in their generations with their transplantation into different climates (as once <happened to> the first stock)—decompose into their original color. There is, <however>, no previous experience <to warrant> this supposition. <This is> because all of these bastard productions preserve themselves as persistently in their own further reproduction as the races from whose [106] mixing they originated. Consequently, it is, for this reason, now impossible to guess what the form of the first human lineal stem stock might have been (according to the quality of the skin). The character of the whites itself is only the development of one of the original endowments that was to be found next to the others in <that first lineal stem stock>. [107]

Something More About the Human Races (1786)

GEORG FORSTER

Johann Georg Adam Forster (1754–1794), among all of the authors included in this volume, surely enjoyed the greatest fame during his own lifetime—likely surpassing even that of Kant. Born near Danzig in the Polish province of Royal Prussia, this fame resulted from the fact that at an early age he accompanied his father, Johann Reinhold Forster (1729–1798), a prominent German naturalist in his own right, on Captain James Cook’s second voyage to the Pacific (1772–1775). Then, after conflicts with the voyage’s patron, the Earl of Sandwich, and Captain Cook over the text of what was to be the “official” report of the journey, which the elder Forster had already begun writing, the younger Forster took up the task of writing an unofficial account based loosely upon his father’s journals. The result, published first in an English version, *A Voyage Round the World in His Britannic Majesty’s Sloop, Resolution, Commanded by Capt. James Cook, during the Years 1772, 3, 4 and 5*, 2 vols. (London, 1777), appeared a year later in a German edition prepared by the younger Forster himself (*Reise um die Welt während den Jahren 1772 bis 1775 in dem durch den Capitain Cook geführten Schiffe the Resolution unternommen*, 2 vols. [Berlin, 1778]). An immediate success, the work established Forster’s reputation in scientific circles as a naturalist and ethnographer and as an exemplary figure in the popular genre of travel literature that flourished throughout Europe in the late eighteenth century. The work is indeed still widely read today and can be easily obtained in many different editions both in German and English, including a recently published scholarly edition, *A Voyage Round the World*, 2 vols., ed. Nicholas Thomas and Oliver Berghoff (Honolulu: University of Hawaii Press, 2000).

After Forster's return to continental Europe in the late 1780s, he held a number of different academic positions, including that of professor of natural history both at the Collegium Carolinum in Kassel (1779–1784) and at the Schola Princeps Magni Ducatus Lithuanic (University of Vilnius) in the Polish-Lithuanian Commonwealth (1784–1787), where he lived at the time of his submission of the article that follows to the prestigious *Teutscher Merkur*. Throughout this period, Forster engaged in correspondence with leading figures of the German Enlightenment—including Gotthold Ephraim Lessing (1729–1781), Johann Gottfried Herder (1744–1803), Christoph Martin Wieland (1733–1813), Johann Wolfgang Goethe (1749–1832), Georg Christoph Lichtenberg (1742–1799), and Samuel Thomas Sömmerring (1755–1830). Together with Lichtenberg, he founded and published the *Göttingisches Magazin der Wissenschaften und Literatur* (1780–1785). Sömmerring, his closest friend, was also a leading anatomist of the period, whose first important monograph, *Über die körperliche Verschiedenheit des Mohren vom Europäer* (Mainz, 1784; republished the following year with the slightly altered title, *Über die körperliche Verschiedenheit des Negers vom Europäer* [On the bodily differences between Negroes and Europeans] [Frankfurt und Mainz, 1785]), was widely regarded as authoritative. This work, dedicated to Forster, even includes a quotation on the title page from E. A. W. Zimmermann's 1778–1783 *Geographical History of Human Beings and the Universally Dispersed Quadrupeds* (see above, 73–123). Forster is also widely credited with having inspired a leading figure of the next generation of German naturalists, Alexander Humboldt (1769–1859), who had “accompanied [him] on a hiking trip down the Rhine to the Netherlands and from there by ship to England” after the two had met in Göttingen in 1789. This, then, as further described in a recent, brief account of the friendship, was the event that inspired Humboldt “to the study of the phenomena of nature in relation to each other and their environment” (Ramesh Dutta Dikshit, *Geographical Thought: A Contextual History of Ideas*, 6th ed. [New Delhi, India: PHI Learning Pvt. Ltd., 2006], 43).

Forster's seemingly secure place in the German cultural history of his own lifetime was, however, compromised by events of the 1790s. Frustrated by the lack of support by Polish officials to realize his dream of turning Vilnius into a center for research in the then broadly defined field of natural history, Forster accepted a position as University Librarian in Mainz in 1788. Then, on 21 October 1792, the French revolutionary army gained control of the city, and Forster, two days later, joined others in establishing a Jacobin Club called the Friends of Freedom and Equality (*Freunde der Freiheit und Gleichheit*). The remaining years of Forster's life were thus caught up in his support of and firsthand involvement in the French Revolution, beginning with the organization of the Mainz Republic until his early death in January

1794 at the age of thirty-nine in Paris, where he had sought refuge after the collapse of the Mainz Republic when French troops retreated from the city in July 1793. Forster's reputation was not kept alive then in the conservative period of German history following his early death, nor was he favored within the conservative cultures of the late nineteenth and early twentieth century in Germany or—not surprisingly—during the Third Reich, except for the propagandistic use of defamatory comments about “the Poles” mined from his private correspondence. Much of the revival of interest in Forster's work today is thus an indirect consequence of the favor he found within the political culture of the German Democratic Republic (DDR) after the Second World War, where, beginning in the 1960s, he was championed as a forgotten hero of revolutionary class struggle. Beginning, however, in the 1970s, the Federal Republic of Germany-sponsored Alexander von Humboldt Foundation began a scholarship program in Forster's name to support the work of scientists and scholars from “developing and threshold” countries. A twenty-volume “historical-critical” compilation of Forster's complete works, begun by the Akademie der Wissenschaften der DDR, but now under the auspices of the Berlin-Brandenburgische Akademie der Wissenschaften, is nearing completion.

Forster's late eighteenth-century fame and the twentieth-century revival of interest in his work aside, however, Forster's criticisms of Kant's 1785 article, “Determination of the Concept of a Human Race,” as presented in the text translated below, might now be regarded as of little historical significance had they not contributed to Kant's decision to take up the topic of race again in the 1788 article, “On the Use of Teleological Principles in Philosophy” (see below, 169–94). For Kant's 1788 article can also be read as a preliminary exposition of themes and issues that he further developed in his third and final critique, the *Critique of the Power of Judgment*, first published two years later, in 1790, the second part of which is titled “Critique of the Teleological Power of Judgment.”

The numbers included in simple brackets below, e.g., [131], indicate the pagination in the text as included in the now authoritative collection of Forster's works previously noted, *Georg Forsters Werke*, vol. 8 (Berlin: Akademie Verlag, 1991), 130–56. The numbers included in angle brackets below, e.g., <58>, indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 3, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001), the text that was used in the preparation of this translation. The text can also be obtained by searching the website, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, at www.ub.uni-bielefeld.de/diglib/aufklaerung/.

* * *

To D. Biester.

Vilnius [*Wilna*], 20 July 1786

[130] We are rightly permitted, my dear Biester, to add to the victories of the Enlightenment that your admirable journal gets as far as the interior of this Sarmatian woods and is read on the same spot where in the year 1321 Gedimin¹ still hunted urus and first extinguished the eternal fire dedicated for four hundred years to the thunderer Perkunas. To be sure, I obtained these issues, so valuable to me, late enough, and am reading first in July what German readers devoured already in January. For this, however, I enjoy also the <58> pleasure of repetition that with an abundance of intellectual nourishment might be out of the question. From the experience <of reading> many an instructive article in your monthly publication, I can, therefore, say: *decies repetita placebunt* [<they will be pleasing, repeated ten times>]. When in a moment now and then a certain yearning <in me> for full pots of meat arises, it is surely easier to make a virtue out of great privation if we can at least comfort ourselves on your healthy, heart-strengthening dishes instead of the fast and easy food which our age dishes out so plentifully. For here, reading takes the place of association with thinking men who in the great cities and even in the German academies are spreading so clear and so new a light over many subjects. There, remarks of the greatest refinement are made innumerable times, the most comprehensive points of view are stated, <and> the most copious findings are disclosed that never reach the most well-read writer in his study. There, when the penetrating acuteness of the business man strikes the stock of ideas of the systematic man of learning, sparks fly [131] at the sight of which it becomes good to be a human being and to live in our century. For such advantage, reading is an imperfect indemnification, <but> the more strongly I feel myself obliged to thank you, the more certainly I am convinced that only <this refuge> is enabling me to remain active here and to fend off a paralysis of the spirit <59>—which could <otherwise> be at least accidentally advanced by a complication of circumstances, even if this should fit into the plan of certain people.

I have, therefore, read the two instructive articles, <“Determination of the Concept of Race” and “Conjectural Beginning of Human History”>, by the admirable Professor Kant in <the> November 1785 and January 1786 <issues> of your monthly publication with doubled pleasure. For they satisfied not only my craving for learning from a perspective that practical endeavors in the province [*Fach*] of natural science [*Naturkunde*] have more often than not kept me away from; they also awakened in me a number of thoughts which have busied me in a lively and pleasing manner for some time. The desire to give inducement to new instruction for myself and to everyone who

might be in like circumstances tempts me to value my observations regarding the articles mentioned <enough> to write them out. You will <surely> not ascribe to me the intention of wanting by this means to gain some prestige by having my own <name> mentioned once next to <a name> so celebrated <as that of Kant>. You know that the reputation of the philosopher, who we both so sincerely honor, is much too firmly established <and> has grown upwards much too highly that it could receive the smallest addition through my approbation or be injured by a recollection contrary to one of his pronouncements. <This> truly great and deserving man will, however, be best able himself to estimate the respect and esteem <60> I devote to him if I, without further regard for the person, turn myself directly to the matter <at hand>.

I believe <that I do> appreciate that we can ultimately impair the capacity for abstraction by clinging too closely to immediate sense experience [*Anschauung*]; and even though it is always hazardous to distance oneself from <such sense experience>, it is surely not advantageous for the enlightenment and the advancement of knowledge when any single endowment [*Anlage*] of human nature is neglected. The means by which we might want to avoid one-sidedness can in this way itself easily become one-sided. Precisely [132] for this reason, however, I think it must be extremely important for the philosopher, when he begins with experiences, that the data [*Fakta*] from which inferences are to be made be quite accurately comprehended, because without this circumspection all careful reasoning [*Syllogistik*] will be vainly squandered. For although there are cases in which speculation and abstract determination can in advance avenge [*ahnden*] what immediate sense experience thereafter acknowledges to be true, those <cases> are, nevertheless, not rare in which they take us down detours and leave experience lying to the side.

Allow me to apply this <concern> to natural history. The greater part of the gain that Linnaeus won for this science lies incontestably in the exact definitions by which he taught <us> to distinguish the different degrees of similarity. <61> Following certain assumed statements that he had abstracted from his experience, he outlined his framework and harmoniously fitted the things of nature into it. So long, however, as our cognition [*Erkenntnis*] remains deficient, we seem to be still far removed from an infallibility of principles. Determinations [*Bestimmungen*] that are founded on limited cognition can, to be sure, be useful within these limits, but will they not appear one-sided and half true as soon as the range of vision is expanded <and> the viewpoint shifted? In the history of published research in natural science, there are striking examples of this. Botany, chemistry, and physics are, solely for this reason, completely different now than they were fifty years ago. Perhaps our present schema of the sciences will, a half century from now, become just as outdated and deficient as the previous <schema>. Even speculative philosophy might be allowed to be subject to this universal fate. Who, in this regard, does not think immediately of the *Critique of Pure Reason*?

Consequently, even if <Kant's> thesis [*Satz*], "for we find in experience what we need only when we know beforehand <what it is> that we should be looking for" (*Berlinische Monatsschrift*, November 1785, 390 [see above, 128]), were also to have its unassailed soundness, a certain caution might, nevertheless, be needed in the employment of this <thesis> in order to avoid the most common of all illusions, namely, <62> that we, in the appointed search for that which we need, often also believe <that we have> found it there, where it does not really exist. How much trouble has from time immemorial come to pass in the world because we proceeded from definitions in which we placed no mistrust and consequently [133] saw—without knowing why—many things in a predetermined light and deceived ourselves and others! To the extent, therefore, <that> the impartial observer only faithfully and reliably reports what he perceives without pondering for a long time which theory [*Spekulation*] his perception favors, I would look for instruction more confidently from him than from an observer who <has been> tempted by a faulty principle that lends the color of his glasses to the objects <he is investigating>—and for this, <the impartial observer> needs to know nothing about <the relevant> philosophical disputes but <must> follow instead only accepted linguistic usage. <The observer who has been tempted by a faulty principle> might all the same be able to provide a greater stock of observations because he is everywhere fishing for definite experiences, but in <these matters> it is more the unadulterated yield than the sum total that counts. Who would not prefer the fewer observations of a simple but sharp-sighted and reliable empiricist to the many cosmetically covered [*geschminkten*] observations of a partisan systematizer? Besides, now and then the open eyes of the <empiricist> also foment taking note of important things that the <observer> who constantly directs his attention to <finding> certain <objects> previously commanded <63> to be the subjects of his search will never see. Of course, these opposing positions [*Gegensätze*] stand too markedly close to one another, and the empiricist as well as the systematizer supply in certain circumstances the best observations. For attentiveness, the power of critical judgment and impartiality are the prerequisites upon which everything depends, and these might or might not be combined with speculative theory. The business of the philosopher is to rectify general concepts <taken> from the particular, true givens and, in truth, to err is <just> as possible in this business as in the moment of observation! Do I demand too much because [*indem*] I wish to see the value of the contribution which the more recent travelers have provided to the information [*Kenntnis*] <we already have> about the human species tested according to the standard <introduced> above? At the least, among the considerable number of people who comprehend <the> expression human race [*Menschenraße*] on its own terms, there are some credible men of whom we cannot deny that their observations are precise, definite,

reliable, and consequently, useful, although their contingent conceptions with regard to these words *human race* [Menschenraße] might after all agree so <very> little with one another. Critical reflection probably allows the factual data recounted by so many travelers in a consonant way to be declared true precisely for the reason <that> so many different people [134] with differing conceptions and data [Kenntnissen] agree in their presentation of that which has been observed. <64>

In order to be able to observe reliably if a certain object is black or white, we do not need to know that the color black is ascribed to the absence of light and the <color> white to the union of all the different, diffracted light rays. However, if an observer who has this specific theory and another who simply knows merely empirically what black is both say of the same object that it appears black, the fact [Faktum] is so much more incontestible.

To what extent is, therefore, the claim (p. 393 [see above, 129]) established, that “we can still not form a reliable notion of the primary color of the South Sea Islander on the basis of all the descriptions <we have been provided> up to now”? What I want to write down here you can find recounted definitively and to the same effect in the more recent travel descriptions. The inhabitants of most of the islands of the Pacific Ocean and the rest of the South Sea are not only of light brown [hellbrauner] color, respectable stature, beautiful build, <and> pleasing facial formation with curly, black hair and thick beards, but their <close> relationship <to one another> is also revealed at first sight through the uniformity of their customs and their language, which, except for small deviations, are the same <as those found> eastwards up to Easter Island, southwards as far as New Zealand, and northwards up to the Sandwich Islands. On the other hand, a smaller, scrawny, black people with frizzy, woolly <65> hair and uglier facial features—who distinguish themselves from the light brown <peoples> on account of the way they live, but especially through their totally different languages—have spread into some of the islands that lie close to the Spice Islands and inhabit New Guinea, Australia [Neuholland], New Caledonia, the Charlotte Islands, and the Hebrides. The black color <of these people> has shades [Nüancen] as in Africa, and is, on some islands, as dark as in Guinea. Carteret and Bougainville describe these people [Menschen] <as being> as dark as African Negroes. Dampier and Cook found the indigenous Australians [Neuhölländer] black and their hair as woolly as only a native of Guinea could ever exhibit. In the New Hebrides, Bougainville saw, and we saw, totally black, black-brown, and dark-brown people. The last shading, however, appeared very likely to come from interbreeding with a light brown people whose islands are not very distant, as [135] a dialect of the language of the light-colored nation is also spoken by some of the inhabitants in Tanna alongside the common language of the land. I cut <this discussion> off, <however>, because I would need to repeat

what has already been said about these two so clearly different peoples if I now still wanted to defend before the public observations and perceptions that depend solely on the believability of these eyewitnesses, who have never before been doubted. I admit, I certainly appreciate that many <66> hypotheses would have better standing if the ugly blacks could be demonstratively removed entirely from the South Sea. They are, however, now once and for all there; and if one passage in Carteret's travel description had not misled Kant to a somewhat bold conclusion, he would himself presumably have written less questionably about them. Permit me, <therefore>, to be allowed to shed light on this passage and the statements based upon it somewhat more closely.

Kant concludes (p. 393 [see above, 130]) <from the claim that> Carteret is supposed to have "*first [seen] the true yellow of the <Asian->Indian skin color on the Freewill Island*" that the inhabitants of most of the islands in the South Sea "must be *white*." The previously named circumnavigator had, however, as <Kant> quite rightly remembers, stepped onto only little land in the South Sea, and only in the western region <of this part of the world> did he <even> see human beings, first near the Charlotte Islands and later in New Britain. For this reason, it is difficult to permit the conclusion <drawn> from such a small part <of the region> to count for the entire <region>. At the least we could guess, according to these premises, with just as much probability <that the inhabitants of the region are> *black*; for it only follows from Carteret's words that up to this point he had seen humans of *other* colors. Why, <then>, do we not question the honorable sea voyager himself? As stated, the only *inhabited* islands that he visited in the Pacific Ocean <were> the <island> clusters of Queen Charlotte and <67> New Britain, next to the islands of Gower and Carteret, which lie between them; and he found everywhere <in this region> only *black* inhabitants with woolly hair. Read <his own words> in order to convince yourself that the observer <himself> is not every time guilty when we wrongly understand him.

In my copy of Carteret's travel description,² I read [136] further that the inhabitants of the Freewill Islands are from the "common copper color of Indians." I have not been able to find <any reference to> the *true <Asian->Indian yellow* that <Kant> reads in this passage. The word *Indian* <is also not used> in this <context> in any way to designate the yellow-brown Hindus, but instead <to designate> those humans, in general, who, with a no less precarious expression, we call *savages*. Carteret makes use of the same <word> with this meaning throughout <his work>. Without <even> thinking <about it>, Byron and Wallis <also> give this name to the Patagonians and Pessarae [*Peßarähs*] in the Straits of Magellan, which is in conformity with English usage. Carteret might also just as well [*schwerlich*] have called the inhabitants of the Ganges copper colored, as little by the way as this designation applies exclusively to the original Americans. <68> If, <however>, we

assume that this <usage> should signify a reddish-brown shading without the intervention of some blackness—and there is no reason to suppose a metallic gloss, at least not in general—the light brown peoples in the South Sea, on New Zealand, <and on> the Society, Marquis, Sandwich, Caroline, Princess Marianne, <and> Friendly Islands <could> more suitably be described as reddish brown than can certain nations in southern [*mittägigen*] America, who fall more into <a> blackish <skin coloration>. For this reason, I also have no hesitation to counting the inhabitants of the Freewill Islands among the generally diffused light brown people of the South Sea, and for me the little that Carteret recounts of their dress and customs can justify <this conclusion> still more.

As I now claim, however, that in view of the South Sea Islanders everything has been accomplished that we can reasonably demand from the observers, I certainly do not deny that the experiment that Kant calls for—namely, that a child would have to be produced in Europe by a couple <from the South Sea Islands> in order to discover without equivocality the characteristic, from nature alone [*von Natur eigene*], skin color <given> to them by nature—has not yet been arranged, and will perhaps never take place. But <is> <this experiment> really so indispensable as <Kant> believes? I confess to you, dear friend, <that> I can convince myself of this so much the less as I consider him <69> to be uncertain even about the determination of the relationship between Negroes and whites. It is well known to you that even in Guinea Negro children are not born black but instead red [*roth*] and <that they> [137] are only little different in color from the newborn children of Europeans.³ They become black a few days after they are born, and shortly thereafter we are no longer able to distinguish them, according to color, from their parents. However, that this phenomenon regarding Negro children has also been observed outside of Africa is a fact [*Faktum*] that no one doubts any more in lands like France, England, and North America, where we can daily convince ourselves of it. I have myself seen Negro children born in Europe or even in North America who even there became <as> black as <they would have become> in the fatherland of their parents in consequence of the influence of the atmosphere upon their skin. If, therefore, only the newborn are prepared for this transformation in virtue of their organization and the mixture of their elemental materials, it happens in a uniform way everywhere, as the air accomplishes here what sunlight brings about with respect to the plant kingdom. The color of carefully kept plants is of a pale yellow before <they are exposed to> the rays of light. After they are placed in the light, however, they become fully green in a few days. <70>

Matters are quite different with the *gradual* influence of the climate, which requires many generations [*Generationen*] before it becomes manifest and perceivable. The course of <this influence> is slow but inevitable. The

late descendants of whites who have been displaced into warm lands acquire a darker color and are, finally, after the course of centuries, almost fully black in the hot zone. Conversely, when blacks cross the boundaries of the tropics, they lose their black color among their descendants, who become black brown, olive colored, and perhaps—for who can here mark off with <any> agreed upon probability the *non plus ultra*—still a few degrees lighter depending on how far they have moved above the equator into milder zones. The examples of this slowly effected change of color are so striking <and> so undoubtedly proven for entire nations that we must rightfully wonder how they can still be overlooked. The fact [*Faktum*] that whites are more darkly colored in Spain, Mauritania, Egypt, Arabia, and Abyssinia than in Germany, Poland, Prussia, Denmark, and Sweden cannot be denied—indeed, <it cannot> even <be denied> that the dark shading increases in approximately the gradation, as I name these lands, [138] until it falls very far into black already in Abyssinia and the Arabian colonial settlements on the east coast of Africa. No less striking is <the fact> that the colonies that emerged from Nigritia [*Nigritien*] <71> and have moved <southward> toward the southern tip of Africa, where they <can now be found> under the names of Kaffirs and Hottentots, are always found to be black brown or yellow brown, according to how much they have evaded the influence of the vertical sun, <that is, whether they have>, after the course of an unknown <period> of time, moved further toward the pole or deeper into the cold mountains. A similar color guide—the extremes of which, however, lie much closer together—is observable in America. As we find the original inhabitants darker by degrees when we travel below from Canada toward the equator and up to Guyana and Brazil, we <similarly> observe that the people <living> further to the south on the Pampas, in Chile, on the Straits of Magellan, and, furthest <to the south>, in Tierra del Fuego, again become lighter. Finally, things are no different with the peoples who inhabit the different zones [*Zonen*] of Asia. <As we move> from China to Tonkin and Cochin China <and> from Tibet to Pegu and Malacca, we encounter <different> shades of white that fade into the deepest black brown. The evidence for this <can be> found scattered in the <works of the> large army <of people> who write travel descriptions. To be sure, Buffon has partly assembled these <reports>. <What> we cannot determine, <however>, is only the length of time that is required when a family <line> [*Familie*] should—ascending or descending—pass through the range of all the shadings between white and black *that is attainable for it*. For we are, concerning this matter, missing the historical reports and memorials, <72> although the complete lack of these <materials> does not in the slightest change the main point.

If, however, <the following three points> can be proven, <namely:> <(1)> that human skin color follows the influence of the climate (to be sure,

belated and with imperceptible steps, but, consequently, without fail) over time; <(2)> that in burning Africa the descendants of whites become blackish; <and> <(3)> that in the foothills <surrounding the Cape> of Good Hope the descendants of the blackest Negro pale to the <color of> the olive-colored Hottentots—how, then, would it still be possible by the production of a single Negro child in Europe to determine how much of its black color belongs to its parents and how much to the climate? On the contrary, as this difference of colors is everywhere effected by climate, Abbot Demanet was not totally wrong [139] when, as it seems, he wanted to claim <that> a Negro is, strictly speaking, a regular [*rechter*] Negro only in his fatherland. A truth which we see confirmed daily in menageries and botanical gardens <is that> each individual thing [*Wesen*] of nature is what it is supposed to be only in that place for which it comes into being. The Negro born in Europe is like a hothouse plant, a modified creature. He is more or less dissimilar in all the properties subject to change to what he might have become in his fatherland. <73>

Linnaeus, whose deep study of nature is seldom properly recognized because he rather buried than displayed it in his aphoristic writings, counted the color of animals and plants among the accidental, variable properties, which by themselves alone, apart from their connection with other distinguishing features, are not sufficient for the differentiation of species. I know how little I am entitled to give my vote for or against his teachings [*Canon*].⁴ I, therefore, let him depend on his <own> worth. <The issue> here is whether the differences of colors that we observe in different human lines of descent are capable of climatic modification, or if rather, as is asserted on p. 403 [see above, 135], they also, outside of the climatic region to which they are at every time proper, preserve themselves *undiminished* in all generations. I build here not at all on the irresolute testimony of the heathen Demanet and his black Portuguese child. Such <testimony> might be good enough if we wish to refute Voltaire, who can be understood to have thought that Negroes have perhaps a different progenitor than Europeans. You, dear Biester, are too well versed in the history of heresy not to know that this fanciful idea, which, if held by anyone else, might be the most innocent of any in the world, can be nothing less than blasphemy as soon as Voltaire <74> thinks and says it. If, <however>, the fire on the roof is now of such a kind, believers must certainly put it out with whatever and however they can. I select my example from the descendants of whites who have become black from among peoples that Kant himself still undeniably also counts as whites, because he is convinced that they, in spite of their presently black-brown <skin> color, originated from whites. On the other hand, the Kaffirs, who Kant separates from blacks without mentioning their descent from them, [140] are for me—and, I think, for everyone who is unbiased—proof enough of a blackness that was gently suppressed by the effects of a mild climate.

We can now advance yet another step forward. Instead of linking extreme <cases> with one another and wanting to fuse together the Negro from Guinea with the blond from Scandinavia, suppose <as a> possible case that a black-brown Abyssinian male marries a Kaffir woman of the same color. Thus, we unite the lines of descent at that point where they are truly closest to one another and, so to speak, meet half way. The half-breed that results from this mixing undoubtedly resembles <both> the father and the mother. However, its skin color is no more the chief sign of this resemblance and the mixed natures; for both parents had the same color. If a situation now comes to pass <75> in which an assumed distinguishing sign [*Unterscheidungszeichen*] cannot fulfill what we hoped from it, as exists in the present case, <then> a mixing of two human lines of descent is no longer really taking place. We discover in this way that <the distinguishing sign selected by Kant> is badly chosen and objectionable.

I have a sense of where this inquiry seems to be leading me. It no longer concerns the application of the concept that we take to be fundamental but rather undermines the principle itself and demonstrates its inadmissibility. After all, <the validity of the principle> depends upon truth, and the principle can be of value to its inventor only in so far as it holds firm. One of the safest means to rest comfortably in a happy everydayness of thinking—to bow in submissive, intellectual poverty under the yoke of the most foolish prejudice and never to avenge a nearby truth beckoning the thinker—is to recoil, as before a monster, from a bold consequence that flows quite directly from clear premises. Away with this unmanly fear! Instead of giving in to <this fear>, examine carefully once more the path completed and test every step with implacable rigor. If everything is certain, if an <illegitimate> leap nowhere occurred, and if nothing has been built anywhere on deceptive, shifting sand, then we can step confidently, face-to-face, before the new monster, <76> affably offer him a hand, and at that very moment, everything frightful in him will disappear. The power with which a statement convinces us must remain fully the same whether it is asserted for the first time or [141] when we hear it for the ten thousandth time. For truth, to the person who thinks for himself, can surely only be that by which his reason [*Vernunft*]*—*<and> not that of any other human being—can apprehend, think over, sanction, and acknowledge the reasons [*Gründe*]. I also confess, then, without reserve, that I must seek advice elsewhere in order to measure the distances between the different shades <of skin color> <that we observe> among the members of humankind.

If you, my friend, want to survey in a compressed summation how it is that we actually arrive at a determination of the distinguishing differences within humankind, then you should read *Sömmerring's* "On the Bodily Difference of Negroes from Europeans."⁵ Friendship weighs so heavily upon me

that I am not permitted to praise <this monograph> as highly as it deserves, <and> I suppress the feelings that passed through me when I read <a work> that was for many years, to my eyes, not surpassed in interest for philosophers, assiduity, love of truth, unpretentiousness, spirited erudition, and skill [*Kunst*]. <77> In the weighty writing of this admirable man, you will not only find that <skin> color belongs to the less essential properties by which we distinguish the Negro from Europeans but—which is what is most remarkable—that the Negro possesses, both in consideration of outer as well as inner form, visibly far more that is consonant with the lineage of apes [*Affen-geschlecht*] than with whites. <Simple> inspection already conveys this finding to a certain extent, but it is proven <by Sömmerring> on a physiological and anatomical basis. I am, nevertheless, now far from assuming with Fabricius that some sort of ape could have had a part in the formation of the Negro. Rather, the fruitful thought that everything in creation is connected together through modulations [*Nüancen*] is also ever more confirmed by means of this fact [*Faktum*].⁶ *Camper*, who is as a physiologist and in so many other aspects, a great and amiable <man>, showed me in one of his letters how precisely the analogy of formation is observed in one part of the body, the feet, throughout all mammals up to the whales. And *Herder* has admirably conceived and realized similar ideas when [142] he says that it is indisputable that <there exists> everywhere, in all the diversity <78> of the living beings of the earth, a certain uniformity of build and, as it were, a principal form, <which> changes in the richest diversity, that seems to reign.⁷ Certainly, in more than one account—and even [*selbst*] in moral relations—the *maniness* [*Mancherley*] on our planet is no more striking or richer subject matter for initiating reflection than the eternal *oneness* [*Einerley*] that we find—at all times disguised, <yet> always and <ever> again shimmering through—within: the greatest riches next to the most extreme indigence.

The Negro who is most like the ape is so closely related to white human beings that the distinctive properties of each interweave and fuse in the interbreeding of these two lines of descent with one another in the half-breed. The divergence is very small. The two human <forms>, the black and the white, stand very closely next to one another, and it could well not be otherwise if humanity is not supposed to turn into ape nature, <that is>, if the Negro, instead of remaining human, were supposed to become an ape. For even the two animal lineages [*Thiergeschlechter*] (*genera*), the human and the ape, border on one another unbelievably close in the order [*Reihe*] of the living things of the earth <and> are related more closely to one another than the lineages of many other animals. Although we do note a conspicuous intermediate space or <79> distance between these two physical lines [*Geschlechter*], the <human line> does include the Negro, just as the <ape line> commences with the orangutan. An ape-like human being is, therefore, not an ape.

Whether Negroes and whites are, however, now different from one another as *species* [Gattungen], or only as *varieties*, is a difficult, perhaps insoluble problem. The calm and composed researcher leaves <such> flailing about with the sword to those who not able to solve <the problem> differently and <yet> want to solve everything. <The calm and composed researcher> would rather leave behind in a knot that which is too confusing to him, <even when> <the solution> will one day, sooner or later, be worked out, when the threads are first found. If we, with Kant, divide natural science into *the description of nature* and *natural history*—a division which I can very well accept, if only both are over and over again united and treated as parts of a whole—then it would seem that the individual concerned only with the description of nature can be done with the question sooner. [143] Indeed, Kant seems to assume that such a difference of characteristic features might be sufficient for the individual describing nature to construct a kind. Of this, I cannot answer with complete satisfaction, because Linnaeus, the foremost author to treat <this> science systematically, wrote in Latin. His divisions are called: *classes*, *ordines*, <80> *genera*, *species*, *varietates*. Now <a> *variety* seems to me always to be defined by *changeable*, *accidental* characteristic features. By <saying> this, it is assumed that one variety can change into another. If Kant prefers in this sense to say *kind* [Art] rather than variety, that is only an exchanging of words with which we can easily come to terms. If, on the other hand, the <Latin term> *species* is to be translated with <the German term for> *species*, <namely, Gattung>, unalterable, distinguishing features, in the Linnaean sense, are required. <The situation> must be different in *natural history*, if, in this <field> we are, as Kant claims, concerned only with generative origination [*Erzeugung*] and descent. Natural history in this sense might, however, possibly be only a science for gods and not for human beings. Who has the means of making known the ancestral tree [*Stammbaum*] of even a single variety up to its species if <that variety> did not first come into being from another before our <very own> eyes? Who has observed the earth in labor at that distant and totally incomprehensible, veiled point in time as in her lap animals and plants <first> originated in such myriad diversity without generation from their like, without seed vessels, <and> without a womb? Who has counted the number of the <earth's> original species, its autochthons? Who can inform us how many individuals of each form organized themselves in completely different regions of the world out of the birth-giving mother from soft mud fertilized by the sea? <81> Who is so wise that he might be able to teach us if organic powers stirred only once in one place or in totally different places in totally different parts of the world, arising gradually from the embrace of the sea?

Someone will perhaps object <and say> that <the answer to these questions> depends upon an experiment that decides everything easily and

without contradiction. We <might, for example>, take two animals with different characteristic features that nevertheless appear to be closely related. We <might next> allow them to mate with one another. If an intermediary creature arises from this interbreeding that is again capable of reproduction, the parents were [144] from the same species, although from a different variety (or kind). For my part, I find here, instead of a decisive ruling, simply a new definition. We call the greyhound and the Bolognese, which together produce a fertile intermediary creature, <either> species or varieties, <but when we do this> we thereby come not a hair's breadth closer to the investigation of their common descent from *one* original pair, and these expressions remain, as before, the inventions of the systematic investigator of nature, by means of which he wants to distinguish easily and quickly conspicuous or smaller modulations among the living things of the earth. This, however, is admittedly what always happens when we confound conceptual entities [*Begriffe*] and regard a hypothesis that someone <82> has constructed from a matter of fact [*Thatsache*] for the matter of fact itself.

It cannot be denied a priori that animals of different kind couple under wild or free conditions, although to me it <seems> highly unlikely. However, an example of such mating is not yet known, at least not to me. At times, we have come across very differently formed insects that have mated. Most of the reliable examples of <such matings> prove, nevertheless, only that nature at times administers very different formations in the female and male sex in the same species, but in no way that different species mix <with one another>. Thousands upon thousands of times the most closely related plant kinds bloom in our gardens next to one another without one ever fertilizing the other. Only the hand of humankind is capable of arranging artificial adultery [*künstliche Ehebruch*] in these innocent creatures. In the animal kingdom, every kind, every modulation has—which is the point here—an overpowering propensity toward their like and a decisive aversion to other animals, even when they are little, often only imperceptibly, different. Not once among apes, who feel the sex drive so intensely, is it proven that one species under free conditions might run to the other <species>. And if humans listened only to the voice of instinct, <83> it would not be their reason which affected [*erkünselt*] lasciviousness and concupiscence, <a point> that Kant so ingeniously and masterfully develops (*Berlinische Monatsschrift*, January 1786, 6 [AA 8:111–12]). We would, in this way, observe disgust and abhorrence among blacks as well as among whites because of interbreeding between unlike kinds. I believe that we may now still expect this disgust from the raw, unsophisticated peasant. He will [145] avoid the Negro woman, or at least the sexual drive is not the first aroused in him at the sight <of a Negro woman>.

As evidence of a common origin, we are, therefore, not permitted to adduce artificial mating forced upon animals in captivity, although <such

cases> do in other respects have some use for the study of nature. It is, to wit, beyond doubt that the half-breeds from canaries and goldfinches, as well as several kinds of finches, possess the ability to reproduce, which we also cannot deny <in> the intermediary creature that arises from the dog and the fox. On the other hand, cases of fertile mules are very rare. There is, consequently, not always an equally wide distance between species and species, an observation which in other respects also follows from a comparison of the formations [*Bildungen*] throughout the so-called animal and plant kingdoms. The panther, leopard, ounce, and jaguar are <84> more closely related to one another than <they are> with the striped tiger from which they ensue; and there is an even greater intermediate space between these and the lion, though no gap. Both the African and the Asian orangutan stand disproportionately closer to one another than the long-armed gibbon is connected to these two. The two camels of the old world are very much similar to one another; the distance between them and American <camels>, which again also stand in the closest relationship to one another, is far greater. We misplace the badger in the bear genus [*Bärengeschlecht*] or with the beavers, and in this way the American <badger> is unequally nearer the European than any other with its related species. Anyone who even more willingly wishes to keep a somewhat greater distance for them between the species for the boundaries of a genus [*Geschlechtes*] has, nevertheless, gained nothing <by doing this>. First, by doing this, he increases the number of genera [*Geschlechter*] (*genera*) in a way that is extremely burdensome for memory. Second, the general genus-level [*generische*] relationship adduced in some of the examples, as between the lion, panther, and tiger, is indisputable. Third, genus [*Geschlecht*] is as equally indeterminable a concept as species as soon as it comes to <the point of determining> the measure of the distance by which the one is separated from the other. The genus <of animals with> horned noses [*Nasenhorngeschlecht*] includes two species that nearly border on one another, and there now exists, as it were, a great gulf between it and <85> the nearest genera [*Geschlechtern*]. The elephant stands equally so isolated; and the horse genus and <that of> the [146] hippopotamus <stand> nearly <so isolated>. For them, the hedgehog borders very near the porcupine, the hare the jerboas [*Zerbos*], <and> the antelope from, on one side, the goat, on another, the deer, and, on a third, the ox. We find, therefore, entirely unequal distances everywhere between the individual living things of the earth that do not correspond to our determined divisions. The compartments <into which we place things> are all sketched out according to one <standard> measure. <They are> all equally large, set into place equally distant from one another, and arranged in a long, unbounded series one after another. None of them are to be found in nature. <Nature> produces living things that at times so completely resemble one another that we can perceive no difference in them.

At times, some of them diverge <from one another> in minor, small details. At times, others <diverge> where the analogy <between them> is maintained only at a distance. At this time it is the formation; at <that> time, the size; <and> at <yet another> time, the color that, in its forms, changes. We often come across a creature that stands like a middle point among several related species. — In a word, the order of nature does not follow our divisions, and as soon <as> we want to force these <divisions> on <nature>, we lapse into absurdities. Such a system should be a guide for memory, since it gives divisions [*Abschnitte*] that nature seems to produce. No one, however, can—or be allowed to—claim that all of these divisions, <86> such as genus, species, and variety, stand everywhere in the same distance <from one another>. For this reason, Buffon zealously argued against every systematic outline, although it is also not the fault of the systematizer if we demand more of his method than he himself promised from it.

How much, then, is to be hoped for a decisive ruling on the <previous> question? Is the Negro a *variety* or a *species* in the human genus [*Menschengeschlecht*]? If <the ruling> <in this matter> depends upon proving the descent of all varieties from an original, common parental couple, which cannot be demonstrated without indisputable historical evidence, there will be no definite solution; for such evidence is nowhere to be found. If, on the other hand, we are satisfied by the Linnaean ruling [*Bestimmung*], <that> a variety differs from a species simply through the inconstancy of its characteristic features, then a little provisional investigation is still required <to find out> to what extent this definition [*Definition*] fits the various human lines of descent. <150>

There are obviously differences of <skin> colors in each of the human lines of descent, the white as well as the black. Whites become [147] blackish in Africa <and> Negroes become olive-colored in the land of the Kaffirs. But no experiment up to now teaches us if this variability might be able to take place up to a full transformation of the white into the black color, and, the other way around, the black into the white. As strikingly different as the formation of the Negro is, especially the head, from that of whites, so certain is it, nevertheless, that different modulations <of this formation> exist in Africa, <where they> are to be observed in differing peoples, <while> no one has denied the peculiarities of national formations among whites. But even here it can by no means be proven that the form [*Gestalt*] of a Negro deviated [*abarte*] so far that it comes to be like that of whites. Conversely, Portuguese who have become black or Arabs who have taken on the formation of the Negro are not Negroes. On the contrary, <151> the characteristic Negro physiognomy is unmistakable in the Kaffir and Hottentot; and in the Arab, even when he might be so very browned, his descent from whites shines forth from his face. To be sure, we find <in these cases> progressions, not,

however, of the type whose series ultimately meet; they instead rather push away in parallel lines without ever coming nearer. By following this path, we do not, therefore, reach the goal, and there remains only one approach open by which we can perhaps come closer to a decisive ruling on our question. If human beings from differing lines of descent interbreed with one another, as, e.g., whites with Negroes, the color in the intermediary creature produced by them invariably resembles the same divisions. No other sign by which we might distinguish the two lines of descent carries this invariable trace of heterogeneous generation in the half-breed. Difference in <skin> colors is in this way more essential than all other differences; it is more constant <while> they are accidental and subject to mere chance and embody a trait in the formation of the child <that comes> at times from the father and at times from the mother. This, if I have not understood incorrectly, is the essence [*Inbegriff*] of a contention upon which Kant has founded his new definition <of the concept of race>. Let us see the extent to which <this definition> is defensible. I already rejected this definition [*Bestimmung*] above because it is not applicable to all cases. <The reason for this> is that color can change simply through <152> climatic influences without interbreeding. Thus, the possibility arises that individuals from two lines of descent could be of the same color. <In such a case>, only the resemblance in general comes under closer study. For proof [148] that there is nothing except color that can be *invariably* transmitted, Kant brings up accidental infirmity, consumption, slanted growth, etc., to which he might probably have also added polydactylism [*Bilfinger*] and albinism. However, to draw conclusions about natural characteristics of the formation from diseases and miscarriages seems to me to be somewhat risky. I have still never seen a mulatto or mestizo of whom it might not also be seen in his facial features that he was a half-breed from two peoples. And in what way would we even question this, since it is not only when persons from two lines of descent marry, but also when individuals from a single people from the same city and from one family marry, that the parents can again be recognized in the features of the children. It is true <that> a trained eye is required to observe this similarity. Differences of color are conspicuous, for they are perceptible on the entire surface of the body. Resemblance in individual parts <of the body> can, <on the other hand>, only be sought in these parts. For this reason, and not because color is a more essential, more durable sign of difference than the figure [*Gestalt*], e.g., the skeleton, individual <153> features can also not always be transmitted in invariably the same form, but must at times be taken from the father and at other times from the mother without admixture. To be sure, we see in white families the blue and the brown eyes that at times take after [*nachgeartet*] the father and at times the mother, but it seems here <that> no intermediate modulations occur simply for this reason: because the color of the iris is

presumably based on circumstances that have similarities with the appearances of chemical mixtures. The eye is blue or brown according to whether the precipitate has been more or less saturated with this or that elemental stuff, and this point of saturation determines at the moment of procreation the accidentally prevailing energy of one or the other generative materials. Indeed, a wide field for future observers is open here. A series of carefully collected experiences would most likely show that still much of the uniformity of transmission must fall away in intermediary creatures. Not every generation from the same parents comes out uniformly when both are from one and the same line of descent: a priori we do not understand why more uniformity must take place when the parents are from two <lines of descent>; a posteriori we are still owed the proof. A <single> counter example decides the fate of the theory. We have, accordingly, [149] first to make inquiries <to see> if there are not cases where at times the black father, or the black mother, or, at times, conversely, the white <154> parents, have visibly had the strongest share in their descendants.

My friend, you now easily see that this matter has not yet been settled. If someone were to give us an undoubtable example <showing> that a Negro family might have lost its color in a determinate succession of generations *in which no interbreeding had occurred* after they were transplanted to our climate <and> gradually exchanged its ape-like formation for that of a European climate, we <could> without objection call the Negro a *human variety* in the Linnaean sense, because its characteristic features are purely climatic and changeable. Such an example does not, however, exist and must indeed always be lacking. Now, I will show with some probability that the color of whites, like that of the Negro, is alterable only up to a certain point, but after that is transmitted uniformly in mixed generations without exception. I would, consequently, not object if for this reason someone presented <us with the idea> <that> whites and blacks <are> varieties (races or kinds) of the same species. But in so far as a *common origin* is supposed to be inferred from one or the other determination, we must do without any approval that comes only from clear, irresistible evidence.

Let us assume for a moment <that> the fact [*Faktum*] of half-breed generation is as infallible as it <155> would have to be according to Kant's supposition. We only ask on what basis should we believe that an invariably heritable difference might not indicate *every time* an originally differing species? Does <this sort of difference> refer to a race of one and the same original line of descent only in the present case? <To these questions>, Kant answers that he cannot comprehend how organized systems [*Organisationen*] should be so closely related that a precipitate must invariably come about from their mixing if they were not all descended from a single, first lineal stem. To many, it is perhaps equally so incomprehensible that

the same father could have produced whites and Negroes. For the germs of these dissimilar brothers must, like Leda's egg, have included twins so that each brother might become in part an equable female; and if we assume altogether four primary races, we have <something> here more miraculous than in that Greek myth. [150]

It must, <however>, remain odd and very incomprehensible that Kant, in deference to his theory, entangled himself in the great difficulty of conceding in one case—indeed, even claiming as necessary—what he regarded in a second, entirely similar case as totally impossible. If we assume that the human beings who gradually populated certain lands could, after a long period of time in consequence of acclimating themselves to a climate [*Klimatisirung*], acquire a peculiar character, so, <156> if need be, we can also still defend <the view> that precisely those individuals whose endowment was suited for this or that climate were born here or there on account of a wise dispensation [*Fügung*] of Providence. But, then, how could this same understanding—which <in this first case> calculated so properly which lands and which germs would have to come together and <which> caused <these germs> to carry truly everyone from some corner of Asia to the place of their determination in their father's loins—become all at once so shortsighted that it did not also foresee the event of a *second* transplanting? In this way, the inborn peculiarity of use for a single climate will surely become totally useless [*Zwecklos*]. As a consequence, germs that are again changeable must have been preserved that were meant to develop and be fitted for the second climate. In other words, if it was possible in one case that human beings of a single line of descent in different regions of the world gradually—<but> completely—changed and acquired such differing characters as we now know them to have, then, not only is the impossibility of a new alteration a priori not proven, but where <such alterations> take place they also make highly suspect the conclusion <that there was> a common origin. We now take <this line of reasoning one step> further.

You will concede to me that the present relationship of grass eating to flesh-eating animals must have existed from time immemorial, because the former would otherwise <157> have been consumed by the latter immediately after their creation. There was, therefore, from time immemorial, a far greater number of every grass-eating species than carnivores, which fed on the former. One of the best zoological writers, <E. W. A.> Zimmermann,⁸ has even surmised, with much likelihood, that the entire floor of the earth was covered with animals and plants right away at the very beginning. He shows that it would be impossible [151] to have every kind of animal originate in a single place, and <that it would be> equally as easy, or equally as difficult—however you want to say it—to conceive the creation of a single couple of every kind, or from many hundreds at one time, as possible and actual. In fact, if we

are, nevertheless, permitted to speak once of incomprehensible things, for me the most inconceivable of all would be that the innumerable living things of the earth might have arisen only singly [*nur einzeln*] or in pairs, as each of these, up to a small number of carnivores, serve as sustenance for one or the other species. We cause far less difficulty by supposing a universal clothing of the earth in a kingdom of plants, presumably because we now still see the entire surface of the earth become green every spring without having so directly before us the preparations that we more easily perceive in the animal kingdom. But is the earth now <158> richer in organic powers than it was in the past? And where, before <these> other <places appeared>, is the happy little spot which alone held enclosed within itself the entire storehouse [*Vorrath*] of nature, the provision for every climate and every element? If, on the other hand, every region produced the creatures which were fitted to it, and, to be sure, in the relationship to one another which was so indispensable for their security and preservation, how is it possible that defenseless *human beings* should here be an exception? Nature has rather, as Kant himself claims, given to each line of descent from the very beginning its character, its special organization in relation to its climate, as is suitable for it. This precise relationship between the land and its inhabitants can undoubtedly be explained most easily and most briefly by means of a local creation of <the inhabitants>. If Africa had produced its human beings, and Asia its, is it not, I think, so difficult to conceive why one as well as the other fits so especially well to the climate that prevailed at that time? <To explain>, however, why these two kinds of human beings, when they come together, can reproduce their lineage [*Geschlecht*] with one another is to me no more puzzling than <explaining> the reason why our cattle produce an intermediary breed with bison in American and Asia and with the Indian zebu. They are kinds that border closely on one another, or they are varieties of a species that bear the seal of the <159> climate from which they first originated. <They are kinds> if their distinguishing characteristic features are inextinguishable; they are varieties if they can change <from> one into the other, as is required by the Linnaean [152] theory, purely through migration, without interbreeding.

I have deliberately made use of the word *variety* in the previous discussion, but <I have> at the same time given it to be understood that I consider it synonymous with <the word> *race* [*Rasse*]. Admittedly, the latter term was previously still <not very well> determined. We have borrowed <the term> from the French; it seems very closely related to <the words> *racine* and *radix* and signifies descent in general, though in an indeterminate way. For one talks in French of the *race* of Caesar <in> the same <way> as of the *races* of horses and dogs, irrespective of the first origin, but, nevertheless, as it seems, always with tacit subordination under the concept of a species. It would be a <great> mission for an individual who had nothing else to do, to develop in

what sense each writer has possibly used this word. I am no doubt permitted to say of the authors of travel descriptions who have recently described the inhabitants of the South Sea Islands that they seem to take their refuge in the word only in those cases where it is uncomfortable for them to say variety. <The word> should mean nothing more than a mass of men whose common formation is distinctive and sufficiently at variance with their neighbors <160> <such that they> could not have been *immediately* derived from them. <They are> a lineage whose derivation is unknown, and consequently, one which we cannot easily count under one of the commonly accepted human varieties because we lack knowledge of the intermediary link. Thus, the Papuans and the other black inhabitants of the islands of the South Sea related to them are called a different *race* <distinguishable> from the light brown people of Malaysian descent that can be found in the same region. <This, however, is only to say> that <they are> *a people of peculiar character and unknown descent*. If we wish in the future to keep this definition when talking about human beings, we can still continue to use the word. Where <this is> not <the case>, we can conveniently dispense <with it>. Kant's definition, on the other hand, seems to be much less acceptable the more uncertain and improbable it is that, among animals, *one and the same line of descent* could always produce an invariably heritable difference.

As for those inconstant variations that do arise before our eyes, we know that their distinguishing signs [*Unterscheidungszeichen*] are also transitory, that one can change into another and in the grandchild [153] the unaltered formation of the ancestor <can> appear again, although the intermediary members were divergent <from it>. If, however, the differences can no longer be traced historically back to their point of origination, <161> then the least that we can do is regard the descent as undetermined; and the distinction that Kant wants to make between the concepts [*Begriffen*] of the description of nature and the knowledge of natural history must become altogether void.

I will, nevertheless, not permit myself to answer decisively in any way the question of whether there were originally several human lines of descent decisively in the affirmative. However, after everything that Kant has made known about the lasting differences between Negroes and whites, <and> after reasonable consideration of the defenseless conditions in which the natural human finds himself and the dangers from beasts of prey, poisonous amphibians, insects and plants by which he is compromised, I can at least believe that it is neither improbable nor inconceivable that two different lines of descent—each perhaps from a sufficient number of individuals—have descended as autochthons in different regions of the world. If the differences between <Asian->Indians and whites were of greater consequence, the former could be derived from the Asian regions of the earth and the latter from the

Caucasus. America, as part of the earth that became inhabitable <only> later, has had, however, perhaps no autochtons at all. <With regard to this issue, however>, everything is admittedly uncertain.

After all, I see not even a single difficulty more when we assume that there are several original human lines of descent <162> than <when we assume> the hypothesis of a single pair. If Negroes originated [*entstanden*] in Africa, whites in the Caucasus, and the Scythians and <Asian->Indians in the Himalaya, hundreds of years could have elapsed before these different peoples [*Menschen*], which were presumably still separated by oceans, could have come close to one another. To be sure, Kant fears (*Berlinische Monatschrift*, January 1786, 3 [AA 8:110]) that with the assumption that there was more than one pair either war must immediately spring up or nature leastwise could not escape the reproach <that> it did not make preparations for all the arrangements [*Veranstaltungen*] <needed> for sociability. I confess that this objection is not obvious to me. If it was in general necessary that several individuals must have been produced at the same time from certain species of defenseless creatures, [154] we can easily convince ourselves that the drive for preservation might alone have been sufficient to make them sociable. How many species of sociable animals are there not excepting human beings? How many has nature not taught to make their defense and preservation a common concern? But <nature> has nowhere placed enmity and destructive fury between living beings of the same kind. War, as Kant irrefutably and unsurpassably demonstrates (p. 19 [AA 8:119]), is one of the first consequences of the misuses of reason, which acts contrary to instinct. If mythology, which <Kant> chooses as a guide, makes in history the first-born son of a human couple forthwith the murderer of his brother, then it surely seems bad to provide for the security of humans by means of their common descent. On the other hand, since instinct unites the antelope in Africa in herds (so that the lion, panther, and hyaena might get nothing the better against their tightly closed phalanx) and arms a band of apes with sticks (with which they chase away the elephants from the forests <where they find> nuts and fruit), it does not seem absurd to me that human beings <might not also> be brought together through this dark drive so that the results of their social life, language, and reason, might develop all <the> more quickly.

Do we not, then, when we separate the Negro from whites as an originally distinct line of descent, cut through the last thread by means of which this ill-treated people might be connected with us and find still some protection and mercy from European cruelty? Let me rather ask if the thought that blacks are our brothers has ever, anywhere, even once, caused the raised whip of the slave driver to be lowered? Has <the slave driver> with the mania of a hangman and devilish joy <ever> been tormented <because he was> fully convinced that the <black slaves>, <these> poor, patient creatures, might be of

his own blood? Human beings from one line of descent who were sharing in the unrecognized blessing of a cleansed <164> moral philosophy do not show themselves for this reason <to be any> more tolerant and more loving toward one another. Where is the bond, however strong it might be, that can hinder the decadent [*entartete*] Europeans from ruling over their white fellow human beings equally as despotically as <they rule> over Negroes? Was it always not rather the noble self-confidence and the resistance of those whom somebody [*man*] wanted to oppress that has here or there restrained the arrogance of tyrants? [155] How, therefore, are we supposed to believe that an unprovable dogma [*Lehrsatz*] could be the sole support for our system of duties when <it> has not prevented a single act of ignominy throughout all the time in which it has been accepted? No, my friend, if moralists begin from a false theory, it is truly their own fault when their edifice totters and falls completely apart like a house of cards. Sensible upbringing that makes every fundamental principle clear through examples that make a comprehensive and deep impression and can be abstracted from experience can perhaps bring <matters> far enough that in the future human beings will feel what they are under obligation to do for <other> human beings—what even every kind of animal with whom they quite voluntarily have anything to do demands of them. False beliefs have never been capable of bringing this about, and they never will. In a world in which nothing is supernumerary, in which everything is connected through the finest modulations <and> in which the concept of perfection exists in the aggregate and in the harmonious concurrence of every single part of the whole, perhaps <165> the idea of a second human species presents itself to the highest understanding as a powerful means of developing thoughts and feelings worthy of the understanding of a *rational* earthly being and thereby interweave this being that much more tightly to the plan of the whole. Oh white man! you—so proud and self-satisfied—discern that, wheresoever you push forward [*drangst*], the spirit of order and legislation established the social contract, <and> science and art helped carry out the building of culture. <Oh white man!> you who feel that everywhere in distant Africa—<so> rich in peoples—the reason of the blacks climbs up only to that rung of childhood and succumbs to your wisdom.—Oh white man! <why> are you not ashamed of <the way> you misuse your power on those weaker than you, to cast them down to <the level of> your animals, to want to eradicate in them even the last traces of the power of thought? Oh disconsolate man! Of all the pledges [*Pfändern*] that nature has enjoined to your care, <the black man> is the most noble. You should take the position of a father to him, and when you develop the holy sparks of reason in him, <you will> accomplish the work of improvement [*Veredelung*], which in other respects only a demigod, as you have often believed, is able to do on earth. Through you, he could—<no>, should—become what you are, or can be, a being [*Wesen*] who is happy in

the use of all the powers placed in him. But go, oh unthankful man! <For> even without your strength of mind [*Willen*], he will through you become <that being> some day. For *you*, too, are only an instrument in the plan of creation! <166>

These are the thoughts, dear Biester, which the two articles <written by> the worthy philosopher [156] have roused in me. I am not so committed <to these ideas> that I would not most willingly let go of them as soon as someone had refuted them. All the same, I give no small proof of the thirst for truth and learning that burns in me, as I have dared to make this known. For the judgment of those who allow themselves to come up to the point of diverging from the customary way <of thinking> has already been stated. Although an old book, against which no one is permitted to write, makes reference in no syllable to the Negro, <and> although the great man, the reputed author of <that book>, has putatively seen no Negro, it is certainly an attack on this old book if one presents a possibility of more than one human line of descent, and this blow, which harms no one, is called a heresy. Heretics, however, are evil-minded people. They are driven by a mania for innovation. They are guided by blind ignorance. If, however, you can also not always free me from the suspicion of such a companion, <namely, the mania for innovation>, a genuinely philosophical jury will at least declare me innocent with respect to the other two points. <But> enough of this for now. I will perhaps, in the future, take up this matter of human varieties again. For there is still much that comes to mind about <this matter> about which I do not agree. Live well,

Georg Forster.

On the Use of Teleological Principles in Philosophy (1788)

IMMANUEL KANT

Kant's 1788 article, "On the Use of Teleological Principles in Philosophy" (*Über den Gebrauch teleologischer Prinzipien in der Philosophie*), was published in two parts in the January and February 1788 numbers of the *Teutscher Merkur* in part to respond to Georg Forster's 1786 article in the same journal, "Something More About the Human Race" (see above, 143–67), in which Forster had criticized Kant for the definition of race Kant had offered in his 1785 *Berlinische Monatsschrift* article, "On the Determination of the Concept of Race" (see above, 125–41). The article is thus of crucial importance for the arguments presented both on behalf of Kant and against him in consequence of his long-standing concern with the topic of race. For unlike the two texts by Kant from the 1770s (see above, 41–71), the interest in the concept of race central to this article cannot be dismissed as "precritical." Further, this interest can also not be dismissed as trivial or as a matter of only minor concern, as might be said of the 1785 article, which, when considered in the light of all of the other significant books and articles that Kant had published in the four years since the first edition of the *Critique of Pure Reason* appeared in 1781, might, as previously noted in the introduction to the translation of Kant's 1785 article, be dismissed as nothing more than an "occasional" piece comparable to his article "Concerning Volcanoes on the Moon," which was also published in the *Berlinische Monatsschrift* that same year. This is because the topic on which the article translated below is focused, namely, the legitimacy of relying on teleological principles in the investigation of nature prompted by the concerns of natural history, is also the main concern of at least the second part of the third critique, the "Critique of the Teleological

Power of Judgment,” a work that Kant himself describes in the first sentence of the final paragraph of its Preface as the one by which he “conclude[s] (*endige*) [his] entire critical enterprise” (*Critique of Judgment*, trans. Werner S. Pluhar, 7), which appeared only two years later.

Consequently, for critics and defenders of Kant alike, the need to “come to terms” with the views expressed in this 1788 article are central to the issue of whether Kant’s continuing interests in race theory in the years following the publication of not only the first critique, but also the completion of the second, really must be placed at the “core” of the further development of the entire critical philosophy or if it can instead, as defenders of Kant would naturally prefer, be confined to the “periphery.” To the extent then that the article is replete with passages that when first encountered only seem to make things worse for his defenders, the critics of Kant can easily find much in it to add to their case. For in this article Kant not only defends his race theory in the general form in which he has presented it ever since first sketching it in the texts of the mid-1770s—namely, the “germs-and-endowments theory,” including the view that we must, in order to account for the manifold diversity that we find in the skin coloration of the humans we encounter in all of the inhabitable regions of the earth, presuppose that the basis for four different, distinct races must have been implanted in the original human lineal stem species—he also again employs examples and comments that can only be described as “racist” both in tone and intent, such as we find in the earlier texts (but not in the 1785 “Determination” article). Further, near the end of the very first paragraph of the text, Kant implicitly identifies the problem of accounting for the skin color of the Negro as the central problem for which the use of teleological principles is needed inasmuch as skin color was identified as the one marker of race that is most reliable (because it “passes on [*anartet*] universally and invariably both within the class as well as in the interbreeding of one [race] with the remaining three”) in the 1785 article—which he now describes as an exercise in showing why we are “warrant[ed]” in “proceed[ing] from a teleological principle where theory forsakes us” (see below, 173).

More specifically, Kant continues to argue in this article for views such as the following: (1) that we cannot, without presupposing skin color as a heritable “marker” of four distinct racial identities implanted together in the lineal stem species, account for the differences in skin color that we encounter in geographically comparable regions of the Americas and Africa and in other parts of the world where we might otherwise not expect to find dark-skinned inhabitants; (2) that the descendants of “the Creole *Negroes* and <*Asian*->*Indians* known as gypsies,” when “exiled into <northern lands> . . . have . . . never wanted to serve as a stock useful to settled farmers or craftsmen,” presumably because this would be contrary to the “natural disposition

[*Naturell*]” they preciously acquired from living in a warmer climatic region (see below, 186); and even more egregiously (3) that it is because the “natural disposition [*Naturell*]” of the Americans “has not yet reached a *complete* fitness for any one climate . . . [that] this race, too weak for hard labor, too indifferent for diligent [labor], and incapable of any culture, stands . . . far below the Negro, who [otherwise] undoubtedly holds the lowest of all remaining levels that we have now designated racial differences” (see below, 186–87).

To believe that Kant’s interest in race theory played no role whatsoever in the further development of the critical philosophy in the period after the publication of the first and second critiques or that the moral theory first presented in works such as the 1785 *Groundwork for the Metaphysics of Morals* or the second critique itself must have “cleansed” him immediately of the racist views that he had expressed in texts written in the 1760s and 1770s is thus simply not an option for anyone who might—after a serious examination of the views presented in the text below—still wish to defend Kant. Defenders of Kant should, therefore, in their reading of the following text, not proceed with the assumption that they can show the critics to be wrong in the charges they level against Kant, but focus instead on central themes of the critical philosophy—as presented in works not published until the 1790s—not yet fully developed in this text, including: (1) Kant’s deep commitment to what we might now describe as methodological naturalism (which for him meant that neither explanations that rely exclusively on physico-mechanical causes for their explanation of phenomena in the world of “organized being” nor those that rely simply on teleological principles can be viewed as conclusive philosophically); (2) his firm conviction that although we can comprehensively describe the natural phenomena and human behavior that we encounter either in terms of laws of nature or laws of freedom, neither of these accounts can be given conclusive metaphysical priority (which for Kant allows us ultimately to give practical priority to the description that focuses on the moral domain); and, finally, (3) the view that the use of teleological principles in the description of nature is always empirically conditioned, i.e., the view that the naturalist can appeal to notions of purposiveness only in those cases where the phenomena cannot be wholly understood with recourse only to mechanical causes.

Such use of teleological principles, as described in this text, are, moreover, further constrained by the more complete critical examination of them presented in the second part of the third critique, the “Critique of the Teleological Power of Judgment.” For, in that text, Kant allows only for internal purposiveness, i.e., the postulation of purposive connections within systems of “organized being” (*organisches Wesen*), but never external purposiveness, i.e., the imposition of order from an external source, such as a Leibnizian God. Further, as many scholars emphasize in their discussions of this part

of the third critique, Kant's interest in teleological principles is *heuristic*, not *metaphysical*—that is, he is concerned with explaining systematically how we can comprehend at all the natural phenomena we encounter, especially in what we would be inclined to think of as the biological realm. Consequently, the view of race presented in the earlier 1788 article can perhaps best be understood as presenting us with problems to be resolved by the further development of Kant's moral and political philosophy in the 1790s, including the further extension of the philosophy of history sketched in a number of texts of the 1780s in monographs such as the 1795 *Towards Perpetual Peace*—rather than as a text that simply enshrines the observed racial inequalities that Kant, in the view of critics such as Emmanuel Chukwudi Eze and Tsenay Serequeberhan (see Translator's Introduction above, esp. 4–7), believes to be sanctioned by a divine Providence who expects nothing further of human reason than the acceptance of the observed natural order.

The opportunity is thus left open for defenders of Kant to offer a more detailed examination of the third critique and other works from the 1790s that might demonstrate how—following the publication of the article translated below—Kant, rather than developing more fully the racist elements of the critical philosophy indisputably present in certain texts that he had published in the the 1770s and 1780s, began instead to formulate some of the central ideas and themes used repeatedly in the last couple centuries to counter the far more sinister forms of racism that came to prominence both in Europe and in America in the century following Kant's death in 1804.

The numbers included in simple brackets below, e.g., [160], indicate the pagination of the text as reproduced in the Akademie edition of Kant's works (AA 8:157–184); the numbers in parenthesis, e.g., (382), indicate the pagination in the text as reproduced in Immanuel Kant, *Schriften zur Ästhetik und Naturphilosophie, Werke* vol. 3, ed. Martin Frank and Véronique Zanetti (Frankfurt am Main: Deutscher Klassiker Verlag, 1996), the edition of the text consulted most frequently in the preparation of this translation; and the numbers in brackets, e.g., <37>, indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 3, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001), and is also available online by searching the website, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, at www.ub.uni-bielefeld.de/diglib/aufklaerung/.

If we understand by *nature* the sum-total [*Inbegriff*] of everything that exists determined according to laws <and by> world (as nature properly so-called) <these things> taken together with <their> supreme cause, the investigation of nature can be attempted along two <different> paths. In the first case, <such investigation> is called *physics*; in the second, *metaphysics*. Physics is purely *theoretical* and employs only such ends [*Zwecke*] as can be known to us through experience. By contrast, metaphysics is *teleological* and can employ only an end appropriate to its calling established by pure reason for its plan [*Absicht*]. I have demonstrated elsewhere that in metaphysics reason cannot secure the *complete* plan it desires (with regard to knowledge of God) following the theoretical path. Consequently, for metaphysics the only <path> remaining might be the teleological. Thus, the <37> deficiencies of inadequate theory might have to be supplemented <in the case of metaphysics> by <making reference to> a given purpose [*Zweck*] determined a priori by pure practical reason (in the Idea of the highest good) instead of by <making use of> natural purposes that depend only upon the evidence of experience. I have tried in a little essay [*Versuch*] on the human races to demonstrate a similar warrant, indeed, a need, to proceed from a teleological principle where theory forsakes us. Both of these cases, however, include a demand to which understanding submits reluctantly, and can give sufficient cause for misunderstanding.

In every investigation of nature, reason rightly calls first on theory and only later on purpose-based determination [*Zweckbestimmung*]. No <appeal to> teleology or (382) practical purposiveness can make up for the deficiency <of theory>. We remain ever ignorant with regard to efficient causes when we are immediately able to make ever so clear the fitness of our assumption <by appealing> to final causes, be they of nature or our will. This lament seems to be based mostly there, where (as in that metaphysical case) even practical laws must take precedence in order, first and foremost, to specify the purpose for the sake of which I propose to determine the concept of a cause that seems to <reflect> a preoccupation with our peculiar plans and needs, and concerns not at all the nature of the object. [160]

It is always difficult to agree on principles in those cases where reason has a double, self-limiting reciprocal interest. However, <38> because principles of this kind concern the method of thinking prior to the determination of the object and <because> conflicting claims of reason make the perspective from which we have to consider <this> object ambiguous, it is also difficult enough merely to understand them. Two attempts of mine to come to terms with two very different subjects of greatly varying importance have been subjected to keen examination in the present publication. In one <of these> I was <simply> *not understood*, which I had, admittedly, expected, but in the other I was *well understood* beyond all expectation. Both <articles were written> by gentlemen of superior talent, youthful vigor, and blossoming reputation. In the first of these, I came under suspicion of wanting to answer a question concerning the

physical investigation of nature by means of religious documents; in the other, I was freed from suspicion of wanting to do damage to religion by means of a proof of the deficiency of a *metaphysical* investigation of nature. In both cases the difficulty is to be understood as resting upon a warrant not yet sufficiently brought to light that would allow the teleological principle to be used where theoretical sources of knowledge do not suffice. The use of this warrant must, nevertheless, be limited in such a way (383) that the right of *precedence* be secured for theoretical-speculative investigation in order, first of all, to test its full capacity [*Vermögen*] <for such inquiry> <and>, likewise, that this freedom might continue to be allowed to <theoretical-speculative> investigation at every time in <this> progression. (Pure reason <39> is rightly required, in the metaphysical <case>, to determine and to justify in advance this <capacity for inquiry> and, in general, its presumption to rule on anything at all; but <by meeting these requirements> the *condition* of <pure reason's> *power* [*ihren Vermögenszustand*] might <also> be fully revealed, thereby permitting us to count on the trust <that we place in pure reason>.) A large part of the dissension <in these matters> rests upon concern over possible damage <to religion>, a consequence of which <is that> [*womit*] freedom in the use of reason might be threatened. I believe, <however>, that, if this <concern> is lifted, the obstacles to agreement could easily be cleared away.

In the *Teutscher Merkur* of October/November 1786, Councilor Georg Forster delivers objections against an elucidation published in the *Berlinische Monatsschrift* for November 1785 of my view, expressed long ago, of the concept and origin of the *human races*. [161] <These objections>, it seems to me, arose simply from misunderstanding the principle from which I began. To be sure, this renowned man finds it hazardous from the very beginning to settle in advance on a *principle* on the basis of which the investigator of nature [*Naturforscher*] might even be led *in the inquiry into* [*im Suche*] and observation of nature, especially the sort of principle that directed observation to a <study of> *natural history* <that could> by that means advance <such study>—in distinction from the mere *description of nature*—in a manner <that makes> this distinction itself illicit. This unpleasant disagreement can, however, be easily cleared up. <40>

As for the first serious issue [*Bedenklichkeit*], it is easily without doubt certain that nothing purposive would ever be found <in nature> by means of purely empirical groping about without a guiding principle that might direct one's search: for *to observe* just means to engage experience *methodically*. I am thankful for the purely empirical<ly-minded> traveler and the story he tells, especially when <his reports provide> a coherent recognition <of things> that reason can make use of for the sake of theory. If, <however>, someone asks him <about something>, he will usually answer, "I certainly could have taken note of that (384) had I known that someone would ask about it." Indeed,

Forster himself follows the lead of the *Linnaean* principle of the perseverance of the character of the pollinating parts in plants without which the systematic *natural description* of the plant kingdom would not be so gloriously ordered and extended. <But>, unfortunately, it is very true that many individuals are so careless as to carry their ideas into observation (even the great student of nature himself took the similarity of such characters, due to certain examples, as an indication of the similarity of the powers of plants). Thus, the lesson for *those who reason too quickly* (which presumably does not pertain to either of us) is completely well established; but this misuse <of reason> certainly cannot nullify the validity of the rule. <41>

As for the contested, indeed, entirely rejected, distinction between the description of nature and natural history, if by the latter, we wanted to understand a *narrative account* [Erzählung] of natural events to which human reason cannot extend, e.g., the first development of plants and animals, then, to be sure, as <Forster> says, this would be a science for gods, who were present <at the time of this creation> or who were themselves the creators, and not <one> for human beings. A science of *natural history* would, however, <concern itself with investigating> the connection between certain present qualities of the things of nature and their causes in an earlier time according to laws of efficient <causality> that we do not invent but rather derive from the [162] forces of nature as they present themselves to us, pursued back, however, only so far as permitted by analogy. To be sure, this <science of natural history> is not only possible, but is also attempted frequently enough, as, for example, in the theories of the earth formulated by careful investigators of nature (among which the theories of the famous *Linnaeus* also find their place). <These individuals> may, then, through their research, have accomplished much, or little. Even <Forster's> conjecture concerning the first origin of the *Negro* certainly does not belong to the description of nature, but only to natural history. This distinction is placed in the nature of things [*Sachen Beschaffenheit*]. I am, <then>, demanding nothing new <in making this distinction> but simply the careful (385) separation of one activity from the other, because they are totally heterogeneous, and if the description of nature comes forward as science in all the full <42> splendor of a great system, natural history can only offer us fragments or shaky hypotheses. By means of this separation and <the> presentation of <natural history> as a special science distinguishable from the description of nature, I hope to ensure [*bewirken*] that we might not do something with supposed insight for one of these two kinds of investigation that belongs properly only to the other—even if natural history can, at the present time (and perhaps for ever), only be presented more in outline than in a work of practicable science (i.e., <an activity> in which, for most questions, a blank space has already been indicated <for the answers>). <I also hope that we might become> more

definitely acquainted with the sphere of real knowledge in natural history (for we possess some knowledge <in this area>) <and>, at the same time, with the boundaries of such knowledge lying in reason itself together with the principles according to which <this knowledge> might be extended in the best possible manner. I ask, then, that allowances <be made> to me for this painful precision, since I have suffered so much distress [*Unheil*] in other cases from the carelessness of allowing the borders of the sciences to run into one another, as I have pointed out, not exactly to everyone's liking. Besides, I am now [*hiebei*] thoroughly convinced that frequently an entirely new light might dawn [*aufgehe*] for the sciences through the mere analysis of dissimilar things that had previously been supposed to be mixed together. To be sure, <through such analysis> many an inadequacy that could previously be hidden behind exotic claims of knowledge is no doubt uncovered, but many previously proscribed, genuine sources of knowledge are also opened up where we might not at all have <ever> supposed them <to exist>. <43> The greatest difficulty in this presumptive innovation lies simply in the name. The word *history* in the <usual> meaning, since it expresses the same as the Greek *historia* (tale, description), is already too much and too long in use <for us> easily to grant to it [163] another meaning that can designate the natural science of the primal origin. <The problem is indeed especially difficult in this case>, since we cannot without difficulty find another, appropriate technical term (386) <for this science>.¹ <Simply identifying> the linguistic difficulty in the differentiation <of these two sciences> can, however, certainly not do away with the difference in the things. Precisely the same sort of dissension—because of an unavoidable departure from *classical* expressions also in the concept of a *race*—has presumably been the cause of the discord concerning the matter itself. We get here what *Sterne* said on the occasion of a dispute about physiognomy after his whimsical ideas had put all the faculty of the University of Strasburg in an uproar: the logicians might have settled the matter *had they not been pushed to a definition*. What is a *race*? The word is not to be found in a <ny> systematic description of nature, so presumably the thing itself is nowhere to be found in <44> nature. The *concept* which this expression designates is, however, surely well established in the reason of every observer of nature who supposes [*denkt*] a self-transmitting peculiar feature in different animals produced from interbreeding, <that is to say>, a union of cause <that> does not lie in the concept of its species <but was> certainly placed originally in the lineal stem stock [*Stamme*] of the species itself. <The fact> that <the> word <*race*> does not appear in the description of nature (but instead, in its place, the word *variety* [Varietät]) cannot keep <an observer of nature> from finding it necessary from the viewpoint of natural history. <This observer> must, nevertheless, determine how this word is being used, <as> we wish to attempt here.

The designation *race* as a *radical* peculiarity that both indicates [*Anzeige gibt*] a common descent and grants several such persistently transmitting characters to the same line of descent (and not only to the same animal species) is not improperly conceived. I would translate it by means of *deviate form* [*Abartung*] (progenies *classifica*) in order to [164] distinguish a (387) race from a *degeneration* [*Ausartung*] (*degeneratio* s. *progenies specifica*),² <45> something which we cannot allow because it runs counter to the laws of nature (in the preservation of its species [*Species*] in unchangeable form). The word *progenies* indicates that the primitive situation was not one in which so many different species [*Species*] of the same species type [*Gattung*] were divided up, but also, first and foremost, that they appeared in the characters that developed in successive generations. Hence, they are not really different *kinds* [*Arten*] but <only> *deviate forms* [*Abartungen*], even though they are still so distinct and persistent that they justify a class distinction.

According to these preliminary ideas, the *human species* (taken according to the general <distinguishing> marks [*allgemeinen Kennzeichen*] of <the human species> in the description of nature) could be divided in a system of nature into a *line* (or lines) of *descent*, *races*, or deviate forms (progenies *classificae*), and different *human stock* (*varietates nativae*). The last of these does not, however, contain invariable, distinguishing marks sufficient <46> for a class division that are self-transmitting according to a given law. All of this, however, remains (388) a mere idea of the kind showing how reason might unite the greatest manifold diversity in generation with the greatest unity of descent. Observations which make the unity of descent discernible must determine if there really is such a relationship in the human species. And now we see clearly that we must be led by a determinate principle in order merely to be able *to observe*, i.e., to give that kind of attention to that which is capable of giving indication of descent and not merely character similarities. <This is> because we are concerned <in these investigations> with a task of natural history and not a description of nature and simple methodological denomination [*Benennung*]. If someone has taken up <the> investigation of nature <without making use of> this principle, he will have to search again; for what he needs in order to decide [*ausmachen*] whether there might exist a real or merely a nominal relationship among creatures will not present itself to him on its own.

There can be no more certain sign of the diversity in the original line of descent than the impossibility of producing fertile offspring through the interbreeding of two hereditarily different human groups. [165] If, however, <such interbreeding> is successful, then the great diversity of form is no obstacle to at least possibly finding a common descent for these <two groups>; <47> for notwithstanding this diversity, they could *unify* themselves by means of generation in a product that contains both characters. In this way, they have

been able, beginning from a lineal stem stock that originally concealed in itself the endowments for the development of both characters, to *divide* themselves into so many races through generation. Reason will not, without need, proceed from two principles if it can make do with one. The certain sign of heritable peculiarities as the characteristic feature of just so many races has, however, already been given. There is, <nevertheless>, still something to be noted at this time about hereditary *varieties* that gives rise to the naming of one or (389) another human stock (family- and folk-stock).

A variety is the heritable peculiarity which is not classifiable because it does not invariably reproduce itself; for this sort of persistence of the heritable character is required in order to authorize the class division even for the description of nature. A form which reproduces the character of the nearest parents in reproduction *only occasionally*—and often only from one side (father or mother)—is no characteristic feature from which we can know the descent from both parents, e.g., the difference between fair-skinned and brown-complexioned peoples. Just in this way, race, or deviate form, is an *invariable*, heritable peculiarity that, to be sure, authorizes division into classes but is certainly not specific <48> because the invariably half-breed resemblance (hence, the *fusing together* of the characters of their difference) makes it at least not impossible to regard their inherited difference—even from the very beginning in their line of descent—as *unified* in simple endowments and gradually developed and *separated* only in reproduction. For we cannot make an animal group [*Tiergeschlecht*] into a particular species [*Species*] if it belongs with another in one and the same generative system of nature. Species type [*Gattung*] and *species* [Species] would, consequently, in natural history, signify one and the same thing, namely, the heritable peculiarity which is not compatible with common descent. However, the <heritable peculiarity> that can exist together with another peculiarity either is necessarily heritable or <it is> not. In the first case, it determines the character of a *race*; in the other, that of a *variety*.

Concerning that which in the human species can be called a *variety*, I here now remark that in the consideration of them we might also regard nature [166] not as formative [*bildend*] in full freedom, but only—in the same way as with racial characters—as developing, and on this basis, as pre-determined through original endowments. <This is> because purposiveness [*Zweckmäßigkeit*] and fitness [*Angemessenheit*] are to be found in *this*, too, <i.e., in the *variety*>, that can be no work of chance. (390) Every portrait painter who thinks about his art can confirm what Lord *Shaftesbury* already noted, namely, that a certain originality (as it were, <49> a real uniqueness [*Dessein*]) will be found in the face of every human being. <This originality> determinately marks the individual as to particular purposes that he does not have in common with any other individual even if it is clearly beyond

our capacity [*Vermögen*] to decipher these signs. We see the truth in a well-expressed portrait painted from life, i.e., that it is not simply taken from the imagination. But in what does this truth exist? Without doubt, <it exists> in a definite proportion of one of the many parts of the face to all the others in order to express an individual character comprehended in a dimly represented design [*Zweck*]. No part of the face, if it appears to us to be out of proportion, can be altered in the painting while leaving the remainder unchanged without making it immediately noticeable to the expert eye—whether or not he has seen the original—which of the two contains genuine nature and which fiction in comparison to that portrait copied from nature. The variety among human beings from the very same race is in all probability just as purposively secured in the original lineal stem stock in the same way in order to establish the greatest manifold diversity for the sake of infinitely different purposes, as is the difference among races in order to establish the usefulness for fewer, but more essential, purposes, and to develop them in successor generations [*Folge*]. The difference, however, prevails, so that the final endowments, after they have once <50> developed (which must have occurred already in the most ancient times), does not allow any new forms of this kind to emerge nor even the old forms to die out. In contrast to it, the first—at least according to our knowledge—endowment seems to announce a nature inexhaustible in new characters (outer as well as inner).

With respect to varieties, nature seems to prevent the *fusing together* of characters because this is contrary to her goal [*Zweck*], namely, <to preserve> the manifold diversity of characters. As for racial differences, on the other hand, (391) nature at least permits, even if she does not encourage this (namely, the fusing together <of characters>), because by this means the creature will be suited for several [167] climates, although <none of those produced by such fusing> are suited for several climates to the degree as was the first transmitted form [*Anartung*]. For, as far as common opinion is concerned, children (from our class of whites) are supposed to inherit from the parents on one side <or the other> the distinguishing marks which belong to the variety, <such> as stature, facial form, skin color, <and> even many infirmities, inner as well as outer (as <people> say: the child has this from the father, it has that from its mother). I cannot, however, after closer attentiveness to the family stock, accede to <this common view>. <The children> take after [*einarten*], if not immediately, the mother or father of one or the other family unmixed. And although the aversion to the interbreeding of relatives that are too close surely has, for the most part, no doubt moral grounds, since the <51> infertility of <the offspring> might not prove sufficient <to prevent it>, its widespread diffusion—<extending> even to barbarian peoples—gives occasion to suppose that the reason for this might, in some distant way, be situated in nature itself. <For nature> does not want the old forms to

be reproduced again but that all the manifold diversity that she had placed in the original germs of the human lineal stem stock should be displayed. Likewise, a certain degree of uniformity that is to be found in a family line or even in a folk stock may not be assigned to the half-breed transmission [*Anartung*] of their characters (which in my opinion does not happen with respect to varieties). For the superiority of the generative power in one or the other party of married persons can—with the ever great initial variety of characters (that is, in consequence <of the fact> that the resemblances to the one side become ever less frequent)—diminish the manifold diversity and bring about a certain uniformity (which is visible only to unfamiliar [*fremden*] eyes), as when at times nearly all of the children turn out [*einschlagen*] in either the paternal or maternal line of descent. This, however, is really only an incidental (392) opinion of mine, which I give up to the reader to judge as he pleases. More importantly, nearly everything that we might in other animals call a variety (such as size, the texture of the skin, etc.) passes on half-breedishly, although this conclusion—if we, as is reasonable, consider humans (with a view to reproduction) according to an analogy <52> with animals—seems to comprise an objection to my distinction of races from varieties. To make a judgment about this, we must already take a higher standpoint of explanation for this natural arrangement, that is to say, we must assume that reasonless animals, [168] whose existence can have value merely as a means, must have already been outfitted in their endowment for different uses (as are the different breeds of dogs, which, according to *Buffon*, are all derived from a common line of descent of sheep dog). By contrast, the greater uniformity of purpose in the human species did not require such a large variety of transmitting natural forms [*anartender Naturformen*]. The necessarily transmitting <natural forms> were, therefore, allowed to be laid out only for the preservation of the species [*Species*] in a few climates differing significantly from one another. I have wanted here, however, to defend only the concept of *race*, so it is not really necessary for me to vouch for the basis of this explanation [*Erklärungsgrundes*] of varieties. <107>

After dissolution of this verbal disagreement, which is frequently more responsible for dissension than <any disagreement> over principles, I hope now to meet a lesser obstacle to the statement of my kind of explanation. <Forster> is in accord with me in that he at least finds an heritable peculiarity among different human forms, namely, that of the *Negro* and the other humans, that is great enough to prevent us from regarding it as a simple play of nature and the result of merely accidental imprints. <This heritable peculiarity> requires instead endowments incorporated originally in the lineal stem stock and a specific natural arrangement. This unanimity in our theories is already important and also makes reconciliation possible in consideration of the mutual principles of explanation. In place of the common, insipid

way of presenting these matters, which takes every difference in our species <108> to be of the same (393) kind, namely, <to be merely> accidental, and allowing them still <to be> ever coming into and going out of existence as ordained by external circumstances, <we> declare every investigation of this kind to be superfluous, and in saying this, the persistence of species in the same purposively suitable form to be empty. There remain only two differences in our theories, which, however, are not so far apart from one another as to constitute a dispute that can necessarily never be settled. The *first* <difference> is that <Forster> believes that the heritable characters <previously> referred to, namely, those that distinguish the *Negro* from all other men, are the only ones that deserve to be regarded as originally implanted, while I, by contrast, would judge still more (those of <Asian->*Indians* and *Americans* in addition to those of *whites*) to be equally as well justified for the complete classificatory division. The *second* <point of> divergence, which is not concerned so much with observation (the description of nature) as with the advancing theory (natural history), is that <Forster> finds two original lines of descent necessary for the sake of explaining these characters, [169] while, in my opinion it is possible—and more appropriate for the philosophical mode of explanation—to look on these characters (which I, along with Forster, believe to be original characters) as a further development of purposively suitable primary endowments implanted in a lineal stem stock. <But> this is also not so great a disagreement that reason should not be able to offer a hand in resolving it, if we <109> bear in mind that the physical, first source of organic being and human reason in general remains just as unfathomable for both of us as does the half-breed transmission in reproduction. <To assume>, however, <as Forster does>, <that> the system of germs was separated immediately from the very beginning and isolated into two lines of descent—but, all the same, later, in the mixing of the previously separated germs, again harmoniously fused together—does not secure the slightest bit more for rational comprehensibility than to assume, <as I do>, <that> the evolving seeds were originally implanted differently in one and the same line of descent [*Stamme*] (394) *purposively suited for the first general populating <of the earth>* in their succession [*Folge*]. Further, <my> hypothesis surely leads to the advantage of economy over <the hypothesis of> different local creations, since without an economy of reasons for *teleological* explanations, in order to supplant them with physical explanations, <we> cannot at all conceive in the case of organized beings what the preservation of their kind <even> means [*angeht*]. The latter kind of explanation, <that is, the kind of explanation befitting> the investigation of nature, <also> imposes no new burden beyond that which it can never be rid of anyway, namely, to comply exclusively in these matters with *the principle of purposes*. <Besides>, Forster really determined only through the discoveries of his friend, *Sömmerring*, the

famous philosophical anatomist, to find the difference between the Negroes and other human beings more important than they might well have liked. <For> they blur all heritable characters into one another and <110> regard them as merely accidental shadings. This admirable man affirms the complete, purposive suitability [*vollkommene Zweckmäßigkeit*] of the Negro formation with reference to his motherland,³ even though a more comprehensible fitness to his native soil is not to be perceived equally in the osseous structure of the skull (395) [170] as is to be found in the organization of the skin, <that is>, <in> this great instrument for discharging everything that should be evacuated from the blood. Hence, <Sömmerring> seems to understand *this* from all of the entire, remaining <elements> of the exceptional natural arrangement <of the bodily formation of the Negro> (of which the texture of the skin is an important part), and *that*, for the anatomist establishes only the most perspicuous token <of this bodily formation>. Thus, <Forster> should hopefully not be reluctant to concede to the <peculiar features> an equal claim to special, original, implanted germs suitably purposive for the <entire> line if it is proven that there are still other, equally so persistent transmitting peculiarities in fewer number, according to the gradation of climate, <which do> not at all run into one another <111> but <are> sharply divided whether or not <these peculiarities> fit into the technical framework of the art of dissection. Whether it be necessary to assume several lineal stem stocks or only one, more united, is, however, something about which, hopefully, we can, in the end, still easily agree.

To concur with my view would, therefore, be only to raise [*heben*] the difficulties that deter <Forster>, not only in consideration of the principle, but rather in making it fit for all cases of proper employment. In the first section of his article of October 1786, 70 [see above, 151–52], <Forster> introduces a color guide to the skin of the inhabitants of northern Europe—<extending through> Spain, Egypt, Arabia, and Abyssinia to the equator, but which, beginning from the equator <and> from there, but in reversed gradations <corresponding to> the reverse <climatic> shift in the temperate southern zone beyond the lands (in his view) of the Kaffirs and Hottentots. <This guide presents Forster's view that the skin color of all these peoples—from northern Europe to the southern tip of Africa—can be calibrated> proportionately to the climate of the land, <changing> from brown to black and back again <to brown> (by which, he supposes, although without proof, that the Kaffirs and Hottentots <are descended> from colonies that came from Nigritia [*Nigritien*] who moved toward the tip of Africa <and> were transformed gradually into Kaffirs and (396) Hottentots purely in consequence of the effect of the climate). <All this> so surprised Forster that he wondered <112> how anyone could still overlook it. We must, however, reasonably wonder even more how anyone could shut their eyes to the distinguishing feature of the invariably

half-breed generation, which is sufficiently determinate and provides the only basis for decisively considering surely everything that matters here. [171] For neither the interbreeding of northern Europeans with those of Spanish blood, nor <that> of the Mauritians or Arabs (<and> presumably also their near relatives, the Abyssinians) with Circassian women, complies with this law in the slightest. We also have no reason to judge their color—after that which the sun of their land imprints on each individual of the latter group has been set aside—as something different than what one judges brown-complexioned <individuals> to be among the white human stock. As, however, for the Kaffirs, who resemble the Negroes in that same part of the world, and, to a lesser degree, the Hottentots (<cases> which would presumably pass the test of half-breed generation): it is to the highest degree probable that they might be nothing other than bastard generations of a Negroid people <who interbred> with Arabs, who from the earliest times have frequented this coastal area. For why are the same supposed gradations of <skin> color not to be found among the peoples living on the west coast of Africa where nature rather makes a sudden jump from the brown-complexioned Arabs or Mauritians to the blackest Negroes in Senegal without first going through the intermediate rung of the Kaffirs? This case also voids <113> the trial—and beforehand decisive—test suggested on p. 74 [see above, 154] that should prove the unacceptability of my principle. Specifically, <the test should show> that the dark brown Abyssinian interbred with a female Kaffir would not, according to color, yield an intermediary stock because both colors are the same, namely, brownish black. For <Forster> assumes that the depth of the brown color of the Abyssinian, like that of the Kaffirs, might be inborn [*angeboren*] and, to be sure, in such a way that they would necessarily have to yield an intermediary color in mixed breeding [*Zeugung*] with a white. Thus, the test would certainly turn out as <Forster> wants, (397) however, it would also prove nothing against me because the difference of the races is not to be judged according to that which is the same in them but rather according to that which is different. We would only be able to say that there might also be deep-brown races that distinguish themselves from Negroes or their descent according to *other <distinguishing> characteristic features* (for example, bone structure); for only with respect to these features would the generation yield a hybrid, and my catalogue of colors would only be increased by one. If, on the other hand, the deep color that the Abyssinian who grew up in his own land bears is not passed on but is instead something like that of a Spaniard who might have been raised in the same land from childhood, then without doubt <the Abyssinian's> natural color would with that of the Kaffirs yield an intermediary stock in the generation, but one that—because the accidental tincture is added by means of the [172] sun—would remain hidden and seem to be a stock <114> of the same kind (<when judged> according to

color). Therefore, this projected test proves nothing against the usefulness of necessarily heritable skin color for a racial distinction, but rather only the difficulty of being able to determine <skin color> correctly in so far as it is inborn in places where the sun still covers it over with accidental, cosmetic coloration [*Schminke*]. <This test does, however>, confirm the legitimacy of my demand to give preference to *generations* from the same parents <living> *in a foreign land* for determining racial distinctions.

Of the latter, we now have a decisive example in the <Asian->Indian skin color of a band of people [*Völkchens*] who have been reproducing in our northern lands for several centuries, namely, the *gypsies*. <The fact> that they are an <Asian->*Indian* people is proven by their speech independently from their skin color. But nature remains so persistent in preserving <their skin color> that, if we can indeed follow their presence in Europe back twelve generations [*Generations*], they still come to light so perfect that, had they grown up in India, no difference at all would, in all probability, be found between them and those native born <in India>. To say now (398) that we would have to wait still twelve times twelve generations until the northern air had fully bleached out the hereditary [*anerbende*] color would mean to delay the investigator of nature with dilatory answers and to look for excuses. To pass off their color as a mere variety—somewhat <115> like the skin color of the brown-complexioned Spaniard compared to that of the Danes—means to doubt the imprint of nature. For they invariably produce half-breed children with our old native born. The race of whites is, <however>, with respect to none of its own characteristic varieties, subject to this law <of invariably producing half-breed offspring>.

The most important counterargument <to my view> appears on pp. 155–56 [see above, 161–62]. In the event that <this counterargument> were established, it would—even were my notion of *original endowments* also conceded to me—become proven that the fitness of human beings to their mother lands could surely not last [*bestehen*] *with their dispersion* over the <entire> surface of the earth. <Forster> says <that>, if need be, <the view> that *precisely those* human beings *whose endowment* makes them suited *for this* or that *climate* would be born here or there through a wise dispensation [*Fügung*] of Providence might still be defended, but he continues, how then has exactly this same Providence become so shortsighted not to think of a *second transplanting* where that germ, were it useful only for one climate, would become totally without purpose? [173]

As for the first point, remember that I did not assume that these first endowments were *divided among different* human beings, but rather that they were *united* in the first human couple. For if this were not the case, there might have been <equally> so many different *lineal stem stocks*. Thus, the

descendants <of this first human couple>, in whom the *complete* original endowment is still undivided for all future deviate forms, <116> went well together with (potentially) all climates, that is, that that germ could in that very place have developed in such a way that would make them fitted for that one region of the earth into which they, or their early descendants, might have wandered. A special, wise dispensation <of Providence> is not, therefore, needed to bring them to such places to which their endowments were fitted [*paßte*]. The germ to be found in their organization for a specific region of the earth, making them fitted for such a climate developed instead there, where they, who accidentally came (399) into a certain region, continued their generation. <For, according to my view>, the development of these endowments conforms to the places and not, as <Forster> mistakenly thinks, <that> the places must somehow be sought out according to the already developed endowments. All this is understood, however, <to have happened> only in the earliest times, which afforded <a period of time lasting> long enough (for a gradual populating of the earth) in order, first and foremost, to provide the requisite influence of climate and native soil needed for the development of those endowments for a people that had a permanent place <to live>. But <Forster> then continues: how, then, does this same intelligence [*Verstand*], which had previously calculated so correctly which lands and which germs should meet up with one another, become all at once so shortsighted that it did not foresee the event of a *second transplanting*? (<For lands and germs> *must*, according to the foregoing <account>, *always* come together if one also wants <to claim> that it was not an intelligence that might just so carefully have equipped them, but rather only the same nature which had—so thoroughly, purposefully, and inwardly—also outfitted the organization of animals for their preservation.) <117> For through this process, the inborn peculiarities that are useful for only one climate will become thereby totally without purpose, etc.

As for the second point of objection, I concede that this intelligence—or if we prefer, this nature, purposively efficacious by itself in conformity with germs already developed for transplantation [*jene von selbst zweckmäßig wirkende Natur nach schon entwickelten Keimen auf Verpflanzung*—did in fact not at all take <this second transplanting> into consideration, surely without, for this reason, permitting <it> to be accused of being unwise and shortsighted. <Nature> has rather prevented the exchange of <one climate for another>—especially the warm with the cold—through her <plan of> fitness to a <specific> climate. For nature automatically checks this calamitous adaptation to a new region [174] by those inhabitants of an old region whose natural disposition [*Naturell*] has already become adapted to the old <region>. Where have <Asian->Indians or Negroes ever attempted to spread out into northern

lands? — Those exiled into <northern lands> (like the Creole *Negroes* (400) or <Asian->*Indians* known as gypsies) have in their descendants never wanted to serve as a stock useful to settled farmers or craftsmen.⁴ [175] (401) <118>

However, precisely that which <Forster> considers an insurmountable difficulty in opposition to my principle, casts—in a certain application—the most advantageous light <119> upon <this principle> and solves problems against which no other theory has any power. I assume that there could have been as many generations [*Generationen*] from the time of the beginning of the human species through the gradual development of the fully <developed> transmitted form [*Anartung*] to a climate in its existing endowment as is required. <I also assume> that the forced distribution of these <generations> over the most appreciable part of the earth—caused for the most part by powerful natural revolutions—could have taken place with <only> scanty increase in the kind [*Art*]. If, then, through these causes, a band of people of the old world is driven from southern regions <120> to northern ones, the <development of the> transmitted form must gradually come to a standstill. To be consistent <with what was previously stated>, <this development> was perhaps not yet complete, <but> on the other hand, a place has also been made for a contrary development of the endowments, namely, the endowments needed for a northern climate. Assume, then, <that> this human stock were to move even further northwards toward America, a view which, admittedly, has the highest probability. If this were so, ere this band of people could spread again from this part of the world appreciably to the south, (402) this development, now as completed—<because> their natural endowments are already developed as much as is possible—would <make> all further transformation [*Anartung*] for a new climate impossible. Consequently, a race might have been established which, with its push to the south, is forever one and the same for all climates, <but>, therefore, is actually properly fitted for no climate, because the change in the southern form [*südliche Anartung*] was interrupted in the middle of its development, before its departure, by the northerly climate. This is the way in which the persistent condition of this human band has been established. In fact, *Don Ulloa* (an especially important witness, who was acquainted with the <native> population of the Americas from both hemispheres) affirms that the characteristic appearance of the inhabitants of this continent has been found to be generally very similar (as for their <skin> color, a recent seafarer, whose name I cannot presently give with certainty, describes it as *iron rust* mixed with *oil*). <121> <The fact>, however, that their natural disposition [*Naturell*] has not yet reached a *complete* fitness for any one climate can help explain more easily than any other reasons [176] why this race, too weak for hard labor, too indifferent for diligent <labor>, and incapable of any culture, stands—despite the proximity of example and ample encouragement—far below the

Negro, who undoubtedly holds the lowest of all remaining levels that we have designated as racial differences.

Now consider all other possible hypotheses [*Hypothesen*] to account for this phenomenon! If one does not wish to add to the special creation of the Negro already proposed by <Forster>, a second, namely, that of the American, there remains no other answer left than that America is too *cold* or too *new* ever to produce the deviate form of the Negro or the yellow <Asian->Indian, or to have already produced them in the short time since America has been populated. The first assertion, concerning the warm climate of the continent, has now been sufficiently refuted. As for the *second*, namely, that if one had patience to wait only a few thousand years (403), the Negro would someday (at least according to heritable skin color) also appear here through the gradual influence of the sun, we would first have to be certain that sun and air can execute such an engrafting. <122> We are, however, <when we are not certain of this> defending ourselves only against *objections* <that have arisen> in consequence of a merely surmised outcome, fixed so distant <in the future> <and> always being pushed further out at will [*einen so ins weite gestellten, immer nach Belieben weiter hinaus zu rückenden, bloß vermuteten Erfolg*]. How much less can a purely convenient conjecture, since <this view> itself is still very much doubted, bring in opposition to the *facts*!

There is, <on the other hand>, an important confirmation of the derivation of invariable hereditary differences by means of the development of endowments <that were> present together originally and purposively in a human lineal stem stock for the preservation of the kind—<namely>, that the races that have actually developed from <this original stock> are not dispersed *sporadically* (in all parts of the world, in one and the same climate, of the same type), but instead *cycladically* in small, unified bands <of people> <that> are to be found spread out within the borders of a region in which each of them could have come into being. Thus, the *pure* derivation [*Abstammung*] of the *yellow-colored* <peoples> is enclosed within the borders of *Hindustan*, <while> *Arabia*, which is not far removed <and which> occupies for the most part the same climatic zone, contains <no yellow-colored peoples>. However, neither of these regions contains any *Negroes*, who are to be found only in *Africa* between the *Senegal* <River> and *Cape Negro* (and, in this way, further within the interior of this continent). At the same time, neither <yellow-colored peoples nor Negroes> are to be found in all of *America*. Indeed, no racial character whatsoever of the old world can be found among the peoples of the Americas (excepting the *Eskimos*, [177] who, according to various characters taken in both their form and their talent, <123> appear to be later arrivals from one of the old continents). Each of these races is as it were isolated, and yet, there with the same climate, they, nevertheless, distinguished themselves from one another by means of an inseparable character appended

to the generative capacity of each of them. Consequently, they make the view [*Meinung*] of the origin of the latter <of these two races> as (404) effects of the climate very unlikely <and> confirm instead the supposition of a universal generative kinship through unity of descent and, at the same time, the *cause* of the classificatory distinction <used to distinguish the different races>. <This cause> does not lie purely in the climate but <within a people>. This cause must have required a long time to make its operation [*Wirkung*] fitted to the place of reproduction. Then, after this <operation> had finally once come into standing, no new deviate forms were possible in consequence of displacement. <This development> can, therefore, be regarded as <arising from> nothing other than a gradually, purposefully developing *original endowment* lying in the lineal stem stock, <the effect of which is> limited to a certain number <of features> in accordance with the chief differences resulting from atmospheric influence. The scattered races of the *Papuans*, which belong to the south Asian islands that extend eastward to the Pacific Ocean, seem to seriously weaken this argument. I, along with Captain *Forrester*, have called these people *Kaffirs* (because he <has found reasons not to classify them with the> Negro, presumably partly because of their skin color <and> partly because of their head and beard hair, which, contrary to the attributes of the Negro, can be combed out to a presentable <124> length. But the wondrous dispersion of still other races found next to the *Papuans*, namely, the *Haragorans*, and, more certainly, human beings similar to the pure <Asian->Indian line of descent, rehabilitate <the argument>, because the fact of such dispersion also weakens the case for the effect of climate on their inherited trait inasmuch as these traits come out so differently in the same climatic zones. Hence, we also, with good reason, surely find it probable not to regard these peoples as aborigines, but instead as foreigners (*Papuans* perhaps, from *Madagascar*) <who were>—for who knows what reasons (perhaps a powerful upheaval of the earth, which must have worked from west to east)—exiled from their place of residence. <As for> the inhabitants of *Freewill Island*, I can only state from memory (perhaps incorrectly) the report of *Carteret*. But if <memory> serves me well, we will have to look for evidence of the development of the racial difference <present in this people> in the presumed place of residence of their lineal stem stock on the *continent* and (405) not on the *islands*, [178] which, to all appearances, were first and foremost populated through an operation of nature completed long ago.

So much then for the defense of my conception [*Begriffs*] of the derivation of the heritable manifold diversity of organic creatures of one and the same *natural species* (*species naturalis* in so far as these creatures are connected through their generative capacity <125> and could have originated from one lineal stem stock).⁵ <A *natural species* is, however>, distinguished from a *scholastic species* (*species artificialis*, in so far as they fall under a com-

mon characteristic feature of simple comparison). The first of these notions belongs to natural history, the second, to the description of nature. <I want, then>, now, <to say> still something more about <Forster's> peculiar system from its origin. We both agree that in a system of natural science everything must be explained *naturally*, because it would otherwise not belong to this science. I have followed this maxim so carefully that <126> even a perspicacious gentleman (O. C. R. *Büsching*, in a review of a previously mentioned (406) publication of mine) makes me into a *naturalist*, if only, as he adds, one of a peculiar kind, due to <my use of> expressions of the intentions, wisdom, precaution [*Vorsorge*], etc., of nature. I do not, <however>, find it advisable to use *theological* language in discussions that concern the mere knowledge of nature and how far it extends (although it is totally proper to express oneself *teleologically* in these cases). <I follow this maxim> in order to point out quite carefully the boundaries of every kind of knowledge.

However, this same maxim, that everything in natural science must be explained naturally, points at the same time to the limits of natural science. [179] For we have reached the outermost boundary <of natural science> when we have need of the last among all explanations that can still stand the test of *experience*. Where <experience> comes to an end and we have to begin with material forces we have personally invented <that operate> according to unheard of laws incapable of proof, we are already beyond natural science. <It hardly matters in these cases> if we still directly identify natural things as causes, but at the same time attribute powers to them, the existence of which is proven by nothing—<when> indeed even their possibility can, only with difficulty, be reconciled with reason. The concept of an organized being presupposes that <this thing> be a material being in which everything stands in the reciprocal relationship of ends and means to one another. <Such a being> can even be conceived only as <127> a *system of final causes*. Consequently, only teleological—but in no way physico-mechanical—types of explanation are left to account for the possibility of such a being, at least for *human* reason. Thus, physics cannot ask where all organization itself came from originally. The answer to this question, if it is available to us at all, would obviously lie *outside* natural science, in *metaphysics*. I, for my part, derive all organization [*Organisation*] from *organic being* [*organischen Wesen*] (through generation) and <account for> later forms (of this kind of natural thing) according to laws of gradual development from *original endowments* (of the kind (407) we frequently find in the transplantation of plants) that were to be found in the organization of the lineal stem stock. To explain, however, how the lineal stem stock itself might have *come into existence* is a task that lies completely beyond the boundaries of any physics possible for human beings. I certainly believed, <therefore>, that I had to hold myself within <these boundaries>.

For that reason, I would fear nothing that might arise from the Court of Inquisition [*Ketzergericht*] against <Forster's> system (for that would be to presume a jurisdiction equally as well fit [*wohl*] outside its proper domain). I <could> also dispose requisite cases to a philosophical *jury* (p. 166 [see above, 167]) of simple [*bloßen*] investigators of nature and still hardly believe that their pronouncement might be permitted to come out favorable for him. <Consider, for example, the following passages from Forster's article:> "This earth in labor . . . [causes] animals and plants. . . . [to come into being]. . . . without generation from <128> their like . . . [out of] her [mud from the sea fertilized womb]" (pp. 80 [see above, 156]); the "local [generation]" of organic species thereby established "[produced] in *Africa* . . . its human being [(the Negro)] and <in> *Asia* its [(all the rest)]" (p. 158 [see above, 163]). <Forster also writes> of the relationship of everything in an imperceptible, graduated series—from humans to whales (p. 77 [see above, 155]) and even further (extending, presumably, to mosses and lichens)—that derives from <all> this [180] <and says that they> are <all> not merely <part of> a comparative system, but instead a system of reproduction descended from a common line of descent in a descending natural chain⁶ of organic being. These passages would certainly not cause the investigator of nature to recoil before <all this> as he might from some monster (p. 75 [see above, 154]) (for this is a game with which many a person has certainly amused himself, but then given up because nothing (408) is to be gained by it). He would, however, surely be frightened back from it were he to consider that he had unawares gone astray from the fertile ground of the investigation of nature into the desert of metaphysics. I know, in addition to this, another and not (*ibid.*) *unmanly* fear, namely, <129> to recoil from everything that reason relaxes from her first principles. <For> this makes it permissible for <reason> to wander about in unbounded imaginative fancy. Perhaps <Forster> also wanted by this means to do a favor to some *hyper-metaphysician* and provide material for his fantasy in order that he might amuse himself later (for there are also <people> like this who, to wit, are not even acquainted with the elementary concepts <of sound natural science>, who also line up to scorn them, and <who>, nevertheless, set off heroically in quest of conquests).

True metaphysics knows the limits of human reason. Among <other limits>, <true metaphysics> recognizes reason's hereditary defect [*Erbfehler*], which she can never disavow, <namely>, that <true metaphysics> can and may devise a priori absolutely no *fundamental powers* (because she would then be concocting purely empty concepts). <True metaphysics> can instead, learning from experience, do nothing more than reduce <the fundamental powers> to the smallest number possible and search for the *fundamental power* proper <to each of them> (so far as <these powers> only appear to be different, but are fundamentally identical). When these powers are to be

valid for physics, <they are> to be searched for in the *world*; but when they concern metaphysics (that is to say, refer to <that which is> dependent on nothing further), <they> are, if need be, to be searched for *outside the world*. We can, however, offer no other concept of a fundamental power (since we are acquainted with <such a power> only through the relation of cause upon an effect) and can make out no other name for it than that which is taken from the effect and straightforwardly expresses only this <130> relation.⁷ [181] Now (409) the concept of an organized being is the concept of a material being possible only through the relation of all that <131> which is contained in it existing reciprocally as end and means (<which is> also how every anatomist, as physiologist, actually—from this concept—begins). A fundamental power by means of which an organization might operate must, therefore, be conceived as an efficient cause in conformity with *purposes* [Zwecken]. To be sure, these purposes <must be conceived> as laying the foundation for the possibility of the effect. We recognize powers of this kind, however, *according to their determining grounds*, through experience solely *within ourselves*, namely, <through experience> of our understanding and will as a cause of the possibility of certain products set up entirely according to purposes, that is to say, <through our experience> of *works of art* [Kunstwerke]. Understanding and will (410) are, for us, fundamental powers, of which the latter, in so far as it is determined by the former, is a capacity to produce something *in accordance with an Idea*, which is called a purpose. We should not, however, independent from all experience, devise any new fundamental powers that might purposefully be of the sort which operated in a thing [Wesen] without having its determining ground in an Idea. Therefore, the concept of the capacity of a being to have an effect *purposefully* of itself, but *without purpose* and intention lying in itself or its cause—as a special fundamental power, for which there is no example in experience—is entirely fabricated and empty, i.e., without the slightest guarantee that any object whatsoever [182] could ever correspond to this concept in general. It might be, therefore, that we come across the cause of organized beings *in the world* or *outside* <132> of the world. Consequently, we must either disclaim every determination of their cause or conceive of an *intelligent being* in addition to ourselves. <The reason for this is> not that we might have realized (as the late Mendelssohn and others believed) that such an effect might be *impossible* from another cause, but because we would need to *invent* a fundamental power in order to explain another cause, with exclusion of the final cause. <But> reason has absolutely no warrant <to go so far as that>, because there would then be no labor for her in explaining *whatever* she wished, *however* she wished.

And now to draw the result [*Summe*] from all this! *Purposes* have a direct reference to *reason*, be they extraneous [*fremde*], or our own. However, in order to place purposes in a reason not our own [*fremder Vernunft*], we must first lay down the foundations of our own, at least (411) as an analogue to <a reason extraneous to us>—because <purposes> simply cannot be represented at all without <doing> this. Purposes are either purposes of *nature* or of *freedom*. No human being realizes a priori that there must be purposes in nature, but we can very well realize a priori that there must be a connection in <nature> between causes and effects. As a consequence, the use of the teleological principle is, in the consideration of nature, always empirically conditioned. The same <might be said> with <regard to> purposes of freedom, if <such purposes> had to be given as determining grounds prior to the objects of volition by means of nature (in needs <133> and inclinations), since we make these things into purposes in order—simply by means of the comparison of these with one another and with their result [*Summe*]*—to determine through reason that which we make for ourselves to <be> the purpose.* The critique of practical reason shows, however, that there are pure practical principles through which reason is determined a priori. These pure practical principles specify a priori, therefore, the end [*Zweck*] of reason. If, therefore, the use of the teleological principle for the explanation of nature can never specify fully and determine sufficiently for all purposes the ultimate reason [*Urgrund*] for the purposive connection because it is limited to empirical conditions, we must, on the other hand, expect this from a *pure doctrine of purpose* [reinen Zweckslehre] (which can be of nothing other than that of *freedom*), the principle a priori of which comprehends the relationship of a reason in general to the totality [*Ganze*] of all purposes and can only be practical. However, because a pure practical [183] teleology, i.e., a morals, is destined [*bestimmt*] to make its purposes real in the world, it cannot be permitted to neglect the *possibility* of these purposes in <the world>. <A pure practical teleology can also not be permitted to neglect> <considering> both what the given final causes concern and the fitness of the *supreme world cause* to a totality of purposes as effect; hence, <it cannot be permitted to neglect> natural *teleology* or the possibility of nature in general, i.e., transcendental philosophy. <For were it to ignore these issues, it would also pass over an opportunity> to secure the objective reality for the practical pure doctrine of purpose with regard to the possibility of <such> objects of practice [*Ausübung*], namely, the <objects> of the purpose that it prescribes as having an effect in the world. (412) <134>

In both respects, then, *the author of the letter concerning the c<ritical> philosophy* has exemplarily demonstrated his talent, insight, and praiseworthy way of thinking, usefully applying each of these to universal necessary purposes. And <even> if it is, to be sure, an imposition on the excellent editor of

the present publication, which seems to tread too close to unpretentiousness, I could, nevertheless, not fail to request of him permission in his publication my acknowledgment of the merit of the unnamed author of this letter, who was, until recently, also unknown to me, about the common concern [*Sache*] of speculative as well as practical reason, guided by fixed principles, so far as I have made an effort to make a contribution <in this field>. The talent for giving an illuminating, even charming presentation of a dry, abstract theory without damage to its thoroughness is so rare (at the least, granting the age <of the author>) and, all the same, so useful. I do not say <this> merely as a recommendation, but rather for <the sake of> the clarity of insight and the lucidity themselves <as well as> the persuasiveness that is bound up with these. I believe myself to be bound, <in fact>, to render my thanks publically to that individual who has supplemented my work in ways <which facilitate understanding> that I could <personally> never have provided.

I just want, <finally>, to take this opportunity to touch briefly on the subject of supposed contradictions discovered in a work of considerable size before it has, as a whole, been well comprehended. <These supposed contradictions> vanish <135> altogether on their own, however, if we consider them in connection with the rest <of the work>. In the *Leipziger gel<ehrte> Zeitung* (1787, No. 94) a passage from the Introduction of the *Critique <of Pure Reason>*, p. 3, (413) l. 7 (1787 edition), is given together with another, from shortly thereafter, p. 5, ll. 1-2. <These passages> <seem to> stand in direct contradiction. For in the first passage, I have said that knowledge a priori is called pure when it is [184] not *mixed* with anything empirical, <but> as an example of the opposite <of this> the <following> sentence is cited: everything *changeable* has a cause. I cite this same sentence on p. 5, however, as an example of pure knowledge a priori, that is, as a kind of knowledge that is not *dependent* upon anything empirical. <I have, therefore, admittedly used> two meanings of the word *pure*, of which in the complete work I am, however, concerned only with the latter. I admit, I might have been able to avert misunderstanding by using as an example of sentences of the first kind <such as>: everything *accidental* has a cause. For here there is absolutely nothing empirical *mixed* in. But who reflects on every inducement for misunderstanding? — The same thing has happened to me with a note to the Preface of the *Metaphysical Foundations of Natural Science*, pp. xvi–xvii [AA 4:474], where I lay out the deduction of the categories as indeed important, but not *as extremely necessary*; but I surely affirm the latter studiously in the *Critique*. We can, however, easily see that the categories were drawn into consideration in the <*Metaphysical Foundations*> only from a *negative* point of view [*Absicht*], namely, in order to demonstrate that absolutely no knowledge of things comes into standing by means of the categories *alone* (without sensible intuition), as is already clear <136> if we also take into consideration

the *exposition* of the categories (as pure logical functions applied to objects in general). However, because we do indeed make use of <the categories> <and because through this use> [*darin*] they really do belong to the *knowledge* of objects (of experience), the possibility of the a priori objective validity of such concepts in relation to the empirical must then be expressly demonstrated. <For if we do not do this>, <the categories> might be judged to be entirely without meaning or even not to have *originated* empirically. This, <however>, was the *positive* point of view with respect to which the *deduction* is indeed indispensably necessary.

I just now learned that the author of the above-mentioned letter is Councilor *Reinhold*, recently appointed professor of philosophy (414) in Jena, an augmentation <to the faculty> which cannot be other than very advantageous to this renowned university.

Of the Varieties and Deviate Forms of Negroes (1790)

CHRISTOPH MEINERS

Christoph Meiners (1747–1810), although not presently a well-known figure of late eighteenth-century German philosophy, was in fact one of the leading figures on the German philosophical scene of his day. Named Professor of Philosophy (*Weltweisheit*) in 1772 at the Georg-August-Universität (Göttingen), where he had studied from 1767 to 1770, Meiners, together with his Göttingen colleague Johann Georg Heinrich Feder (1740–1825), was from 1788–1791 responsible for the publication of the *Philosophische Bibliothek* (available online at www.ub.uni-bielefeld.de/diglib/aufklaerung/), one of the foremost—and generally anti-Kantian—philosophical journals of the period. From 1788 to 1791, together with another Göttingen colleague, Johann Ludwig Timotheus Spittler (1752–1810), he was also responsible for the publication of the *Göttingisches Historisches Magazin*, the journal in which the article translated below was published (also available at the website previously cited). Among his many other contributions to the same volume of this journal, there are indeed two in particular that might be of special interest to readers of this volume. The first of these is titled, “On the Nature of the African Negro and the Liberation or Restriction of Blacks Dependent on that Nature” (*Ueber die Natur der Afrikanischen Neger, und die davon abhängende Befreyung, oder Einschränkung der Schwarzen*), the second, “Historical Reports Concerning the True Circumstances of the Slave Trade, and the Servitude of Negroes in the West Indies” (*Historische Nachrichten über die wahre Beschaffenheit des Slaven-Handels, und der Knechtschaft der Neger in West-Indien*). For in these two articles, Meiners offers defenses of slavery that both in tone and conclusion are possibly even more disturbing than the

views expressed in the text reproduced below, in which Meiners writes of the “pleasant prospect that the Europeans can and will contribute to the perfection and happiness of other, less noble peoples not only through their rule and enlightenment but even especially by means of interbreeding with them,” such as the interbreeding—which Meiners calmly and approvingly details—that takes place between slave owners and their slaves on the plantations of the New World (see below, 206).

Famous then among his contemporaries as a foremost spokesmen of the “popular philosophy” of the day, scholars now familiar with Meiners’ work are far more likely to know him as one of the leaders of a type of primitive ethnographic research in which authors—drawing only upon the travel reports of individuals who had actually observed native populations in other parts of the world—constructed monumental histories of the history of humankind that only replicated their own ethnocentric prejudices and racial stereotypes. For example, Meiners, in his *Grundriß der Geschichte der Menschheit* (Outline of the history of humankind) (Lemgo, 1785), divided humankind (*das gegenwärtige Menschengeschlecht*) into two “primary lineal stems” (*Hauptstämme*), the Caucasian and the Mongolian, the second of which he described as “not only much weaker in body and spirit, but also much more ill-formed and more devoid of virtue” (*nicht nur viel schwächer von Körper und Geist, sondern auch viel übel gearterter und tugendleerer*). Meiners is thus now credited by scholars such as Bruce David Baum (*The Rise and Fall of the Caucasian Race: A Political History of Racial Identity* [New York: NYU Press, 2006], 84–94) with having first introduced the term *Caucasian* into the literature of scientific racism with far greater ideological import than that attributable to the usage first popularized by his Göttingen colleague, Johann Friedrich Blumenbach (1752–1840), in the published version of his 1775 Göttingen medical thesis, *De generis humani varietate nativa* (On the natural varieties of humankind) (Göttingen, 1775), although Blumenbach’s fame clearly surpassed that of Meiners in the early nineteenth century. Recent scholarship, as noted in a brief but penetrating article on Meiners that appeared in the prominent German weekly newspaper *Die Zeit* in 1999 (Jörg Schmidt, “Wurzeln des Wahns,” available online at www.zeit.de/1999/18/199918.meiner.neu_.xml), has, however, tended to support the view that it is far easier to find evidence of Meiners’ direct influence upon the foremost racist philosophy of the nineteenth century, that of the Frenchman Joseph-Arthur Gobineau (1816–1882), who cites Meiners explicitly in the first volume of his *Essai sur l’inégalité des races humaines* (An essay on the inequality of the human race) (Paris: Firmin-Didot, 1853, 179n2), but not Kant.

This direct connection of the work of Meiners to that of Gobineau is significant, because when considering the possible, actual historical lineage between German authors of the late-eighteenth century and the racial ideolo-

gies of, for example, the extreme racist Nazi ideology of the twentieth, it is surely worth noting that there is little doubt about the way in which the revival of work by Gobineau in the second decade of the twentieth century by authors such as Ludwig Schemann (1852–1938), who seems also to have been an admirer of the work of Christoph Meiners, contributed to the formation of Nazi ideology; while the efforts during the 1930s and 1940s to reclaim the underlying racist elements in the critical philosophy of Kant evident in the texts included in this volume was undoubtedly far more a project for Nazi propagandists and sympathizers than of Kantians. Indeed, as described in notebooks penned in the 1940s by the German philologist and survivor of the Third Reich, Victor Klemperer, the Nazis' search for eighteenth-century German precursors other than Meiners to the work of Gobineau, which continued even into the final years of the Third Reich, "essentially failed" (*The Language of the Third Reich*, trans. Martin Brady [London: Continuum International Publishing Group, 2006], 128). For, as Klemperer writes in describing "a substantial and painstakingly researched study" by Hermann Blome, the title of which might be glossed in English as *The Idea of Race in German Romanticism and its Foundations in the Eighteenth Century* (*Der Rassengedanke in der deutschen Romantik und seine Grundlagen im 18. Jahrhundert*) (Berlin: Lehman, 1943), which was published under the sponsorship of the Reich Institute for the History of the New Germany, the effort "to turn the eighteenth century, Kant and German Romanticism into scientific precursors and accomplices to the Frenchman [Gobineau]" failed because it "started with the false assumption that anyone who studied the natural history of mankind or the subdivision of different races and their characteristics must be a precursor of Gobineau" (*ibid.*, 127). "But," Klemperer continues, "the division of mankind into races was not what was original with Gobineau, but rather that he discarded the generic term 'mankind' in favour of the notion of independent races, and that within the white stock he distinguished in the most incredible manner between a Teutonic master race and a pestilent race of Semites" (*ibid.*). Further, in Klemperer's account of this treatise, even Blome was obliged to admit that even though "both Buffon as a 'pure scientist' and Kant as a 'philosopher working scientifically' grasped and used the term 'race,' and [that] in the years that followed, prior to Gobineau, a number of new observations were made in the field of racial research . . . throughout the eighteenth and up to the middle of the nineteenth century racial studies were unable to make any significant progress . . . because they were hampered by humanitarian ideals" (*ibid.*).

Readers of the following text from Kant's eighteenth-century German contemporary, Christoph Meiners, will, however, surely not fail to see the significant difference between what might be construed as Meiners' "humanitarian ideals" and those of the author of works such as Kant's final work in political and moral philosophy, the *Metaphysics of Morals*, in which, in

the view of recent commentators such as Pauline Kleingeld (“Kant’s Second Thoughts on Race,” *Philosophical Quarterly* 57, no. 229 [October 2007]: 573–92), Kant comes closest to distancing himself entirely from the underlying personal racist viewpoint evident in texts from the 1760s through the late 1780s as a consequence of the further development of his moral philosophy. Responding, in part, to Kleingeld’s defense of Kant, commentators such as Mark Larrimore have, however, noted (“Antinomies of Race: Diversity and Destiny in Kant,” *Patterns of Prejudice* 42 [2008]: 341–63) that even if there are passages in the *Metaphysics of Morals* that support the view that Kant had significant “second thoughts” concerning his view of the non-white races, the defenders of Kant must still contend with the fact that he explicitly opposes “race mixing” in the 1797 *Anthropology from a Pragmatic Point of View*, and that he was complicit in the 1802 publication by Theodor Rink of notes from earlier lectures on physical geography that contain ample examples of his most racist comments, especially concerning African negroes.

The page numbers included in brackets below, e.g., [625], indicate the pagination of the original published version of the text, which, as previously noted, was published in *Göttingisches Historisches Magazin* 6 (1790): 625–45, and can now be obtained by searching the website, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, at www.ub.uni-bielefeld.de/diglib/aufklaerung/.

* * *

[625] After having explained the nature of the Negro proper in the preceding article, I turn now to an investigation of the phenomena [*Erscheinungen*] that have been produced by the interbreeding of this lower human race with better peoples and its displacement to other climates. The more we survey in general the effects of the origin, or blood, from which peoples and individuals arise, the more we recognize the importance of descent, and the more we will be convinced that infinitely more depends on which peoples and parents bear us than in which land and climatic zone we are born, however great the influence of the climate might be upon individual human beings and <their> generations.

The ugly, stupid, and unruly Negroes certainly make up the greatest number of the original inhabitants of Africa. For many centuries, however, <or> as we can say with confidence, for several millennia, many other peoples of different origin than <that of> these oldest and most numerous occupants of Africa have settled in this part of the earth. Their descendants do not only [626] live among and next to the Negroes, they also—and have from time immemorial—interbreed with them. In Madagascar, and even in Ethiopia, there still remain appreciable remainders of Hindus from the higher castes.¹

Far more numerous on this island, as well as on the east coast and in the interior of Africa, are Malaysian settlers who have to some extent kept themselves unmixed, and whose merchants frequently traverse Africa to the Gold Coast and the European trading stations.² Among all of the peoples of Africa (excluding the Negroes), the Arabs have spread out the farthest and interbred the most with the Negroes. On the east coast, Abyssinia was from the earliest times the administrative center for Arabs who had migrated to Africa. For this reason, the Arabian <cultural> formation [*Bildung*] and language <and> the Arabian way of living, mores, and customs have been preserved almost unaltered in this land. <As a matter of fact>, the only <thing altered> in consequence of interbreeding with Negro women and their descendants is <their> <skin> color, <which> has become darker.³ From Abyssinia, the Arabs have spilled over northwards beyond Nubia, which is ruled at least in part by handsome princes of Arabian origin, but even more southwards up to the borders of the land of the Hottentots.⁴ They have, nevertheless, not ruled the [627] entire coast without interruption, and they have not interbred everywhere to the same degree with the Negroes, which is why their <skin> color, <cultural> formation, and temperament are very different in Madagascar, in the Johannas or Comoro Islands, in the land of the Kaffirs, and in other coastal regions. The inhabitants of Arabian origin (who live in northwest Africa under the names of Mauritians or Moors) and the Arabs living in cities and in villages (<who> under the name of Bedouins move about the wilderness and desert) have for an inconceivable period of time been crossing the Senegal; they have extended their influence far down the western coast as well as into the interior and up the banks of the Senegal and Gambia.⁵ Although the people who live between the Senegal and Gambia are customarily called Negroes, the writers who have observed and described them recognized that the Peuhl, the Oulofs, or Wolofs, and other nations between the Senegal and Gambia are far more Mauritanian or Arabian than Negroid in origin.⁶ Their bodily formation [*cörperliche Bildung*], and especially the shape of their heads, faces, eyes, and noses are just as regular and beautiful as those of the Arabs. They feed and clothe themselves like Mauritanians, and, like them, have livestock, even horses and camels. They are far more intelligent, clean, industrious, zealous, hospitable, and faithful than the ugly Negroes, and [628] are not disfigured by cuts and tribal markings. They regard themselves as better and nobler than <Negroes> and are also more highly esteemed by the Europeans. When the West Indian planters obtain slaves from these nations, they usually exempt them from rough field work because they are too intelligent and not plodding enough for these slavish routines;⁷ the slaves from these peoples also always set themselves apart from the rest of the Negroes. The color of <their> skin and the quality of <their> hair comes closer to the color and hair of the Negro the more they

have interbred with Negro women. In some, the color is, as in the Ouolofs, glossy black, or blackish; in others red; and in still others, yellowish. Both <the fact> that <these> nations live in regions that are much hotter than <those where> the blackest <Africans> live and <the fact> that the color of <the skin of> different tribal groups [*Geschlecten*] of the same peoples is very different serve as certain proof that these darker or lighter shadings do not stem as much from the climate as from lesser or greater interbreeding with Negro blood.⁸ Not a single one of these peoples has <the> short Negro wool. The head hair is in every case long, yet more or less curly—in some so <curly> that it bunches up around the skull.

Peoples of like beauty, like abilities, and like mores are still found between the Gambia and Sierra Leone and even beyond this river to the Sestre foothills.⁹ [629] Further down the coast, the characteristic features of the Arabian or Mauritanian formation and temperament gradually disappear, but we have enough data to prove that admittedly weak and corrupted Arabian blood has been transmitted throughout Guinea as far as the equator. Among the Sotro Negroes, who live next to the Amina and need six to seven weeks to get to the coast, are many Muhammadans, and even those who are not have taken up many practices from them.¹⁰ To be sure, the Negro formation and temperament prevails on average in the Negroes on the Gold Coast, but there are certainly many among them who are not as ugly and unruly as the rest. Some who are true Negroes in respect to the formation of the rest of the body have smaller ears or larger eyes than the other Negroes or they have a heavier beard, which is lacking in Negroes who have not interbred with foreign blood almost as much as <it is> in Americans or Siberian heathens.¹¹ Among the Negroes of the Gold Coast, the most dreadful of them all, the so-called Coromantee, distinguish themselves in particular by means of their formation as well as by their temperament.¹² These Coromantee are not nearly as ugly in face and bodily formation as the other Negroes. They approach more closely the European form. They are not as fat and spongy as the true Negro; <they are> more lively in their speech and movements [630]; and they are incomparably more daring. <They are>, therefore, almost always the instigators and leaders of conspiracies and uprisings. They mix just as little with the rest of the Negroes as the Peuhl and other Mauritians from <along> the Senegal <and> live instead permanently apart <from them>. To the same degree that there is <any> improvement in their physical appearance, there is growth, if not in the goodness of temperament as a whole, at least in courage, industriousness, and cleanliness. Some of the Negroes who are not so ugly even have the same exaggeratedly ludicrous horror of certain comforts of the body peculiar to the Bedouins in Arabia and Syria, of which we find no trace among the true—equally so swinish as shameless—Negroes.¹³

<The> Mauritanian formation <and> Mauritanian temperament and mores seem to be so lost <as we approach> the equator, especially in the vicinity of the Congo, that we can find no visible signs and effects of them. We must, therefore, search for the true Negro in the African interior, especially in the southern half up to <the region where> neither Arabs nor Europeans have penetrated, then on the southern half of the western coast excluding the region occupied by the Portuguese, and, finally, on the east coast, where the Abyssinians, Arabs, and Europeans have not interbred noticeably with the natives of the region. [631]

After these remarks, we are in a position to understand the true foundations of certain rules and perceptions of travelers, slave traders, and West Indian planters, which have <all> been verified by the experiences of several centuries. Among all slave traders and planters, it is accepted as a settled article of experience that the Negroes on the east coast are uglier, stupider, and more savage than those on the coast of Guinea and, furthermore, that ugliness, stupidity, and indomitability generally increases the deeper Negroes live in the interior of Africa or have been brought out from the interior.¹⁴ The Negroes from innermost Africa are almost without exception cannibals. <They> have a horrible tiger-like, hardly human look and pointed or jagged teeth that close together like pinking shears, or the teeth of foxes.¹⁵ Many of them are so unruly and desirous of human flesh that they bite off large pieces of flesh from the arms or legs of their neighbors and fellow slaves and gulp <them> down. Slave traders from ships either do not buy such cannibals at all or <they buy them> at a much lower price than other Negroes. One <specimen> from the remote nations <comprised of creatures> that Römer said can hardly be called humans was so mistrusted by European buyers that he was sold from one ship to another for half a year despite the fact that the other Negroes had broken off <his> teeth, as <if he were> a beast of prey. [632] When a certain captain had the misfortune of getting this monster among other slaves for <the> second time, he had some cannon balls tied to his neck and had him thrown overboard. — <We see, then, that> in the interior of <the> Africa that produced this beast, the nature of the Negro has not been softened either by better blood or through association with more human peoples. Consequently, it is here that the complete original form [*Gestalt*] of <this nature> reveals itself. <Indeed, because> the Arabs have interbred less with the Negroes on the east coast <of Africa> than they have with the Negroes on the west <coast>, the former are worth less than the latter.

Further, the European travelers and slave traders have already long observed that—even on the west coast <of Africa>—the beauty of the formation, the intellectual abilities, and the amiability <of the Negroes> generally decrease in direct correlation to the distance from the Senegal, and that the Negroes in the Congo, Angola, and Benguela, in particular, are many degrees

uglier, stupider, and more unruly than those on the coast of Guinea, especially in comparison to the black peoples <living> between the Senegal and Sierra Leone.¹⁶ It is no objection against this observation, which is generally true, when someone can name a single people living in a more southern <region> that surpasses a more northern <people> in formation and in the endowments of mind and heart. Settlers or refugees of Mauritanian or Abyssinian origin interbreed now and then more—and more passionately—with southern peoples than with those living closer to their homeland either because they were being persecuted or were attracted to the greater fertility [633] of more distant regions. <The view> that the Negroes in the Congo and in the more southern kingdoms on the west coast are not so fierce and uncontrollable as the Negroes of unmixed blood in the interior of Africa comes from the sound judgment of famous travelers out of their interaction with the Portuguese.¹⁷

With the exception of these small differences, which originate either from association with or a lack of knowledge of more cultivated peoples, the Negro nations that have not interbred are as similar to one another with respect to their stupidity and mean temperament as in their ugliness; no less similar in their internal and external qualities are the beautiful black peoples who live between the Senegal and Sierra Leone. We find, on the other hand, the greatest original differences of body and soul among the Negroes <on> the Guinea coast, because these Negroes have mixed with Arabian blood in innumerable varying degrees. Corroborating experiences over several centuries have made the slave traders and planters alert to these natural differences of the Guinean Negroes and to the peculiar merits or defects of each people; and neither <of these groups> could easily be deceived about the origin and endowments of slaves, because the Negro peoples are—almost without exception—marked by differing cuts or designs on <their> face<s> and other parts of their bodies [634] by which they can be recognized.¹⁸ The price of <a> Negro is determined more by origin and the good or bad endowments of temperament that are bound up with this origin than by age or strength. Consequently, <if there are> two slaves of the same age and same strength, one of them can be sold for half or twice <as much> as the other, according to whether the peoples to which they belong are well-behaved or unruly and of ill-repute.¹⁹ We know of the Negroes from certain peoples²⁰ that they are so unconquerably lazy or so extraordinarily sensitive that they can in no way be forced to do hard work or deterred from committing suicide after the slightest affront. Others are subject either to dropsy or deadly worm diseases, <while> still others are so uncontrollable, so vengeful and bold, that they constantly initiate mutinies even when <they are> handled most mildly. This reproach is made especially <against> the Coromantee by the European planters. The French and other European planters in the West Indies make use of the Coromantee either not at all or extremely seldom because of their

restless temperament, <which cannot be> appeased through any goodness. On the other hand, the English in Jamaica prefer the Coromantee over other Negroes in spite of their mean and dangerous disposition [*Simms*], because they are tougher and harder working. But the planters in Jamaica have also paid for this singular choice in the form of [635] many bloody uprisings always begun by Coromantee. <These uprisings> were indeed begun many times even though not a single one of the rebels could complain about unjust mistreatment on the part of the master or overseer.²¹ In the inquiries that were conducted against the captured, guilty <rebels>, many admitted that we should never trust the Negroes of their people or their origin. For this reason, <Long> also advised the Jamaican planters either to give up on using <Coromantee> slaves, who are constantly hatching revenge and rebellion, or to adopt stronger measures against them than are necessary for the other Negroes from the Gold Coast. Nature, says this author, teaches the farmer not to bind tigers together or to plough with hyenas; and as absurd as it would be to use wild animals for field work, it is equally absurd that the planters in the West Indies still contrive new and futile attempts to habituate wild temperaments, the likes of which the Coromantee have, to the peaceful work of agriculture and to tranquil obedience.²² [636]

All credible writers testify unanimously that the Negroes are improved by their removal to the Sugar Islands, or to the American mainland, and that the Creole Negroes, or the Negroes born outside Africa, are less stupid <and> less unruly, and, for that very reason, much more useful than the original Africans.²³ As I already mentioned in the first article, the old Negroes who have served a long time on the sugar plantations do not talk at all with <slaves> who have newly arrived <from the same region of Africa that they came from>. The Creole Negroes call the new arrivals “salt heads” or “Guinea birds,” but <call> themselves white, noble, reasonable human beings, and in the Spanish possessions, Spanish.²⁴ These uniform opinions concerning the worth or worthlessness of the Africans and Creole Negroes among the planters and the Negroes themselves in the West Indies and in the rest of the New World are as well established as the evaluations of the different Negro nations in Africa and the different, deviate forms of human beings that arise from the union of white men and Negro women.

The Negroes who come directly from Africa to the West Indies are on average so incapable and disinclined to all, even the easiest [637] labor, so obstinate against the most reasonable and gentlest commands, so dangerous for <their> masters and fellow slaves, and sunk in such dreadful depravity, that they cannot become <anything> other than despised and detested. Most of them are so unruly and depraved that they are susceptible to no visible and enduring improvement except when they are brought to the West Indies as children or in their youth. Those who are tamed and domesticated as far

as such people can be tamed and domesticated look back on their previous condition with contempt and disgust, and they do not easily forgive being reproached for their African origin unless praise is added for their progress toward goodness.²⁵

The children of African Negroes improve themselves with every generation, and the Creole Negroes are, therefore, justly proud of their birth in the European colonies—all the more so the longer their ancestors have lived among whites.²⁶ [638] To be sure, according to the experiences that we have had up to now, the Creole Negroes have never achieved the productive genius, the sense of beauty, and the moral feeling of healthy and well-organized Europeans, but many of them surely already have impulses from shame and enough tractability that they can be impelled to <do> their work and be kept from mischief through close supervision, reprimands, small rewards, or with abusive comments, without use of the whip. This is why <Long> believed that mulattoes and the best of the Creole Negroes could be given <their> freedom without danger.²⁷ As a substitute for gratitude, of which they are rarely capable, there will arise in them a devotion that comes from habit. The Creole Negroes distinguish themselves from the African <Negroes> mostly by <the fact> that they are much less inclined to gluttony and the unnatural sins, but presumptuousness, revengefulness, cowardice, and craftiness are otherwise just as strong in the Creole Negroes as in their African fathers, or only a few degrees weaker. On the other hand, their body and face are more beautiful, or less hideously formed, <just> as their health is more lasting.²⁸

This improvement [*Veredelung*] of the Negroes in consequence of their stay in the West Indies stems most probably, as <Long> and others suppose, in part from climate, and particularly from the cooler air in the Sugar Islands and on the American mainland. Just as the West Indian and American climate relaxes the fiber of the Europeans, [639] it must necessarily tighten the solid parts of the Negroes, who come from a much hotter and very often more humid region, giving them a resilience not had in their fatherland. Perhaps, however, the discipline under which the slaves are held—the necessity to work and to exert themselves and weaning them <away> from many vices and crimes that they gave way to with impunity in Africa—contributes no less than the climate to <the fact> that the sons of Negroes are always born with dispositions [*Anlagen*] better or not so bad as those of their fathers. But whether it be the climate or the discipline that effects most strongly the improvement of the Negroes, it is still an extremely important and welcome experience that the ugliest, stupidest, and most unruly human beings can—even without mixing with nobler blood—be noticeably improved in body and spirit merely through transplantation to another region and an altered way of living.

More striking still, and more certain, are the effects of interbreeding Negroes with humans of better blood and nobler substance. Male and female mulattoes, the first offspring of European fathers and Negro women, have at least half the <skin> color, the formation, the abilities, and the virtues of their fathers, and the better blood usually predominates so that the children of white men [*Blanken*] and Negro women resemble the fathers more than the mothers.²⁹ The <skin> color of the mulattoes is yellow, and many <of them> look not unlike Spaniards. Mulattoes whose fathers were blond [640] become whiter than those whose fathers had black eyes and brown hair. Their hair curls in the Negro way, but it is long, as in the beautiful peoples <living> along the Senegal. The shape of the face and the formation [*Bildung*] of the rest of their bodies are more European than African, just as mulattoes are much more like Europeans than Negroes with respect to <their> ability, cleanliness, industriousness, and mettle. To be sure, male and female mulattoes are, according to the law, slaves of the master to whom their mothers belong. They are, however, given due justice for their better blood and their inborn merits over Negroes and are used in the house, but not for field work, or as male and female overseers. Mulatto women interbreed very rarely with Negro men, because they believe that by doing this they would degrade themselves. They likewise always segregate themselves from the Negroes. Wealthy planters often send their yellow sons and daughters to England to give them better breeding, and such mulattoes, male and female, are treated like whites in Europe where their nature is less <well> known; but on the islands the difference between whites and humans of mixed blood remains so great that the latter seldom come into close relations with the former <even> when, with respect to their means, they are equal to or surpass them.³⁰ For as much as male and female mulattoes see themselves as elevated above Negroes, many of the flaws of their half Negro origins still stick to them. Among these flaws are, especially, a more diminished industriousness [641] and a much greater presumptuousness, vanity, pride, and untrustworthiness. To be sure, it is not universally true that mulatto men and women are as incapable as mules of producing stout and fertile children, but it does seem to be certain that mulatto men and women married to one another do not beget and bear as many children as do a mulatto male married to a Negro woman and a mulatto woman married to a white man.³¹

The children <born> of white men and mulatto women are given many different names on the different plantations of the Europeans,³² but they are valued and treated in a similar way on all of them. Of course, the laws of the colonies are in many respects still imperfect <and> cannot determine the freedoms and prerogatives of the different classes of human beings as exactly and multifariously as nature determines the endowments and gifts of people of mixed blood. In the meantime, universal judgment and the universal con-

tract make up for the shortcomings and excesses of positive law. According to the law, the children of white men and mulatto women are counted as mulattoes and as such cannot demand their freedom by right. At the same time, however, most <of them> are set free, or are at least treated like European servants. They are fairly similar to whites with respect to <their skin> color, and their hair no longer has the frizzy curls of their [642] grandmothers. Indeed, many <children> with blue eyes and blond hair are already to be found among the so-called mestizo in the Dutch possessions. Mestizo women almost never interbreed with mulatto men, but strive instead as do mulatto women in general to ennoble the blood of their children. Mestizo men and women would take it as the greatest insult to be considered mulatto and thus thought to be one degree closer to the blood of the Negro than they really are.³³

The children of European men and mestizo women cannot be distinguished from whites with respect to their color and build, but at least in Jamaica they do not receive all of the rights and freedoms of Europeans or white Creoles because too much Negro blood—even if it is not visible—remains in them.³⁴ The mixture of Negro blood that the so-called mestizo of both sexes have in them makes it evident that these descendants of Negroes, who have already become completely white, nevertheless retain very often the revolting bad smell of their black great grandmothers. Only those descendants of Negroes who are more than three degrees removed from Negro blood become completely equal in build, color, abilities, and rights to the Europeans and their children of unmixed blood.³⁵ The progressive improvement [*Verbesserung*] of African blood through constant, new mixing with European blood, which is evident as well in all similar cases in the [643] rest of the world, affords the pleasant prospect that the Europeans can and will contribute to the perfection and happiness of other, less noble peoples, not only through their rule and enlightenment, but even especially by means of interbreeding with them.

Just as the Negro race is ennobled by European blood and becomes correspondingly more beautiful, more intelligent, and more well tempered, so, on the other hand, is it depraved still more if it interbreeds with the indigenous [*ursprünglichen*] Americans. The children of Negro men and American women are called Zambis and Lobos in Spanish America.³⁶ On the Mosquito Coast in the neighborhood of Garcias a Dios, there exists a people called Zambos, who, according to legend, are supposed to have originated from the interbreeding of Negro men tossed on shore by the wreck of a slave ship with American women.³⁷ The formation of the Zambis, or at least the Zambos on the Mosquito Coast, who perhaps really originated in part from pure Negro blood, is more African than American. The <skin> color of the true Zambis is, as it were, mixed from the color of the Negro and the American, and is

much darker, or blacker, than <that of> the mulatto. The temperament of this unfortunate mongrel race unites the crudities of the Negro and the American. The Zambis are like the Negroes in consequence of their duplicity, perfidious craftiness, vengefulness, and shamelessness, [644] which of course they also inherit from their mothers. They are, on the other hand, similar to the Americans in their cowardice and animal-like muteness, or reserve. They sit at all times with steady, downcast gazes. They speak rarely, laugh even more rarely, and run away not only from the weapons and threats of the Europeans but even from those of the mestizo. They avoid the Negro as <much as> whites and prefer to attach themselves to the Americans, whom alone they trust.

If the reports and drawings of the various deviate forms that have originated from the interbreeding of whites, Negroes, Americans, and their offspring that Twiss found in the Spanish seaports were accurate, then nature seems now and then to make a strange leap backwards. First, the so-called Albino <male> is supposed to produce with a Spanish woman a perfect Negro. <An> Albino is the son of a Spanish mother and a Morisco, who, in turn, is produced by a Spanish male and a mulatto woman. No less remarkable is the report of the Negro with smooth hair produced by a Barcino male with a mulatto woman. <A> Barcino is the son of a mulatto woman and an Albarazado male; an Albarazado is the son of a mulatto woman and a Cambujo male; a Cambujo is the son of a mulatto woman and a Zambaigo male; and, finally, <a> Zambaigo is the son of a Zambi and an American. When we reflect, <then>, only upon the mongrel races I have mentioned, we will be inclined to believe what all <world> travelers confirm: that we encounter in Spanish America and on the large [645] East-Indian islands every conceivable difference of human <skin> color, formations [*Bildungen*], and temperament.

Concerning the Kantian Principle for Natural History

*An Attempt to Treat this
Science Philosophically (1796)*

CHRISTOPH GIRTANNER

Christoph Girtanner (1760–1800), who studied medicine at the Georg-August-Universität (Göttingen) from 1780 to 1783, first established himself as a prolific writer in the natural sciences during several years of travel through Switzerland and France following the completion of his studies and a further period of study in Edinburgh, where he became familiar with the anti-phlogistic chemistry of the Scottish physician John Brown (1735–1788). A couple of years after his returning, in 1787, to Göttingen, he established—without an official connection to the university—his own medical practice; he subsequently published, in 1792, a book popularizing the chemistry of Brown—albeit without giving due credit to Brown. Girtanner is thus frequently recognized now for publications that demonstrate his connection to the Göttingen school of medical research surrounding Johann Friedrich Blumenbach (1752–1849), although he seems never to have had any official connection with the university. He was, however, most well-known in his own lifetime as the primary author of an anti-revolutionary seventeen-volume historical chronicle of the French Revolution (*Historische Nachrichten und politischen Betrachtungen über die französische Revolution* [Historical reports and political reflections concerning the French Revolution] [Berlin, 1791–1803]).

The selections included below from Girtanner's *Concerning the Kantian Principle for Natural History* (*Ueber das Kantische Prinzip für die Naturgeschichte* [Göttingen, 1796]) are typically viewed as an attempt to synthesize

Blumenbach's notion of the "formative drive" (*Bildungstrieb*) with Kant's account of the development of distinct races from an original "lineal stem species" (*Stammgattung*). For the purposes of this volume, the text is of special interest because in it Girtanner liberally cites passages verbatim or with only slight variation from all of the texts by Kant included in these pages as well as passages from the *Critique of the Power of Judgment*. Further, Kant, in a brief section of his 1798 *Anthropology from a Pragmatic Point of View* entitled "The character of the races," explicitly states that because "[w]ith regard to this subject . . . Girtanner has presented so beautifully and thoroughly in explanation and further development in his work (in accordance with my principles)," he will, in this section of the work, need "only to make a further remark about *family kind* [Familienschlag] and the varieties or modifications [*Varietäten oder Spielarten*] that can be observed in one and the same race" (trans. Robert Loudon [Cambridge: Cambridge University Press, 2006], 223 [AA 7:320]). Some scholars have, however, raised doubts about the extent to which Kant was really familiar with Girtanner's work, while Kant's own comments in the paragraphs preceding and following his reference to Girtanner—especially as presented in the older translation by Victor Lyle Dowdell (Carbondale: Southern Illinois University Press, 1978), 236–37)—concerning, respectively, first, the undesirability of the intermixing of races (because "the intermixture of races [caused by large-scale conquests], which gradually extinguishes their characters, does not seem beneficial to the human race") and, second, the way in which nature has provided for a sufficient diversity of characters within the same stock ("for example, [within] the white race") to obviate a need for interbreeding with other races, have only contributed to the controversy over whether Kant, in the final decade of his life, as a consequence of the more complete development of his moral and political philosophy in the 1790s, ever really purged himself entirely of the underlying racism evident in texts of the previous three decades.

The page numbers included in brackets below, e.g., [2], indicate the pagination of the original published version, which is reproduced (with the original pagination) in *Concepts of Race in the Eighteenth Century*, vol. 7, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001). A reprint version of the complete text published in the series *Aetas Kantian*, vol. 82 (Brussels: Culture et Civilisation, 1968) is also available.

* * *

Preface

The great Königsberg philosopher has expressed <some> singularly penetrating ideas in three articles concerning the human races that have been

inserted in various publications. <These ideas>, if they had been subjected to a careful examination, might necessarily have given a totally new direction to the study of natural history. I do not, nevertheless, find that the recent investigators of nature [*Naturforscher*] have taken notice of these ideas except for Blumenbach in the new edition of his admirable publication, *De generis humani varietate nativa* [<On the natural variety of humankind>]. Perhaps these articles are not sufficiently known precisely because they are scattered in <different> publications. For this reason, I believe <I am doing> a service to all investigators of nature when I here present the system of the great thinker in so far as it is contained in these articles, bring his ideas together, and state his theory for the most part in his own words. After thinking for a long time about the Kantian principle, I have found that <this principle> is valid not only for the human races, to which the great philosopher had applied it, but that <it> is a universal law that can be applied to the whole of organized nature. I have attempted to make such an application in the following work, which can be viewed as an elaboration of and as a commentary on Kant's ideas. I await the decision of competent judges <as to> the extent to which I have succeeded <in doing this>. I would especially wish to know if I have not to some degree misunderstood Kant. Misunderstanding is easily possible in abstract speculation. I must <also> fear <that I will> find myself in this pitfall that much more, as Kant has already repeatedly lamented (*Berlinische Monatsschrift* 1785, vol. 6, p. 391 [see above, 128–29], and *Teutscher Merkur* 1788, p. 38 [see above, 173–74]) that he had not been understood at all in those things he had written about the human races and that even sharp-witted men had focused on secondary issues and overlooked the principle itself on which everything depends. If, therefore, I have erred, I will accept being notified of my errors with the most sincere thanks, and seek to improve those things in the future.

<The fact> that the part of the book that deals with the races of plants and animals comes out so extremely scanty is to be blamed on the lack of trustworthy observations. We find many matters of fact [*Thatsachen*] scattered in the travelogues concerning the human races that only need to be collected, although there is <also> much that remains to be reported and investigated. So very little is, however, known <with any> certainty about the races, variations [*Spielarten*], and varieties of animals and plants. All that we now possess concerning this subject is fragments, or mere suppositions, which cannot satisfy the philosophical investigator of nature, who is permitted to assume nothing but what is agreed upon with certainty.

<In the event> that this effort is not received entirely unfavorably by thinking investigators of nature, a second <installment> might perhaps be permitted to follow after some time.

Göttingen, 29 August 1796
 Christoph Girtanner

[1] First Section

Theory

Presentation of the Basic Principles [*Grundsätze*]

Nature is the sum total [*Inbegriff*] of everything that exists according to determinate laws.

The *investigation of nature* is twofold. It is engaged either with that which we properly call nature, <that is>, with the world—then it is called *physics*, or it is engaged with the supreme cause of the world—then it is called *metaphysics*.

The *description of nature* (Physiographie) is knowledge of natural things as they exist now. We have, incorrectly, previously called <this> natural history.

Natural history (Physiogenie) is knowledge of that which natural things have been in the past and of the series of [2] changes through which they have passed in order to come to each place in their present condition.

The description of nature has been vigorously cultivated since the time of Linnaeus. On the other hand, still little or nothing has been done on behalf of natural history (if we exclude theories of the earth). The present scholastic system for the description of nature does, to be sure, order the things of nature very conveniently for memory, but it does nothing for the understanding. We can expect a physical system of nature for the understanding only from natural history, which is a separate science that should teach us what changes the outward form of the earth as well as the creatures upon <the earth> have—through natural migrations, through the influence of the climatic region, and through violent revolutions of nature—suffered. Further, natural history teaches us (or at least attempts to teach) how the prototype [*Urbild*] of every lineal stem species of animal and plant might originally have been created and how the species might have gradually deviated from their lineal stem species [*Stammgattung*].

All natural bodies are either organized or not organized.

[3] Organized bodies are that sort of body in which everything stands together reciprocally as end [*Zweck*] and means. Everything included <as part of> an organized being has reference to <the other parts> as end and means.

In the description of nature, the organized bodies are, according to the Linnaean system, divided into classes [*Klassen*], orders [*Ordnungen*], genera [*Geschlechter*] and kinds [*Arten*]. This division of the schools, which is purely for memory, brings organized creatures under names according to their similarity [*Ähnlichkeit*], or according to analogy.¹

Natural history, in the philosophical sense, divides the organized bodies into lines of descent [*Stämme*] according to their relationships with respect to regeneration [*Erzeugung*]. They are based on the common law of reproduction. <The> unity of the species [*Gattung*] comes from <the> *unity of the generative power* [*zeugende Kraft*]. In this way, a natural system for the understanding comes into being, an arrangement of organized bodies under laws, [4] and, to be sure, especially under the law of the formative drive [*Bildungstriebes*].

Many famous investigators of nature, e.g., Kai, Frisch, and especially Buffon, have already sought to determine the species according to the laws of reproduction, or <they have> at least recognized the correctness of the principle that animals that produce fertile offspring with one another belong to one and the same physical species. I am thoroughly convinced, however, <that> this law applies universally to all organized bodies, to animals and plants.

All animals or plants that produce fertile young belong to a single physical species. This is the great natural law upon which natural history is founded.

Organized bodies that belong to one and the same *natural species* (*species naturalis*) stand in connection to one another through their generative capacity [*Zeugungs-Vermögen*] and arise from one line of descent [*Stamme*].

Organized bodies that belong to one and the same *scholastic*<ally><-determined> *species* (*species artificialis*) stand simply under a common mark of comparison.

[5] Whether the line of descent from which the species originally arose might have arisen from a single pair or from many creatures of the same kind of either sex cannot be decided. Both <of these alternatives> are possible, <but> the resolution of this question is of no consequence for natural history.

<Determining> which organized bodies belong to one species [*Gattung*] can be settled only through observation.

To observe means to investigate [*anstellen*] experiences methodically.

Heritable divergences <within> one species, <that is>, the heritable differences of organized bodies belonging to one line of descent, are called *deviate forms* [*Abartungen*].

Heritable marks of descent, when they agree with their origin, are called <a> *resemblance* [*Nachartung*]. We say of a child that it resembles the father or the mother.

We call heritable marks of descent <a> *degeneration* [*Ausartung*] (*degeneratio*) when they do not agree with their origin, that is, when they are no longer able to produce the original lineal stem formation [*Stammbildung*].

[6] It is a universal law of nature that the species preserve themselves unchanged in the complete [*ganzen*] organic creation, although individual

creatures are subject to various changes. We can, in consequence of this, not allow a degenerate form of species, in the philosophical sense, because <such a form> runs counter to this law of nature.

The deviate forms are:

1) *Races*. <Races occur> when the deviate form preserves itself continuously—not only in all transplantations and displacements for many generations [*Zeugungen*] among themselves into other regions of the earth, but also in interbreeding with other deviate forms of the same line of descent—<and> always produces half-breed young. For example, Negroes and whites are two races of the human line of descent, and they produce half-breed young, or hybrids [*Blendlinge*], namely, mulattoes.

A race (*progenies classifica*) is, consequently, the class difference of organized bodies of one and the same line of descent in so far as <this difference> is invariably heritable.

2) *Variation*. <Variations occur> when the deviate form—in all transplantations and displacements into other regions of the earth—does, to be sure, invariably retain the difference of its deviation [7] and, therefore, <the resemblance, too>; however, <it does> not necessarily produce half-breedish <offspring> in interbreeding with other deviate forms. This is, for example, the case with fair-skinned [*blonden*] and brown-complexioned [*brunetten*] human beings. <Those who are> fair-skinned and <those who are> brown-complexioned are variations of the white human race. When they breed among themselves, they invariably retain the differentiating <feature> of their deviate form (namely, the color of their hair, skin, and eyes). <This occurs> in every region of the earth. But when fair-skinned and brown-complexioned <individuals> interbreed with one another and beget children, the children are not necessarily half-breedish. Frequently, all of the children produced from such interbreeding are brownish-complexioned; sometimes, but more rarely, they are all fair-skinned. No intermediary breed arises between the brown complexioned and the fair skinned.

3) *Variety* [Varietät]. <Varieties occur> when the deviate form does indeed frequently, but not continuously, pass on resemblances.² <A variety> is a heritable peculiarity that is not invariably reproduced, a form [*Gestalt*] that in reproduction [*Fortpflanzung*] reproduces [*reproduziert*] only now and then the character [*Karakter*] of the nearest parents [8] and, to be sure, more often only one-sidedly. Most heritable diseases, certain deformities [*Mißgeburten*] (e.g., hands with six fingers), albinism in animals, <and> certain defects of the organs (e.g., stuttering <and> the inability to pronounce the letter *R*, etc.) belong <to this type of deviate form>.

4) A *special stock* [Schlag] (*varietas nativa*). <A special stock occurs> when the deviate form does indeed produce half-breedish with other devia-

tions but gradually dies out in consequence of transplantation. The stock arises in different provinces in consequence of the climate and diet. To be sure, it passes on <certain features> half-breedishly when it interbreeds with strangers, but <it> disappears in another climate or <with> another diet in a few generations.

Through marriages that persists in the same families over long <periods of> time, something characteristic can ultimately root itself so deeply in the power of generation [*Zeugungskraft*] that the variety becomes close to a variation and reproduces itself like <a variation>. For this reason, the family stock arises in human beings, which, for example, we observe among the old Venetian nobility, the Brahmins in east India, the Tahitian nobility, and <in> Jews. With [9] horses, as well as with other domestic animals, it is well known that we should allow no such stock to arise, <and> that we must now and then by means of breeding [*Zeugung*] mix strange [*ausländische*] races with the native. The French call this *croiser les races*. The same takes place with plants. The same species of vegetables raised for many years in the same place from their own seeds ultimately takes on a distinct stock that is different from the original race.³

If procreation [*Zeugung*] occurs in the same families unmixed for many generations, there ultimately arises an enduring stock, almost a race.

When no fertile offspring arise from the interbreeding of two organic bodies possessing heritably different peculiarities (assuming that both are fertile with their like), this is a certain sign that the two are from different species, that is, [10] <that they> originated from two differing original lines of descent.

When, on the other hand, fertile offspring arise through the interbreeding of two organic bodies possessing heritably different peculiarities, this is a certain sign that they belong to a single species and originated from a single, original line of descent.

This principle is universal and unconditionally true. The difference in the appearance [*Gestalt*] of the two organic bodies that produce fertile offspring with one another is also no objection against the correctness of this <principle>. A common descent must be possible even when the difference in appearance might also be very large. For since they can unite themselves through generation in a product [*Produkt*] that contains the peculiarities of both in spite of these differences, they must have been able to divide themselves by means of generation into two races from a single line of descent that originally concealed in itself the endowments for the development of the peculiarities for both. This presupposition is in accordance with the familiar maxim in virtue of which [11] reason never proceeds from two principles when it can suffice with one.⁴

The original line of descent of each species of organic body contains within itself a large number of different *germs* [Keime] and *natural endowments* [Anlagen] from which, through the distinct direction of the formative drive [Bildungstriebes], <differing characteristics at different times> develop while the rest of them remain undeveloped. <This is what explains> the origin of the different races, variations, and varieties of one and the same line of descent.

We call the rudimentary bases [Gründe] lying in the nature of an organized body for a definite development the *germ* when this development concerns entire parts. Thus, for example, birds have germs for a new layer of feathers that only develop in cold <climatic> regions. <The development of> this layer is, however, held back in warm <regions> and remains undeveloped.

We call the rudimentary bases lying in the nature of an organized body for a definite development *natural endowments* when this development concerns only the size of the parts or the relationship of <the parts> to each other. Thus, [12] for example, the maize seed has a natural endowment to produce gradually a thicker skin in a colder <climatic> region.

New kinds appear to emerge with the migration and displacement of organized bodies. These, however, are simply deviate forms of the same line of descent, <that is>, races, whose germs and natural endowments have only occasionally and over long courses of time developed in different ways.

Only the lineal stem formation can deviate into a race.

The climatic region [Himmelstrich], <that is>, the *climate* [Klima], is the only cause that can intimately influence the power of generation, give it a definite direction, and effect a lasting—that is, heritable—development of the germs and endowments, or establish a race. Only that which has an effect on the source of life, <that is>, on the primary original powers [erste Urkräfte] of the organic structure and movement, can modify the formative drive and make a continuing impression on the power of generation.

I understand climate, <or> climatic region, <to include> air and sun, that is, luminous matter [Lichtstoff], caloric matter [Wärmestoff], [13] and the different mixtures of the atmospheric air.

Diet has no lasting effect upon the power of generation. <Diet> can certainly produce a stock [Schlag], but the distinguishing feature of <that population> is soon lost after transplantation to another climatic region.

Organized bodies are composed of organized, or living, matter, which is totally different from dead, unorganized matter.

Unorganized matter follows physical and chemical laws. In organized matter, on the other hand, the physical and chemical laws are subject to the law of organization.

Organized matter possesses the power to transform the unorganized into organized <matter>. <This explains> the growth and nourishment of organized bodies.

Organization is that arrangement of a body in virtue of which each of its parts acts not only as means but also as end to the remaining <parts>.

In an organized body each part is an *organ*, an instrument [*Werkzeug*]. <Each part> is only there by way of the rest, <that is>, [14] present only for the sake of the rest and the whole, and it contributes to the production of the remaining parts.

Each organized body is a whole [*Ganzes*] which has the rudimentary bases of its organization in itself.

Life is the efficacy [*Wirksamkeit*] of matter according to the law of organization.

We find in nature two primary powers: natural mechanism, or the *formative power* [*Bildungskraft*]; and organization, or the *formative drive* [*Bildungstrieb*].

When the physical and chemical laws in an organized body express anew their efficacy independently of its organization, the body is dead. This means that organization and life (in the physical sense) have, for it, come to an end.

Organized matter is consequently—through the death of an organized body—transformed into inorganic <matter>. Inorganic matter can, in this manner, come from organic matter, but inorganic matter can never be transformed into organic matter except when this occurs by means of organic matter *per assimilationen*.

It is contrary to all known laws of experience that unorganized matter has ever organized itself by itself [15] without the assistance of other organized matter. For the investigator of nature, the first origin of organized matter in general and of every organized body in particular is incomprehensible. The metaphysician, however, attempts to explain these <origins>.

Generatio aequivoca, or the system which claims that organized beings could originate through the mechanics of unorganized matter, is consequently absurd and contrary to reason as well as to experience.

An organized body has the following properties:⁵

1) <An organized body> reproduces itself [*erzeugt sich*] according to the species. This means <that> it gives birth to an organic product of precisely the <same> species from which it has been reproduced. (Generation).

Each species of organized bodies is consequently cause and effect of itself.

2) <An organized body> reproduces itself as individual, since it grows.

Growth is not an increase in size according to mechanical laws, but rather according to organic <laws>. An organic being transforms the raw [16] matter which it adds to itself into organic matter similar to it. (Nourishment).

3) The preservation of one part <of an organized being> depends reciprocally upon the preservation of another <part>, e.g., the preservation of the tree <depends upon> the preservation of the leaves.

4) When <a> defect of one part—either through an injury or through deformity—arises <in an organized being>, the remaining, contiguous parts, more or less, completely or incompletely, will make up for it. (Reproduction. Restoration).

5) When the organization of an organized being falls into disorder, it endeavors by means of its own power to reconstruct anew the lost order and harmony of the individual parts. (Healing. The healing powers of nature. *Vis medicatrix naturae*).

The formative drive (which Blumenbach so very ingeniously first distinguished from the mechanical formative power, which <also> assists nature) expresses itself, accordingly, in four different ways: through generation, nourishment, restoration, and healing.⁶

[17] *Regeneration* [Erzeugung] is the beginning of organic life. <It is> the submission of dead matter to the laws of organization. <It is> the subordination of the physical, chemical, and mechanistic laws to the organic.

Birth signifies a noteworthy development of organic life and the transition to independence from a previously existing organized and organizing being.⁷

The *life power* [*Lebenskraft*] is that power in virtue of which the chemical and physical laws are subordinated to the laws of organization.

Organized nature is not an analogue to artifice [*Kunst*]. For the work of artifice, e.g., a clock, does not give birth to its like and cannot repair itself when something is wrong with it. It <instead> presupposes an artisan [*Künstler*] who is external to it. Organized nature, on the other hand, organizes itself and, to be sure, <does this> in every species of its organized products [18] on the whole according to a single exemplar—but surely also with appropriate discrepancies [*Abweichungen*], as required by self preservation, according to the circumstances.⁸ An organized being is consequently not simply a machine; for <a machine> has only *animating power* [belebende Kraft], but <an organized being> possesses in itself at the same time the formative drive, or *life power*, and to be sure, it shares <this power> with materials that do not have it. Accordingly, an organized being has a kind of formative power which proliferates and which can not be explained through mechanism alone.

It has already been proven above that *generatio aequivoca* is [*sei*] absurd. All generation, to the extent that it is known through observation, is every time *generatio univoca*. This means that something organic is never produced except by means of something else <that is also> organic. All generation, so far <as> our experience-based knowledge of nature reaches, is, however, not only *generatio univoca*, but also *generatio homonyma*: the reproduced prod-

uct [*erzeugte Produkt*] is—in its organization from the same species—with the progenitors [*Zeugenden*]. We do not as yet know a <case of> *generatio heteronyma*. This means that we know no example <of anything> that might have been reproduced specifically from another, different organic [19] being, e.g., if certain aquatic animals developed gradually into swamp animals and from this, after several generations, into land animals. *Generatio heteronyma* is, to be sure, not absurd, but it is contrary to experience.⁹

Each organized being is in itself something complete, a natural end [*Zweck*]. There exists only a single external purposiveness [*Zweckmäßigkeit*] that is connected with internal <purposiveness> and serves as a means to an end in an external relationship, namely, the organization of the two sexes in respect to one another for the reproduction of their kind. Such a pair constitute together an organizing whole, although not an organized <whole> in a single body.¹⁰

Everything in an organized being that is preserved in the reproduction of <such a being> is purposive [*zweckmäßig*]. The changes suffered by an organized body accidentally (through injury) or intentionally (through mutilation) cannot be taken up into the power of generation. For in the inner purposiveness of organized bodies visible everywhere, the generation of its like is [20] necessarily united with the condition to take nothing up into the power of generation that does not belong to one of the undeveloped natural endowments. If, for this reason, we find that a change that any organized body has accidentally suffered is passed on and taken up in to the power of generation, we must assume that this change is merely the occasional development of a purposive endowment originally present in the species.¹¹

The differing systems concerning the origination of organic bodies deserve to be mentioned briefly here. They are as follows:

1) *Occasionalism*. This system assumes that the supreme world cause gives the organic formation to matter directly on the occasion of each pairing, when <the pair> commingles. <This is> an absurd system, which, as Kant correctly says, no one will accept who has any sort of philosophical ability.

2) *Prestabilism*. According to this system, the organic beings hold the endowment [21] to produce their like, which through pairing is, then, at times developed.

Prestabilism is two-fold:

a) The *evolution theory*, the system of *individual preformation*, <which> considers each organic being reproduced from its like as an educt.

b) The system of *epigenesis*, or *generic preformation*, <which> considers each organic being reproduced from its like as a product.

The champions of the evolution theory assume that the germs of all organic bodies that have ever existed and will yet exist were produced [*erschaffen*] immediately with the first creation in the first individual of the

species and that since then one generation after another has from time to time developed. Thus, according to this theory, which we can also call the *theory of encapsulation* <of preformed germs> [Einschachtelung], every organic body comes directly from the hand of the creator, but—in distinction from occasionalism—all of these creations must, <according to this theory>, have taken place <all> at once at the beginning of the world.

[22] The defenders of the evolution theory divide themselves into <three> different factions:

α) The *panspermists*. This faction, with Heraclitus and Hippocrates <standing> at their head, assumes that the preformed germs were spread over the entire earth and that these <germs> swarmed around so long until each of them met up with the generative parts of its brother, who had already developed from the same kind, where it thereupon hit into the same root, threw off its previous shell, and could itself now succeed in its development.¹²

β) The theory of *animaculae* [Saamenthierchen]. According to this theory, the germs did not swarm around but were, from the very beginning, at creation, situated in the male organic creatures, with whom they developed gradually by means of generation. Thus, one generation after another makes its appearance. These germs should, as living beings, be visible by means of the microscope, as animaculae.

γ) The theory of *germs in the stock of maternal eggs*. The defenders of <this theory>, among whom Haller, Bonnet, <and> Spallanzani—the most famous of the newer physiologists [23] and investigators of nature—must be counted, claim that every preformed germ since creation lies wrapped in the female stock of eggs and developed little by little. Consequently, with each generation [*Generation*], more space is left behind for the remaining <germs>.

To want to refute the evolution theory would—after that which Blumenbach has already called attention to in his small, but rich in content and important, book, *Concerning the Formative Drive*—mean writing an *Iliad* after that of Homer or carrying screech owls to Athens.

<As Kant writes:> “If we did not also know the great advantage that the defender of epigenesis has in the evidence for his theory with respect to its basis in experience over the defender of the evolution theory, reason would surely already be predisposed to take up his kind of explanation with superior favor because it looks upon nature, with respect to the things that can in the beginning be conceived as possible according to the causality of ends—at least so far as reproduction is concerned—as self-producing [*selbst hervorbringende*] <and> not simply [24] as developing [*entwickelnd*], and in this way <it> leaves to nature everything that follows from the first beginning with the least possible display of supernaturalness <and> without, however, determining anything [*etwas*] about this first beginning, <a matter> on which physics in general founders).¹³

When the original lineal stem formation [*Stammbildung*] has deviated into a race, that is, when the formative drive has once received a certain direction, certain germs and natural endowments developed, but the rest of them were stifled. Further, when this direction of the formative drive has become heritable over a long course of time and numerous cycles of reproduction and taken root, then the remaining, not developed, germs and natural endowments are totally extinguished. <Subsequently>, after its transplantation, the race resists all further transformation in consequence of climate because the character of the race, a special modification of the formative drive, has become preponderant in the power of generation. The European displaced to Africa will never in consequence of climate be changed into a Negro so long as he refrains from all interbreeding with the natives. [25] And the Negro in Europe, so long as he mixes only with his like, will never become a white human being. The gypsies, who have stayed in Europe for more than three hundred years, have not been changed in the slightest by the European climate.

Consequently, it is a principle that *the existing races can no longer be extinguished so long as they do not interbreed with one another and breed only with their like.*

The formative drive certainly can at times, through external causes, deviate from its direction and bring forth monstrosities. However, even these deviations have their limits and depend not on accident but instead on definite natural laws. Indeed, germs could be developed that are not suited to the rest of the formation [*Bildung*], but no new part can be formed that was not previously present in the germs. The monstrosities are, accordingly, not possibly a play of nature (for nature does not play) or a work of blind accident. Nature instead follows some determinate laws in its formation of <such monstrosities> from which it never diverges. There are only certain kinds of [26] monstrosities that appear over and over again. There are not any except these. No one has ever seen a finger growing on the forehead or on the nose, or found an eye on the sole of the foot. Nature never diverges from its laws. <Nature> has placed no germs on the sole of the foot for eyes. Therefore, no eye can develop <on the sole of the foot>. Monstrosities either lack some parts (germs that have not developed) or some parts are doubled (superfluous germs that have developed). All parts can, however, be found there, where they belong, and never in another place.¹⁴

We would express ourselves incorrectly if we wanted to call these monstrosities *unnaturally disfigured organized* bodies. Nothing is unnatural that follows the laws of nature.

Each developed formation [*Ausbildung*] of an organized being or deviate form of the same from its original line of descent must be viewed as *performed* and previously determined. External factors [*Dingen*] could [27] certainly be occasional, but not productive, causes of that which by necessity

passes on <characteristic features> and resemblances [*was nothwendig anerbt und nachartet*].

Nothing happens by chance. Nothing <happens> through blind accident or through the mere mechanism of nature.

There is nothing gratuitous in an organized body; for we call only those bodies organized in which everything is an end and reciprocally also a means.

"We are indispensably obliged," Kant says, "to conceive nature as having been constructed according to the concept of a plan [*Absicht*] if we also only want to investigate nature solely in its organized products through continued observation. This concept is, therefore, for the empirical use of our reason, already an absolutely necessary maxim."¹⁵ "I can, *according to the peculiar qualities of my cognitive capacities*, judge the possibility of organized bodies and their origination in no other way than to ascribe to <such bodies> a cause that operates according to plans. I, therefore, conceive a being that is productive according to an analogy with the causality of an understanding. This principle is [28] subjective, merely for the reflective power of judgment <and>, consequently, a maxim that is imposed upon <this power> by reason."

"This maxim for the reflective power of judgment is essentially needed in considering the products of nature that must be judged to have been formed according to a plan and in no other way in order <for us> to obtain an empirical cognition of their inner structure [*Beschaffenheit*], because the very thought of them as organized things is impossible without thoughts of an origination with intention [*Absicht*] united with it."¹⁶

"We rightly talk [in the natural sciences] of the wisdom, frugality, foresight, <and> beneficence of nature without thereby fashioning from her an intelligent being, because that would be absurd. We also want, however, <to talk of nature in this way> without presuming to place another intelligent being above nature as <an> overseer, because this would be presumptuous. <We want> instead <to be allowed to do what we do> by designating only a type of causality in nature according to an analogy with <the kind of causality that we find in> our <own> technical use of reason in order to keep before us the rule according to which [29] certain products [*Produkten*] of nature must be investigated."¹⁷

Thus, <if the following three points> from the foregoing <are taken seriously>, it is easy to imagine what we might think of some writers who ascribe a continuing influence on the power of generation at times to the imaginative power of the mother, at times to the imaginative power of the father,¹⁸ <or> at times to the accidental mutilations of the parents. <First>, we are not permitted in a philosophical natural history to ascribe the slightest influence to blind chance. <Second>, nothing in organic bodies can develop or improve itself in any way other than that which was already preformed

and contained in the germs <that were> placed in them by nature. <Third>, as pointed out previously, even departures [*Abweichungen*] of the formative drive from its usual direction happen only according to definite laws.

The view that the imaginative power of the mother has an effect upon the fetus during pregnancy and that the origin of all deformities [*Mißgeburten*] might be ascribed to this influence is exactly as old as <it is> wrong. This presumed influence of the imaginative power of the mother upon the fetus, or [30] the so-called *fright*, is nothing more than a foolish superstition: for deformities are to be found among all organized bodies, among animals as well as plants. We find them especially often among the egg-laying animals in whom it would be absurd to assume that the imaginative power of the mother during incubation could have an influence upon the chick still unformed and enclosed in the egg. The origin of deformities is, therefore, not made any clearer by means of the alleged influence of the imaginative power of the mother upon the fetus.

Some investigators of nature, including some perspicacious and rightly famous men, have claimed that accidental mutilations, indeed even artistic<ally> <inspired alterations> [*Künsteleien*] <to the body>, could, in time, degenerate into hereditary stocks.

*Hippocrates*¹⁹ tells of the large heads (*macrocephalis*) of a people on the Black Sea. <He says> that in the past they pressed the heads of their newborn children into an oblong figure. <He also suggests> that this custom, carried on over many generations, might ultimately have <given rise> to a hereditary stock, [31] to a race. The children would have brought this artificial form of the head with them into the world and would thus no longer stand in need of the help <previously given to the newborn children of this people to have this shape of head>. <The final observation that> Hippocrates himself adds <to this report> makes clear, however, that neither a hereditary stock, nor much less <likely>, a continuing race, arose by means of this artificial <shaping of the head> [*Künstelei*]. He says, namely, that in his time these people no longer have such completely well-formed heads because they have totally neglected this <practice> of artificial formation [*künstliche Bildung*].²⁰

Aristotle alleges that a scar that the father had on <his> arm was passed on to the son and that the <scar> might be seen on <the son>, though not so clearly as on the father.²¹

Goldsmith <also> cites a similar example of a scar that the father transmitted to <his> child.²²

[32] *Pliny* even claims that the scarred figures with which the Dacians and Illyrians marked themselves were recognizable to the fourth generation.²³

Julius Caesar Scaliger claims that the Genoans, who, according to the custom of the Moors, had previously compressed the heads of their newborn children, are now born with a disfigured head without this aid.²⁴

Cardan supposes that a continuing human stock might have arisen through the custom of the ancient Peruvians around Porto Viejo who used to press the heads of their newborn children between boards. <He thinks> that the children of <this people> now bring a crudely formed head of this sort with them into the world without any artificial aid.²⁵

[33] Negroes who have had one or more fingers chopped off as punishment are supposed to have produced children who are missing this finger.²⁶

The children of a man, whose little finger on the right had, in his youth, healed crookedly after having been cut up badly, likewise had crooked little fingers on their right hands.²⁷

The children of Jews are supposed to come into the world with a shorter foreskin,²⁸ however, Christian children with an equally short foreskin are born equally so often.

Dogs who have had their tails cut off are supposed at times to produce young without tails.²⁹ The same is also presumably seen in cats.³⁰

[34] It has supposedly been noted in England that foals are born with fewer joints in their tails because the tails of horses are invariably truncated there and because this has happened in stallions as well as mares through many generations.³¹

From the examples cited as proof for the thesis that the formative drive could be given <a> desired direction through mutilation and artificial means [*Kunstelei*], it becomes obvious that the thesis rests on very weak supports. For:

- 1) The examples given are by far not all sufficiently substantiated by believable witnesses.
- 2) A far greater number of examples could be cited that demonstrate the opposite. For example, no one ever observes that among the peoples in Asia and Africa, who have for many generations had the practice of cutting off one or more joints of the finger, children would be born with mutilated fingers.

Blumenbach, who in the past defended the view cited,³² and from whom I might have come by the examples enlisted,³³ discusses this view with nothing but suspicion in his newest masterpiece.³⁴

We must take it as a principle in natural history not to allow any influence whatsoever of the imaginative power to tamper with the generative business [*Zeugungsgeschäfte*] of nature. <We must allow this> just so little <as we should believe> <that> a human capacity <could>, by means of external, artificial alteration, have an effect in the ancient original of the species or that it could bring such <alterations> into the power of generation and make them heritable.

<As> Kant says,³⁵ “<Some have accounted for such> transmission through the operation of the power of imagination of pregnant women or

indeed even that of mares in <their> stalls. <Others have explained> the plucking out of the beards of entire peoples as well as the cropping of the tails of English horses <by saying that> nature is compelled to let a product from her generations that she organized from the very beginning fall away by this later time. <Finally, some have said of> the flattened nose initially formed artificially by the parents of the newborn children <that the formation of such a nose> might have been taken up into the generative power in the succession from nature. These and other explanations would gain credibility only with difficulty based on the data [*Facta*] that have been given in their defense (which we can counter with far better, proven <facts>) had they not received their recommendation from <that> otherwise totally correct maxim, namely: better to venture everything in conjectures based on given appearances than to adopt for their benefit special primary forces of nature or creative [*anerschaffen*] endowments. . . . For me, however, there is another, opposing maxim that restrains <the former maxim> from saving superfluous principles, namely, that individual creatures in the whole of organic nature preserve in all changes [37] the species [*Spezies*] of <the creature> unchanged. . . . Now it is clear that if a capacity were given to the magical power of the imagination or the artistry [*Kunstelei*] of human beings upon animal bodies <. . .> to redesign the primordial model of nature or to deform it through additions which were persistently preserved immediately afterwards in the following generations, we would no more know from which original nature might have emerged or how far from <that original> the modification could go and—because the human imagination recognizes no limits—to what monstrous shape the species [*Gattungen*] and kinds [*Arten*] might at length be permitted to run wild. . . . For if I allow only one case of this type <of explanation>, it is as if I were to accommodate only a single ghost-story or sorcery. The bounds to reason are then once breached, and delusional ideas [*Wahn*] by the thousands <can> push their way through this same opening. There is also no danger that I, with this decision, could deliberately make myself blind to real experiences or what is the same, become callously skeptical. For all similarly fantastic events [*Eräugnisse*] carry indiscriminately the distinguishing feature in themselves, <namely>, they [38] *permit absolutely no experiment* but want instead to be substantiated only by fishing around for fortuitous observations. What is it, however, about this type <of explanation> if it is at once very easily capable of <employing> experiments but, nevertheless, does not sustain a single one or with all manner of pretext constantly avoids them? Nothing but folly and invention!”

The only true and sufficient proof of the *difference of the races*—but at the same time also a proof of the *unity of the line of descent* from which they have arisen—is the *invariable transmission* of their peculiar features on both sides, that is, the self-developing, original germs that were situated in this line

of descent and in the succession of generations without which that heritable diversity could never have arisen and never have become *necessarily heritable*.

The races of a single line of descent of organized bodies distinguish themselves from one another principally through the difference of color and structure of their exterior surface but sometimes also, especially in the plant kingdom, through the difference in the formation of their individual parts.

The *colors* of every organized body depend upon the same causes.

The races of one and the same line of descent distinguish themselves only through those peculiar features that develop [*ausarten*] *invariably*.

The character [*Karakter*] of each of the races is passed on *invariably* in the creatures produced when two different races of the same line of descent interbreed.

This Kantian principle is, therefore, especially useful for research in natural history because it is capable of <being tested experimentally>. <Such experimentation> can certainly guide the application of the principle. There is, consequently, nothing irresolute, indefinite, or uncertain here.

When organic bodies of different appearance [*Gestalt*] are placed in circumstances to interbreed, there is already a strong presumption that they both belong to different races of the same line of descent when the generation is fertile and half-breed. When, however, the product [*Produkt*] of their interbreeding is fertile and half-breed every time, this presumption becomes a certainty. When, on the other hand, the generation does not bring forth a fertile product, then the two creatures belong to different lines of descent. <Further>, if the generation produces no intermediary breed, we can be assured that both parents, however different they might also appear, [40] still belong to one and the same race of the same line of descent.

Half-breed young, <or> hybrids, arise through the interbreeding of two races of the same line of descent, and when these breed [*zeugen*] among themselves offspring arise that are similar to them. This is the origin of the *half-races*.

Although, as was indicated above, the climate is no longer capable of reshaping the races that have once been formed, it still does not remain without influence. This influence expresses itself especially in the color of the organic body. Thus, for example, the race of whites on the Barbary coast is brownish. The *cosmetic coloration* [*Schminke*] that the climate puts on, and which a cooler air again takes off, must not be confused with the race's own color. For <the cosmetic coloration> never passes on, and is, therefore, nothing characteristic.

For this reason, if we wanted to get to know precisely the color that constitutes the primary characteristic sign of the race in a large number of organic bodies, we would have to cause two individuals of the same line of descent to breed not in the land in which they were born and raised but

[41] rather in another region, <that is>, in a foreign region, and afterwards examine the offspring. For <the offspring> would have merely the peculiar color of the race and not the cosmetic color put on by the climate but which does not pass on.

We must, therefore, in <considering> the color of organized bodies, distinguish <that which is> *essential*, which constitutes the difference of the race and which is passed on, and <that which is> *accidental*, which the climate adds to <that which is essential> and is not passed on. Thus, we could, for example, only get to know the real color of the skin of the Negro, by causing a Negro to beget children with a Negress in a foreign region, possibly in Europe. The cosmetic coloration, <that is>, the accidental <coloration>, or that part of the color that is put on by the climate, would then drop off, and the young Negro would keep only the essential <coloration>—<that is>, only the color that is really proper to his race that he further reproduces and by which his race distinguishes itself from every other human race.

In the case of the warm-blooded animals, the different races of one line of descent distinguish themselves especially through the differing organization of the skin, that is, through the difference of structure, [42] color, hair, or feathers. Thus, <they distinguish themselves> precisely by means of those parts upon which the climate (air and sun) have direct influence.

I want to make clear one of the topics just introduced by means of an example with Kant's own words.

The black-brown Abyssinian is probably simply a white European covered with cosmetic coloration from the hot climate, and the race is probably a half race that originated through the interbreeding of white and black humans. Forster, on the other hand, who does not acknowledge the legitimacy of the Kantian principle, objects <to this, saying> that an Abyssinian interbred with a female Kaffir would yield no intermediary breed, according to the color, because the two colors are one and the same, namely, black brown.³⁶ To this, Kant replies: “<Forster> assumes that the depth of the brown color of the Abyssinian, like that of the Kaffirs, might be inborn [*angeboren*] and, to be sure, in such a way that they would necessarily have to yield an intermediary color in mixed breeding [*Zeugung*] with a white. Thus, the test would certainly turn out as [43] <Forster> wants, but it would prove nothing against me because the difference of the races is not to be judged according to that which is the same in them, but rather according to that which is different. We would only be able say that there might also be deep brown races that distinguish themselves from Negroes or their descent according to *other <distinguishing> features* (for example, bone structure); for only with respect to these <features> alone would the generation yield a hybrid. . . . If, on the other hand, the deep color that the Abyssinian who grew up in his own land is not passed on but is instead something like that of a Spaniard

who might have been raised in the same land from childhood, then without doubt <the Abyssinian's> natural color would with that of the Kaffirs yield an intermediary stock of generation, but one that—because the accidental tincture is added by means of the sun—would remain hidden and seem to be a stock of the same kind (<when judged> according to color). Therefore, this projected test proves nothing against the usefulness of necessarily heritable <skin color> for a racial distinction but rather only the difficulty of being able to determine <skin color> correctly in so far as it is inborn in places where the sun still covers it up with accidental cosmetic coloration. <This test does, however>, confirm the legitimacy of my demand to give preference to [44] *generations* from the same parents <living> *in a foreign land* for determining racial distinctions.³⁷

Some investigators of nature, <including some who are> famous, suppose <that we find> in nature an uninterrupted gradation, or chain, which is supposed to progress from the crudest gob of unformed matter through intermediary links to the most perfect creatures. This supposed chain of nature is, however, a pure chimera. There is an immense gulf between the organized and unorganized bodies that will never be filled in by means of <some sort of> intermediary body. The distance between the animal and plant kingdom is also large. The concept of a progressive succession of natural things can, consequently, find no place in a philosophical natural history, as Blumenbach has already noted. “For one thing,” he says,³⁸ “there is still absolutely no body known, let alone, according to the previously determined theory of the three kingdoms of nature, thinkable, that could supply a true cohesive link between two of these <three realms>. There exist, on the other hand, entire classes and a great number of genera [*Geschlechter*] of such an exceptional formation, especially in the animal kingdom, that we can [45] find someplace or other to insert them and bring them into <a system of classification>, but only with difficulty and—even with the careful use of such a Ladder of Nature—not without marked force. For example, the class of birds, the pig group [*Geschlecht*], etc., are in this way isolated. Finally, how should we carry on with the enrollment of those animal species in which the two sexes [*Geschlechter*] have such a completely different formation, as, e.g., the scale insects?”

One of the most noteworthy expressions of the formative drive, restoration [*Wiederersetzung*] (*Reproduction*), is deserving of somewhat more consideration from us. Whoever has once seen such reproduction [*Reproduction*] will find it impossible to believe any longer that organized beings are to be regarded as an analogue of art [*Kunst*]. Where do we ever find a work of art [*Kunstwerk*] that has the power to repair and <re>make entire lost parts—and, indeed, the most essential <parts>—for and through itself? Organized bodies do this. Blumenbach cut the head off a woodland snail (*Helix pomatia*), and this head was within six months completely repaired again next to its four horns.³⁹ <Similarly>, the eye of a newt was cut out,

and [46] there appeared within ten months a complete, new eyeball. <This eyeball> was, to be sure, somewhat smaller than the previous one, but it had a new cornea, a new pupil, and a new crystalline lens.⁴⁰

Blumenbach has organized [*gebracht*] the different kinds of regeneration [*Erzeugung*], or reproduction [*Fortpflanzung*], of organized bodies into the following four classes, which comprise everything that is known up to now about generation [*Zeugung*]:

1st class. Every individual propagates [*vermehrte sich*] in the simplest way, through division, without previously undergoing fertilization. <This happens> either through *simple division*, as with most infusorium and flowering polyps, or, <alternatively>, as with *preserved specimens from springs* [Brunnen-Konserven] in such a way that the old filamentous growth to one end swells up to a thick, small ball. <This ball> subsequently falls off and is fastened anew on to such a filament and transformed. <All this can, however, also transpire> by means of *sprouts* [Sprossen], as with jellyfish and many plants.

2nd class. Every individual is, to be sure, also in the condition to reproduce itself but has, as a true hermaphrodite, the genitalia of both sexes. <Consequently, it> must beforehand, <that is>, before it can form an offspring, first moisten the female egg that is present within it or [47] its female seed kernels [Saamenkörner] with male seeds (or with male pollen), and thereby fertilize <itself>. This is the case with most plants and, in the animal kingdom, as it appears, with shellfish [*Muscheln*].

3rd class. As with the hermaphrodites of the previous class, both sexes are likewise combined with one another in each individual. However, none of them is itself in the condition to fertilize, but instead two individuals must always come together as pairs to fertilize and be fertilized reciprocally. This arrangement is found in only a few animals, <e.g.>, earthworms, and many land snails.

4th class. Both sexes are found in different individuals, one of which contains the female part, or egg, and the other the male, fertilizing juice. All red-blooded animals, along with many others, belong in this class as well as many plants. Some animals in this class lay eggs in which the young are subsequently fully formed. Others do not lay eggs but give birth to living young. The egg, this is to say, is in this last case [48] held back so long in the birth mother that the young <are> fully developed when <they are> freed from <their> supports and <are> born.

Linnaeus divides animals into six classes:

1st class. Mammals. Animals that have warm and red blood. They give birth to their young living, and these, after the birth, nurse for some time at their breasts. The number of breasts, as well as the location on the body where they are to be found, varies. Following Blumenbach's classification, which is indisputably the best, there are ten different orders of mammals:

1) Two-handed. Human beings alone belong to this <order>.

- 2) Four-handed. Apes, baboons, and the long-tailed monkey.
- 3) Sloths. Animals with long, hook-shaped claws: sloths and anteaters.
- 4) Animals with wings between their front feet: bats.
- 5) Gnawing animals. Mice, hares, weasels, beavers, squirrels.
- [49] 6) Beasts of prey. Bears, canines, cats.
- 7) The animals with hooves. The horse.
- 8) Ruminants with cloven feet.
- 9) The very large animals with thick feet. The tapir, the elephant, the rhinoceros.
- 10) The whales.

2nd class. Birds. Animals that have warm, red blood, that bear feathers and lay eggs. There are, according to Blumenbach, <two kinds of birds>: A. Land birds; B. Water birds.

The land birds are divided into seven orders:

- 1) In birds of prey with crooked, strong beaks; short, strong, and gnarled feet; <and> large, curved, and sharp claws: vultures, eagles, falcons, owls.
- 2) Soft beak<ed>. Birds of the hottest regions of the earth with short feet <and> thick, hollow, and soft beaks: parrots, Bohemian waxwing [*Pfeffervögel*].
- 3) Woodpecker-like birds. Birds with short feet, average length, and small beaks: <the> wryneck [*Wendehals*], woodpeckers, tree climbers.
- [50] 4) Crow-like birds. These are birds with short feet and suitably strong, upwardly elevated beaks: the raven, crows.
- 5) Sparrow-like birds. They have short feet with a more or less conical and pointed beak. Most song birds belong in this class.
- 6) Chickens. Birds with short feet and somewhat upwardly elevated beaks that are covered with a fleshy skin at the root: chickens and pigeons.
- 7) The ostriches. Large birds that cannot fly: the ostrich, emu.

The water birds are divided into two orders:

- 1) Marsh birds. They have long feet, a long and cylindrical beak, and for the most part a long neck: heron [*Reiger*], storks, snipes.
- 2) The swimming birds. They have feet that serve as rudders <and> a blunt beak that is overgrown with skin and usually filled with teeth at the edges and end at the tip of the upper jaw with a little hook.

[51] 3rd class. Amphibians. Animals with red and cold blood that draw their breath through lungs.

<The amphibians> either have four feet, as in the case of turtles, frogs, and lizards, or no feet at all, as in the case of snakes.

4th class. Fish. Animals with red and cold blood which draw their breadth through gills and not through lungs.

The orders of this class, according to Blumenbach, are:

- 1) Cartilaginous fish, which have cartilage-like bones.
- 2) Jawfish, in which both the top of the jaw, as well as the skin of the jaw, or only one of these two, is missing.
- 3) The fish without abdominal fins.
- 4) The fish in which the abdominal fins are situated in front of the pectoral fins.
- 5) The fish in which the abdominal fins are situated directly under the pectoral fins.
- 6) The fish in which the abdominal fins are situated behind the pectoral fins.

5th class. Insects. Animals with white and cold blood, which have antennae on the [52] head. Linnaeus divides these into the following orders:

- 1) The *beetles*. They are for the most part covered with a horn-like skin under which they keep their wings together as long as they remain at rest. The two horn-like wing cases close together in the middle in a straight line.
- 2) The *half-beetles*. A part of <this order> has a pointed, horn-like suctorial organ. Most of them have four wings, of which the upper are horn-like at the root but thin and soft at their ends. Some of them have a kind of wing case.
- 3) The *butterflies*. They have four wings that are spread out and feathered with brightly-colored scales. <They also have> a suctorial organ that is long and coiled in a spiral shape.
- 4) The *lace wings*. They have four net-shaped, delicate, and iridescent wings.
- 5) The *stinging flies*. Their four wings are skin-like and have only a few large veins. The females are equipped with a poisonous and offensive stinger.
- [53] 6) The *two winged*. They have only two wings and two little button-like studs [*Knöpfe*] on the breasts behind them (Winged spadix. Balancer [*Flügelkolben. Halteres*]).
- 7) The *wingless*. All insects without wings belong in this order.

6th class. Worms. Animals with white and cold blood, without antennae, but equipped with thread-like feelers. There are six orders:

- 1) The *intestinal worms*. These are cylindrically-shaped worms without <any> visible external extremities.
- 2) The *soft worms*. They are equipped with distinct members visible to the eye.

3) The *animals with shells*. All conches belong in this order.

4) The *bone worms*. They are covered over with a solid, bone-like crust. The sea urchin and starfish belong in this order.

5) The *coral worms*, which live in coral-like shells.

6) The *plant-like worms*. They are naked and without shells. The infusorium also belong in this order.

[54] The <system of> classification [*Eintheilung*] for the animal kingdom given here, taken up from the most famous individuals who have offered descriptions of nature, is also useful for those writing the history of nature until such a time when, through precise observation, experiments, and experience, the laws of generation are sufficiently known. At that time, a new system of classification for the animal kingdom into classes, orders, species [*Gattungen*], races, variations, and varieties, <developed> according to relationships of generation, must be undertaken. Centuries will probably pass before this can happen!

I have attempted in the following pages to present all that we up to now can suppose to know with certainty, or with probability, about the laws of generation in organized bodies. It is, as we will see, still very little. The races of human beings have by means of the observations of famous travelers, investigators of nature, and philosophers been determined with suitable precision. The species of some genera [*Geschlechter*] of mammals are settled. With birds, a beginning has barely been made for a more precise investigation of their natural relationships. With amphibians, fish, insects, and worms, we know absolutely nothing about the laws of the power of generation. [55] <Similarly>, in the case of plants, there also remains much to be determined and to set right. Kölreuter is almost the only investigator of nature who has attempted to interbreed different plant races of single species with one another in order to cultivate hybrids from this mixing. His experiments, which will be cited below, are of greatest importance for natural history, because they prove most convincingly that the Kantian principle—or rather the great law of nature discovered by the deep thinker Kant, namely, the law of half-breed generation and the invariable transmission of everything that distinguishes the real [*wirkliche*] races—is no less valid for the plant kingdom than it is for the animal kingdom.

When we someday succeed in making further progress in natural history and trace the laws according to which organic bodies undergo change, then we can look in a penetrating way far more deeply into the inner condition of the admirable arrangement of nature. We will then very likely be able to demonstrate how the organized bodies came to the condition in which we [56] presently find them; and we will understand more clearly that no pure chance, no plastic power, no mere mechanism of nature, was in the position to bring about an arrangement so wise and marvelous, but that the omnipotence and wisdom of the great author of all things in organized nature must be recognized by everyone who thinks rightly and philosophizes deeply.

Chronology

The chronology below began as an expanded version (with a few corrections) of one prepared by Frank William Peter Dougherty and appended to his January 1984 research proposal for a postdoctoral fellowship at Cornell University funded by the Mellon Foundation. Dougherty's 1984 chronology was subsequently published as "Historical and Philosophical Reflections upon Anthropological Themes in German Letters from 1775 to 1795," in *Gesammelte Aufsätze zu Themen der klassische Periode der Naturgeschichte / Collected Essays on Themes from the Classical Period of Natural History* (Göttingen: Norbert Klatt Verlag, 1996), 31–43. Dougherty's chronology, however, although very helpful for identifying figures and source materials in the period it covers, does not for the purposes of this volume provide sufficient detail concerning Kant's published work during this same period, and it also fails to place German concerns with anthropological themes within the broader context of developments in the natural sciences during the same period outside Germany, especially in France and Great Britain. Further, the significance of these materials cannot be fully appreciated without some knowledge of what we might now refer to as the "prehistory" of modern biology and chemistry from around 1650 to the 1770s and subsequent developments in the period from around 1800 through at least the publication of Darwin's *On the Origin of Species by Means of Natural Selection* in 1859.

The chronology below thus serves the purpose of "recontextualizing" Kant's eighteenth-century concerns with the concept of race as an episode not only within the history of German letters from 1775 to 1795 (Dougherty's frame) or within the historical development of modern racism from the mid-eighteenth century to the present (the frame of many of Kant's recent critics), but instead as an episode—with complex consequences—within the development of the modern life sciences from around 1650 to 1859. For the broader purposes of a volume such as this, however, even that expanded frame is insufficient. Consequently, in the final stage of construction, additional entries concerning key events and figures in the history of the slave trade and the emergence of the abolitionist movement during the same roughly two century period were added. No attempt has been made, on the other hand, to extend the chronology

in any comprehensive way much beyond 1859, but for an especially useful attempt to trace the history of the subsequent uses of the notions of *Keime* and *Anlagen* so central to Kant's naturalistic account of human variation from the late eighteenth century to the present, readers may wish to familiarize themselves with the account provided by Lenny Moss in the first chapter of his *What Genes Can't Do*, "Genesis of the Gene" (Cambridge, MA: MIT Press, 2003), 1–50. Readers with little knowledge of developments in the natural and/or the human social sciences in the period from the seventeenth century to the present may also find useful the ABC-CLIO series textbook, coauthored by John P. Jackson, Jr., and Nadine M. Weidman, *Race, Racism, and Science* (Santa Barbara, CA: ABC-CLIO, 2004), especially the second through fifth chapters (29–162) and the much briefer Chronology (237–42).

For further information on Kant's life and his published works—including titles in English for books and articles identified below only by their German titles—see the website presently maintained by Steve Naragon at Manchester University, www.manchester.edu/kant/Helps/KantsLife.htm.

For digitized copies of many of the German articles cited from the period 1770 to around 1800, search the website *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, www.ub.uni-bielefeld.de/diglib/aufklaerung/.

For additional events and information concerning the history of modern science, the reader is encouraged to refer to: (1) some of the more reliable "timeline of science" and other similar, recently constructed web-based resources (such as The Embryo Project, presently hosted by Arizona State University at <http://embryo.asu.edu/index.php>, or, in German, the *Welt der Biologie: Geschichte der Biologie* website sponsored by the Austrian Vorarlberger Landesregierung at www2.vobs.at/bio/index-x.html); (2) print sources now readily available electronically through JSTOR and Google Books; (3) a general text such as Lois N. Magner's *History of the Life Sciences*, 3rd ed. (New York: Marcel Dekker, 2002), cited parenthetically below, when quoted directly, as Magner followed by the page number, e.g., (Magner, 140); or (4) for a much different account of the period from the late eighteenth century through the Darwinian revolution than that found in Magner, Robert J. Richards, *The Meaning of Evolution* (Chicago: University of Chicago Press, 1992).

Also of particular interest to readers of this volume should be the work of Marjorie Grene and David Depew, *Philosophy of Biology: An Episodic History* (Cambridge, UK: Cambridge University Press, 2004), cited below as Grene and Depew, and, for a much more detailed, but in some respects controversial, account of developments in German universities in the period from the late eighteenth century to the 1870s, Timothy Lenoir's *Strategy of Life: Teleology and Mechanics in Nineteenth-Century German Biology* (Dordrecht, The Netherlands: D. Reidel, 1982).

For entries on the slave trade and the abolitionist movement, the work of Hugh Thomas (cited below in the first entry) has—after the initial selection of entries from a variety of sources—been regarded as authoritative.

1619

First recorded cargo of Africans landed in Virginia—although “English slaving expeditions” can be dated from the 1550s, and the formalized beginning of the slave trade is usually traced back to the 18 August 1518 decision of the eighteen-year-old Carlos I (1500–1558), early in his reign as King of Spain (1516–1556), to grant permission to import black slaves into the New World to a Flemish courtier friend of his; however, as Hugh Thomas emphasizes in his account of these events, considering that Carlos I—who was the heir of the then three dominant European dynasties (the Habsburg, the Valois-Burgundy, and the Trastámara of Castile-León and Aragon) and soon to become the Holy Roman Emperor Carlos (Charles) V (1519–1555)—was following the advice of his advisers and that the Flemish courtier friend to whom permission had been granted to import slaves sold the right to others, who, in turn, resold it until a firm of Genoese merchants in Seville finally arranged for the actual transportation of the first four thousand slaves from West Africa to Santo Domingo, “The first major consignment of slaves for the Americas was . . . in every sense a European enterprise” (*Slave Trade: The Story of the Atlantic Slave Trade, 1440–1870* [New York: Simon and Schuster, 1997], 99); cited hereafter parenthetically as Thomas followed by the page number, e.g., (Thomas, 99).

1630

Charles I (1600–1649), King of England, King of Scotland, and King of Ireland from 27 March 1625 until his execution in 1649, grants a license to a syndicate of traders other than those previously involved in the trade to transport slaves from Guinea primarily to Europe, but some of them end up in Maryland and the territory that would become Pennsylvania before the end of the decade (Thomas, 176–77).

1650

Death of French philosopher René Descartes (11 February 1650), often designated the “father of modern philosophy,” who had challenged the then

dominant Aristotelian tradition in philosophy with views that made him “one of the chief proponents” of what Grene and Depew first refer to simply as “the new mechanism in biology” (35) but then describe in more detail as an orientation that conceives “mechanism” in two senses: “In the first sense, mechanistic biology enumerates a series of movements, each of which evokes its sequel, all necessitated *a tergo*, and all conceived as movements of matter . . . as if Aristotelian efficient and material causes were to function without the correlates of end and form. In the second sense, . . . living things become machines, designed for an end externally imposed” (36).

1651

University of Padua-trained English physician and anatomist William Harvey (1578–1657), most well known for his discovery of the circulation of the blood (first formulated around 1616), publishes *Exercitationes de generatione animalium* [Essays on the generation of animals] (London, 1651), in which he argues that organisms could not be spontaneously generated and postulates that all living things originate from eggs by a process best understood as the self-generation of a complicated machine—views often associated with the modern revival of the Aristotelian notion of epigenesis, namely, the theory that an individual is developed by successive differentiation of an unstructured egg and that the form emerges only gradually rather than by a simple enlarging of a preformed entity.

1654

James Ussher (1581–1656), Protestant archbishop of Armagh (in present day Northern Ireland), concludes from a close reading of scriptural genealogies that the events described on the first page of the Book of Genesis occurred on the night preceding 23 October 4004 BCE, according to the proleptic Julian calendar.

1660

A new company, the Royal Adventurers into Africa, is given a thousand-year monopoly of the English African trade in slaves; investors include members of the royal family and others from the aristocracy, but the venture is impeded by the Dutch; a new charter is issued three years later with similar investors

(including, both times, King Charles II himself) with—after restoration of English forts on the west coast of Africa—greater success (Thomas, 198–99).

1661

Italian physician and comparative anatomist Marcello Malpighi (1628–1694), among the first to apply the single-lens microscope to the study of animal and plant structure, publishes *Epistolae de pulmonibus* [Letters on lungs] (Bologna, 1661; Leiden, 1672), in which he reports his observation of blood movement through tiny, thin-walled microtubules in frog lungs, to which he gives the name *capillaries*—further confirmation of Harvey's theory concerning the circulation of the blood. (Malpighi's later microscopic studies of living organs, such as the liver, brain, spleen, and kidneys, and of bones and the deeper layers of the skin that now bear his name, as well as his studies of the anatomy of the silkworm, the embryology of the chick, and of plant tissues, only added to his fame; he is also—together with Jan Swammerdam [1637–1661], most well known for his microscopic investigations of insect development, and Nicolas Malebranche [see below]—often identified as an early proponent of *ovist* preformationism, the view that the generation of offspring occurs as a result of an unfolding and growth of preformed parts located prior to gestation in the maternal egg [<http://embryo.asu.edu/view/embryo:125311>].)

Robert Boyle (1627–1691)—an Irish-born Oxford don and founding member of the Royal Society of London for Improving Natural Knowledge—defends a newly devised, post-Cartesian form of pre-Socratic atomism known as corpuscularism in his book, *The Sceptical Chymist; or, Chymico-Physical Doubts & Paradoxes* (London, 1661), according to which matter consists of atoms and clusters of atoms in motion and phenomena are the result of collisions of particles in motion.

1662

Boyle, using a vacuum pump of his own invention, determines that the volume and pressure of a gas are inversely proportional (“Boyle's Law”).

1665

English polymath and experimental philosopher Robert Hooke (1635–1703) publishes *Micrographia; or, Some Physiological Descriptions of Minute Bodies*

Made by Magnifying Gasses, with Observations and Inquiries Thereupon (London, 1665), the first major publication of the Royal Society of London, the first scientific best seller, and a work notable for its use of the term *cell*, which Hooke appropriated from monastic tradition to describe the boxlike structure of the thin slices of cork he first observed in 1663 with a compound microscope he had built himself: “I could,” Hooke reported in Observation XVIII of the *Micrographia*, “exceedingly plainly perceive it to be all perforated and porous, much like a Honey-comb, but that the pores of it were not regular. . . . [T]hese pores, or cells, . . . were indeed the first *microscopical* pores I ever saw, and perhaps, that were ever seen, for I had not met with any Writer or Person, that had made any mention of them before this. . . .” (www.ucmp.berkeley.edu/history/hooke.html).

1670

First recorded reference to the presence of slaves in Carolina, which had been established by charter in 1663 by King Charles II to repay prominent individuals who had helped restore him to the throne of his father in 1660; the “somewhat feudal constitution” of the colony, “influenced if not written by . . . [physician and philosopher] John Locke [1632–1704]” (see next entry and below), includes “a modest paragraph about slavery as an institution to be accepted” (Thomas, 208–9).

1672

The assets of the Royal Adventurers are purchased by yet a third company, the Royal Africa Company; “more merchants than noblemen” invest in this company, including proprietors of plantations in Carolina, as well as fourteen of the lords mayor of London from the years 1660 to 1688, twenty-five sheriffs of London, and John Locke, “the philosopher of liberty” (Thomas, 201).

1673

French Cartesian philosopher Nicolas Malebranche (1638–1715), who was also much influenced by the Roman-Christian Neoplatonist philosopher Augustine (354–430), publishes *De la recherche de la vérité* [Search after truth], 3 vols. (Paris, 1674–1675), in which he advances the preformationist idea of “encasement,” or “encapsulation” (*emboîtement*), that is, the idea that each offspring is contained preformed within the seed or the egg; Malebranche is

thus usually credited with having been the first to formulate explicitly the *ovist* preformationist view that every life that would exist on earth was created at the moment of creation and that future members of each species were present in the ovary of the first female of that species.

1674

Dutch tradesmen and “microscopist” Anton van Leeuwenhoek (1632–1723) sends an informally written report to the Royal Society of London (dated 7 September 1674) of his observations of “very little animalcules” (infusoria, or, more precisely, ciliated and flagellated protozoa) in the green charophyte alga *Spirogyra* collected from a single vial of pond scum: “Passing just lately over this lake, . . . and examining this water next day, I found floating therein divers earthy particles, and some green streaks, spirally wound serpent-wise, and orderly arranged, after the manner of the copper or tin worms, which distillers use to cool their liquors as they distill over. The whole circumference of each of these streaks was about the thickness of a hair of one’s head . . . all consisted of very small green globules joined together: and there were very many small green globules as well” (www.ucmp.berkeley.edu/history/leeuwenhoek.html).

1677

Johan Ham, a medical student at the University of Leiden, “seems to have made the first observation of sperm in the seminal fluid of a man with gonorrhoea” (Magner, 140), and reports his findings to Leeuwenhoek, who subsequently makes the first detailed and accurate drawings of the “seminal animalcules” (*spermatozoa*) of humans, dogs, swine, mollusks, amphibians, fish, and birds; Leeuwenhoek also correctly identifies these “animalcules” as a normal constituent of seminal fluid and speculates that fertilization follows the penetration of the ovum by them, a view consistent with Harvey’s earlier conjectures—and confirmed a century later—but at odds with the then current view that fertilization was occasioned instead by vapors arising from seminal fluid.

1682

Pembroke College (Cambridge) and University of Leiden-educated, English physician and vegetable anatomist, Nehemiah Grew (1641–1712)—who had

been elected a fellow of the Royal Society of London in 1671 in recognition, prior to publication of his work, *The Anatomy of Vegetables begun* (London, 1672)—publishes *Anatomy of Plants: with an idea of a philosophical history of plants, and several other lectures, read before the Royal Society* (London, 1682), largely a collection of new editions of previous publications, including “The Anatomy of Vegetables begun,” “The Anatomy of Roots,” “The Comparative Anatomy of Trunks,” and “The Anatomy of Leaves, Flowers, Fruits and Seeds.” (Grew is frequently credited for his speculations about “the possibility that flowering plants might undergo sexual reproduction and . . . that the flowers contained the sexual organs,” but, according to Magner, [145], while he “recognized the pistil as the female part [he] was uncertain about the purpose of the stamens,” and he is recognized for his early use of the term *organism* to refer to physical bodies with systems of internal organization, but this usage, e.g., “How admirable . . . is the natural structure or Organism of Bodies. . . .” appears in a late, non-scientific work, his 1701 *Cosmologia Sacra; or, A Discourse on the Universe As it is the Creature and Kingdom of God* [London, 1701], 18, in which he also writes: “Wherefore, the Organism of a Body, although it hath nothing to do, in the production of Life . . . : Yet is it necessary, that every Body should have its Organism, agreeable to the Species of Life, . . . wherewith it is endowed. . . .” [Grew, 34, as quoted in Tobias Cheung, “From the Organism of the Body to the Body of an Organism: Occurrences and Meaning of the Word ‘Organism’ from the Seventeenth to the Nineteenth Centuries,” *British Journal for the History of Science* 39 (2006): 324].)

English naturalist, philosopher, and theologian, John Ray (1627–1705), publishes *Methodus plantarum nova* [New method of plants] (London, 1682), in which he describes 18,625 plants; two later works of Ray’s bear the titles, *Wisdom of God Manifested in the Works of the Creation* (London, 1691) and *Miscellaneous Discourses Concerning the Dissolution and Changes of the World, wherein the Primitive Chaos and Creation, the General Deluge, Fountains, Formed Stones, Sea-Shells found in the Earth, Subterraneous Trees, Mountains, Earthquakes, Vulcanoës, the Universal Conflagration and Future State, are Largely Discussed and Examined* (London, 1692).

1683

Leeuwenhoek sends a letter to the Royal Society of London (dated 17 September 1683) in which, based upon his examination of plaque from his own teeth and those of four others (two of whom had never cleaned their teeth), he provides the first description of *animalculae*, or living bacteria, as follows: “I then most always saw, with great wonder, that in the said matter there were many very little living animalcules, very prettily a-moving. The

biggest sort . . . had a very strong and swift motion, and shot through the water (or spittle) like a pike does through the water. The second sort . . . oft-times spun round like a top . . . and these were far more in number” (www.ucmp.berkeley.edu/history/leeuwenhoek.html).

1686

Ray publishes the first volume of his *Historia plantarum* [History of plants], 3 vols. (London, 1686, 1688, 1704), in which he arguably provides the first reproductive—rather than primarily morphological—conception of species: “no surer criterion for determining species has occurred to me than the distinguishing features that perpetuate themselves in propagation from seed. Thus, no matter what variations occur in the individuals or the species, if they spring from the seed of one and the same plant, they are accidental variations and not such as to distinguish a species. . . . Animals likewise that differ specifically preserve their distinct species permanently; one species never springs from the seed of another nor vice versa” (Ray, quoted in Ernst Mayr, *The Growth of Biological Thought* [Cambridge, MA: Harvard University Press, 1982], 256–57).

1687

English mathematician, physicist, astronomer, natural philosopher, alchemist, and theologian, Isaac Newton (1643–1727), publishes *Philosophiæ naturalis principia mathematica* [Mathematical principles of natural philosophy] (London, 1687), a summary of his discoveries in terrestrial and celestial mechanics, that is, of gravitation and—with reference to the German astronomer Johannes Kepler’s [1571–1630] three laws of planetary motion—its effect on the orbits of the planets.

1688

Dutch and German Quakers in Germantown, Pennsylvania, sign a statement in opposition to the slave trade, which reads, in part: “These are the reasons why we are against the traffik of men-body. . . . Is there any that would be done or handled at this manner? . . . There is a saying, that we shall doe to all men, like as we will be done our selves: making no difference of what generation, descent, or colour they are. And those who steal or rob men, and those who buy or purchase them, are they not all alike?” (<http://explorepahistory.com/odocument.php?docId=1-4-32>).

The Glorious Revolution—resulting in the deposition of James II and the 1689 accession of William and Mary of Orange to the English throne.

1689

Locke's *Two Treatises on Government* ("the latter . . . an essay concerning the true original, extent, and end of civil government") (London, 1690), a work usually regarded as enshrining the "liberties" restored through the Glorious Revolution, is licensed for publication.

1690

Beginning of what has been called "the peak years" of the Atlantic slave trade (1690–1807), "when something like six million Africans were transported to the Americas, almost half of them in British or British North American ships. Of those, between one fifth and a quarter . . . in ships from Liverpool . . ." (James Walvin, "Abolishing the Slave Trade," www.history.ac.uk/ihr/Focus/Slavery/articles/walvin.html).

1693

Ray, in *Synopsis methodica animalium quadrupedum et serpentini generis* [Synopsis of quadrupeds and snakes] (London, 1693), challenges Descartes' claim that animals are unfeeling, unconscious machines.

1694

Rudolph Jakob Camerarius (1665–1721), professor of medicine and director of the botanical gardens at the Eberhard Carolinium (University of Tübingen), publishes *De sexu plantarum epistola* [Letter on the sex of plants] (Tübingen, 1694), in which he produces clear experimental evidence for the sexuality of plants first proposed by John Ray and Nehemiah Grew.

Self-taught optics manufacturer, astronomer, and naturalist Nicolas Hartsoeker (1656–1725), a vocal adherent of *vermist* (or "spermist") preformationism—namely, the view, in contrast to *ovist* preformationism, that the preformed embryo is to be found in the male paternal "germ" rather than in the maternal egg—includes a sketch of the *homunculus* (a tiny, performed human believed to exist in the head of the spermatozoa) in a book he published to promote the use of optical lenses in the investigation of nature, *Essai*

de dioptrique [Essay on dioptrics] (Paris, 1694); Hartsoecker, however, did not claim to have actually seen a homunculus with the aid of a microscope.

1713

The British—by the Treaty of Utrecht (which ended the War of Spanish Succession, 1702–1713)—acquire *asiento*, or permission to supply slaves for use in the Spanish territories of the Americas, and sell the privilege to the South Sea Company for seven-and-a-half million pounds (Thomas, 235).

1714

German mathematician and philosopher Gottfried Wilhelm Leibniz (1646–1716), who defended *vermist* preformationism, composes in French an untitled text summarizing his philosophy (not published in French, with the title *La monadologie* [Monadology], until 1840, but available in German and Latin translations prepared under the auspices of the Leibnizian German Enlightenment philosopher Christian Wolff [1679–1754], in respectively, 1720 and 1721), according to which the ultimate constituents of the universe are “monads,” or “simple substances,” each of which perceives the universe from a different point of view; Leibniz also believed—because he conceived these perceptions as harmonious with one another—that a mathematics that could demonstrate the universality of the relations between these differing points of view is not only conceivable, but necessarily possible.

1718

Louis Joblot (1645–1723), a professor of mathematics at the Académie royale de peinture et de sculpture [Royal academy of painting and sculpture] and inventor of the side-pillar compound microscope, demonstrates that microorganisms (“infusoria”) observed in solutions are not the product of spontaneous generation but result instead from exposure to ambient air, which confirmed the views of Leeuwenhoek.

1720

Shareholders in the South Sea Company (including most members of both the House of Commons and the House of Lords, the poet Alexander Pope [1688–1744], Newton, the Swiss canton of Berne, and “all of the royal family, including

the bastards”) lose significant sums of money after a speculative bubble in the share price bursts; Newton loses £20,000 and, reportedly, “could not bear to hear the words ‘South Sea’ for the rest of his distinguished life” (Thomas, 241).

1724

Birth of Immanuel Kant (22 April 1724) in the East Prussian port city of Königsberg.

1727

The first record of anti-slavery sentiments among English Quakers in the proceedings of the London Yearly Meeting, which includes the statement: “It is the sense of this meeting, that the importing of negroes from their native country and relations by friends, is not a commendable nor allowed practice, and is therefore censured. . . .” (www.quaker.org.uk/early-colonial-quakers-protest-against-slavery).

1729

British courts respond to requests for a ruling on the question of whether an African slave who has converted to Christianity and been baptized could still be held in bondage in a joint opinion by the Attorney General (Sir Philip Yorke) and the Solicitor General (Charles Talbot); the result is the Yorke-Talbot ruling, in which they write: “We are of the opinion, that a slave, by coming from the West Indies, either with or without his master, to Great Britain or Ireland, doth not become free; and that his master’s property or right in him is not thereby determined or varied; and baptism doth not bestow freedom on him, nor make any alteration to his temporal condition in these kingdoms. We are also of opinion, that the master may legally compel him to return to the plantations” (www.nationalarchives.gov.uk/pathways/blackhistory/rights/slave_free.htm). (The issue had been resolved in many of the American colonies beginning in 1664 with the enactment of laws that prohibited manumission, or the granting of freedom, in such circumstance.)

1735

Swedish naturalist Carolus Linnaeus (1707–1778), who had organized a botanical and ethnographical expedition to Lapland in 1731 and only

recently completed his medical degree in the Netherlands at the University of Harderwijk, enrolls in the University of Leiden for further studies and publishes the first edition of his classification of living things, the *Systema naturae* [System of nature] (Leiden, 1735)—the first work of its kind to use consistently the system of binomial nomenclature still widely used.

Swiss mathematician Leonhard Euler (1707–1783) presents a paper to the Academy of Sciences in St. Petersburg (26 August 1735) in which he solves what had been considered a significant mathematical puzzle of the early eighteenth century, the Königsberg Bridge Problem, that is, to show how one could perambulate the seven bridges of Königsberg without retracing one's steps; Euler proved that problem could not be solved—a negative solution usually described as having inspired him to develop graph theory, which in turn led to the development of topology.

1736

Swiss poet, physiologist, anatomist, and novelist Albrecht Haller (1708–1777), who had completed his studies at the University of Leiden in 1727, accepts a position as professor of anatomy, botany, and surgery at Georg-August-Universität (Göttingen), which had been established only a few years earlier, in 1737, by order of Elector Georg August of Hanover—who, as George II, was also (following the death of his father, George I, in 1727) the King of Great Britain and Ireland—as a “University of the Enlightenment” with a mandate to advance the newly emerging “scientific” disciplines and methods of investigation. (During the period when Haller was a student in Leiden, that university was glorying in the fame of the Dutch physician, botanist, and humanist Hermann Boerhaave [1668–1738], whose protocols for medical practice and works, such as the *Institutiones medicae* [Principles of medicine] [Leiden, 1708] and *Elementa chemiae* [Elements of chemistry], 2 vols. [Leiden, 1732], remained authoritative for decades.)

1738

The prolific and immensely influential French writer, satirist, and reformer François Marie Arouet (1694–1778), who had adopted the pen name by which he is better known, Voltaire, in 1718, and spent the years 1725–1728 exiled in London, publishes *Éléments de la philosophie de Newton* [Elements of Newton's philosophy] (Amsterdam, 1738), which greatly contributed to the popularization in France of Newton's views and the practice of natural philosophy.

1739–1740

The British government in Jamaica comes to a settlement with rebellious slaves known as *Maroons* (from the Spanish *cimaroon*, “wild, untamed”) who—either because they had been released by or escaped from the Spanish before the arrival of the English—had enjoyed a measure of independence and self-sufficiency in the period since the English had invaded the island in 1655; the Maroons were allowed to live freely in five main towns under the control of their chief and a British supervisor on the condition that they help capture rather than give refuge to new runaway slaves.

1745

French Newtonian mathematician, astronomer, and philosopher, Pierre-Louis Moreau Maupertius (1698–1759) proposes, in *Vénus physique* [The earthly Venus] (Le Haye, 1745), the notion of descent from a common ancestor: “Could one not say that, in the fortuitous combinations of the productions of nature, as there must be some characterized by a certain relation of fitness which are able to subsist, it is not to be wondered at that this fitness is present in all the species that are currently in existence? . . . The species we see today are but the smallest part of what blind destiny has produced. . . .” (Maupertius had traveled to Lapland to measure the arc of the meridian in the years 1736–1737, which confirmed the Newtonian view that the earth is an oblate spheroid; he is usually also credited with having been an early defender of the theory formulated in opposition to both the *ovist* and *vermist* versions of preformationism later known by the name *pangenesi*s—namely, the view that “particles” from both the mother and father are needed to account for the characters of their children—and for suggesting both that “mating novel varieties for several generations might result in the production of a new species” and that although such “new varieties presumably [arise] by chance, . . . climate and food might have some influence as well,” including the way in which the heat of the tropics might affect skin coloration [Magner, 305].)

Swiss naturalist and philosopher Charles Bonnet (1720–1793) publishes *Traité d'insectologie* [Treatise on insectology] (Paris, 1745), in which he describes the regenerative ability of annelid worms. (Bonnet’s earlier investigations, in which he demonstrated the development of eggs without sperm, or parthenogenesis in female aphids, had already earned him the honor of being elected the youngest corresponding member of the Académie royale des sciences in Paris, and his subsequent discovery that respiration in caterpillars and butterflies is performed by “pores”—to which the name *stomata* has since been given—earned him membership in the Royal Society of London.)

1747

Haller publishes what is usually regarded as the first modern physiology textbook, *Primae lineae physiologiae* [First lines of physiology] (Göttingen, 1747).

1749

George-Louis Leclerc Buffon (1707–1788), French naturalist, mathematician, and since 1739 director of the Jardin du roi in Paris and curator of its museum, commences publication—continued and completed after his death—of the monumental *Histoire naturelle, générale et particulière* [Natural history, general and particular], 44 vols. (Paris, 1749–1804), the defining work of eighteenth-century natural history. (Central to Buffon’s system for plants and animals is the notion of the *moule intérieur*, typically translated into English as “internal mold” and into German as “innere Form,” which can be explicated as follows: “The *moule intérieur* acted as matter’s organizing agent. All organized bodies had a *moule intérieur*; each was specific to its species, according to a unique plan generated when the species first appeared. For this reason all things were similar yet different, and therefore could not be described by methods of mechanical natural philosophy. . . .” [Peter Hans Reill, *Vitalizing Nature in the Enlightenment* (Berkeley: University of California Press, 2005), 47].)

1751

Maupertuis publishes *Système de la nature* [System of nature] (Paris, 1751), which contains further theoretical speculations on the nature of biparental heredity based on the careful study of the occurrences of polydactyly, or extra fingers, in several generations of a Berlin family; he concludes that this trait could be transmitted by either the male or female parent as the result of a mutation in the “hereditary particles” possessed by them.

1753

Linnaeus published *Species plantarum* [The species of plants], 2 vols. (Stockholm, 1753), which employs the oldest names of plants still considered valid today, according to which twenty-four classes of plants were identified “based on the number, size and method of insertion of their stamens, and

also on the female parts, the pistils,” or what is referred to as their “sexual morphology” (Marta Partelini, “The Legacy of Linnaeus in the Age of Molecular Biology,” www.ncbi.nlm.nih.gov/pmc/articles/PMC1973966/).

1755

Kant publishes (but anonymously) *Allgemeine Naturgeschichte und Theorie des Himmels, oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes, nach Newtonischen Grundsätzen abgehandelt* (Königsberg and Leipzig, 1755) (AA 1:217–368), in which he further develops the nebular hypothesis, namely, the view that the origin of the universe can be traced to a period in which gaseous clouds, or nebulae, which slowly rotate, gradually collapse and flatten due to gravity and eventually form stars and planets, a theory first proposed in 1734 by the Swedish naturalist, inventor, and—after a 1743 “spiritual awakening”—mystic, Emanuel Swedenborg (1688–1772).

1757

Haller publishes the first volume of his monumental *Elementa physiologiae corporis humani* [Physiological elements of the human body], 8 vols. (Lausanne, 1757–1778), a work that both describes the advances in physiology since Harvey and further develops a view Haller had already advanced in previous works, namely, that the “irritability” observed when muscles are stimulated and contract is inherent in the fiber and not caused by external factors—a view that contravened the Cartesian view that bodily systems are essentially mechanical and require some vital principle to overcome their initial inertness.

1758

Linnaeus publishes the tenth edition of *Systema naturae*, 2 vols. (Stockholm, 1758), the first to use the binomial system of classification consistently throughout the entire work.

Haller, who had defended the epigenetic theory of human development in the 1740s, publishes *Sur la formation du coeur dans le poulet* [On the formation of the heart in the chicken], 2 vols. (Lausanne, 1758), in which—influenced by Abraham Trembley’s (1710–1784) discovery that the hydra, or

freshwater polyp, could produce complex new animals when cut in half—he, based on extensive microscopic research on chicken embryos, defends *ovist* preformationism.

1759

Caspar Friedrich Wolff (1734–1794), who had studied at the Collegium Mediochirurgicum in Berlin and at the University of Halle, publishes his Halle dissertation, *Theoria generationis* [Theory of generation] (Halle, 1758), in which he strongly defends the epigenetic theory and identifies the *vis essentialis* as the “force” that accounts both for the absorption of nutrients from the earth and the distribution of them throughout plants in both generation and self-maintenance, as well as in the development of animal bodies during generation; Wolff sends a copy of his dissertation to Haller, which stimulates an extended debate between the two figures that continues until Haller’s death in 1777.

1760

A slave rebellion in Jamaica—led by a leader (“Tacky”) of slaves brought in from the Gold Coast known as Coromantee—spurs slave revolts throughout Jamaica that are not quelled by the British for several months, and only after the death of sixty whites and three hundred to four hundred slaves, including executed ringleaders.

1765

Another Coromantee uprising in Jamaica, and a slave revolt in Grenada.

1768

A student of Linnaeus’ at the University of Uppsala, Daniel Carlsson Solander (1733–1782), sails from England as one of two botanists on Captain James Cook’s (1728–1779) first voyage to the Pacific Ocean (1768–1771), which had been commissioned by the Royal Society of London to observe and record the transit of Venus across the sun at Tahiti on 13 April 1769.

1769

Biblical scholar, musician, and classicist Granville Sharp (1735–1813) publishes the first tract in England attacking slavery, *A Representation of the Injustice and Dangerous Tendency of Tolerating Slavery or of Admitting the Least Claim of Private Property in the Persons of Men, in England: in Four Parts* (London, 1769). (Sharp had become an early leader of the British abolitionist movement through his involvement, beginning in 1765, in the legal case concerning Jonathan Strong, a young slave from Barbados who had been beaten so badly by his master that the master had cast him out into the street as “useless,” but who Sharp and his brother had rescued; Sharp would also become a central figure in the 1772 Somerset case [see below], and he was among the first to propose that freed slaves be resettled to Africa in Sierra Leone.)

1771

German-born naturalist Peter Simon Pallas (1741–1811) publishes (with the support of Empress Catherine II, who had invited him to Russia in 1768) the first volume of *Reisen durch verschiedene Provinzen des russischen Reiches* [Travels through various provinces of the Russian empire], 3 vols. (St. Petersburg, 1771–1776); written in German, the work is quickly translated into Russian, Italian, French, and English. (Pallas, after initial studies at the University of Halle and the Georg-August-Universität [Göttingen], received his doctorate from the University of Leiden at age nineteen; he was elected a foreign member of the Royal Society of London at the age of twenty-three.)

Italian surgeon and politician Peter Moscati (1739–1824), professor of anatomy at the University of Pavia from 1763–1772, publishes *Delle corporee differenze essenziali che passano fra la struttura de' bruti, e la umana* [On the essential physical difference between the structure of humans and animals] (Milan, 1770); the work is translated into German the following year by Johann Beckmann, a professor of philosophy at the Georg-August-Universität (Göttingen), and published under the title, *Von dem körperlichen wesentlichen Unterschiede zwischen der Struktur der Thiere und Menschen* (Göttingen, Germany, 1771).

Kant—in the year following his installation in a professorship at the Academia Albertina (University of Königsberg) and the publication of his Inaugural Dissertation, *De mundi sensibilis atque intelligibilis forma et principiis* (Königsberg, 1770) (AA 2:387–419), and after a decade-long period of success with the publication of works both academic and “popular,” including *Beobachtungen über das Gefühl des Schönen und Erhabenen* (Königsberg,

1764) (AA 2:207–256)—publishes an anonymous review of Moscati’s book in the *Königsbergische gelehrte und politische Zeitung* 1771, no. 67 (23 August): 265–66 (AA 2:421–26).

1772

A ruling by Lord Mansfield, Lord Chief Justice, in the case of James Somerset (the slave of a British customs official who had been brought to England, but escaped, and when recaptured two years later had been forcibly boarded on a ship bound for Jamaica) establishes that no slave can be forcibly removed from Britain and sold into slavery—but the ruling is interpreted by many as holding slavery to be illegal in England (if not elsewhere in the British Empire), and the publicity surrounding the case galvanizes the international abolitionist movement.

1773

James Burnett, Lord Monboddo (1714–1799), an influential but eccentric Scottish jurist, classicist, and speculative theorist concerning the origins of language and society—often credited with having formulated an evolutionary theory of human origins and favoring education for orangutans (which, during this period, usually meant all “great apes”)—publishes the first volume of *On the Origin and Progress of Language*, 3 vols. (Edinburgh, 1773–1776).

1774

Henry Home, Lord Kames (1696–1782), prominent Scottish jurist, literary critic, and a leading figure of the Scottish Enlightenment, publishes *Sketches of the History of Man*, 2 vols. (Edinburgh, 1774), in which he challenges Buffon’s monogenecism by suggesting that climatic and social influences alone could not account for the extreme variability that we find in human specimens from different geographical regions.

Edward Long (1734–1813), a British colonial administrator whose family had secured a position among the “planter elite” of Jamaican society since the period of conquest in the 1650s, publishes *History of Jamaica; or, General Survey of the Antient and Modern State of That Island, with Reflections on Its Situation, Settlements, Inhabitants, Climate, Products, Commerce, Laws, and Government*, 3 vols. (London, 1774), in which he not only defends slavery, but claims that black people differ “from other men not in *kind*, but in *species*.”

John Wesley (1703–1791)—whose experience as a Church of England missionary in the colony of Georgia in the late 1730s is usually cited as having contributed to his “founding” of Methodism as a movement of “spiritual renewal” in eighteenth-century England—publishes a pamphlet widely circulated both in Great Britain and in the British colonies in North America, “Thoughts upon Slavery” (available online at <http://new.gbgm-umc.org/umhistory/wesley/slavery/>), in which he argues, “(setting the Bible out of the question)” but citing at some length the words of the prominent English judge and legal scholar William Blackstone (1723–1780), that “slavery is as irreconcilable to justice as to mercy” and that “slave-holding is utterly inconsistent with mercy, is almost too plain to need a proof.” (Founded as a penal colony in 1735, slavery was not initially allowed in Georgia, but it was legalized by royal decree in 1759.)

1775

Swiss poet and physiognomist Johann Caspar Lavater (1741–1801) publishes the first part of his *Physiognomische Fragmente, zur Beförderung der Menschenkenntniß und Menschenliebe* [Physiognomical fragments for the advancement of human knowledge and human kindness] (Leipzig, 1775–1778), in which, focusing on facial features, he attempts “to categorize on a large scale all possible character types based on differences in the proportion and appearance of the face” (Pete Mauro Bio, “Lavater, Johann Caspar 1740–1801: Swiss Theologian and Physiognomist,” in *Encyclopedia of the Romantic Era 1760–1850*, ed. Christopher John Murray, 658 [New York: Taylor and Francis, 2004]).

Christoph Meiners (1747–1810)—the son of a postmaster who began studying at Georg-August-Universität (Göttingen) in 1767 and became a member of the philosophy (*Weltweisheit*) faculty in 1772—publishes “Einige Bemerkungen aus der Geschichte der Insel-Bewohner der Südsee” [Some remarks from the history of South Sea islanders] in his *Vermischte Philosophische Schriften* [Miscellaneous philosophical writings], vol. 1, 251–73 (Leipzig, 1775).

French researcher and public official Antoine Laurent Lavoisier (1743–1794) announces to the Académie royale des sciences in Paris that he has isolated by decomposition of mercuric oxide a component of air that he calls “eminently breathable air,” to which he subsequently gives the name *oxygen*. (Lavoisier is commonly referred to as “the father of modern chemistry,” but it is generally recognized that he built upon the work of other researchers, including Joseph Black [1728–1799], Henry Cavendish [1731–1810], Carl Wilhelm Scheele [1742–1786], and Joseph Priestly [1733–1804].)

Kant publishes an announcement for his summer semester course in physical geography (a subject on which he had been lecturing since the early 1750s) under the title *Von der verschiedenen Racen der Menschen, zur Ankündigung der Vorlesungen der physischen Geographie im Sommerhalbjahr 1775* (Königsberg, 1775).

Johann Friedrich Blumenbach (1752–1840), professor of medicine at the Georg-August-Universität (Göttingen) from 1776–1835, defends (17 July 1775) and publishes his Göttingen doctoral dissertation, *De generis humani varietate nativa* [On the natural variety of humankind]; the first of the three commercial editions appears the following year (Göttingen, 1776); the first edition in German appears in 1798, with Dutch, French, and English translations following, respectively, in 1801, 1806, and 1865.

A Commission is appointed by the British House of Commons to take evidence on the slave trade.

1776

Scottish philosopher Adam Smith (1723–1790) publishes *An Inquiry into the Wealth of Nations* (London, 1776), in which he advances the idea that commercial enterprises are most likely to succeed when they are not obliged to serve (narrowly defined, monopolistic) state interests and are instead left free to act in pursuit of their own self-preservation, and that the resulting equilibrium is not determined by preordained natural design but comes about rather as a consequence of self-regulation; Smith also expresses in this work his opposition—for economic reasons—to slavery, writing, for example, “But though the wear and tear of a free servant be equally at the expense of his master [as that of a slave], it generally costs him much less than that of a slave. The fund destined for replacing or repairing, if I may say so, the wear and tear of a slave is commonly managed by a negligent master or careless overseer. That destined for performing the same office with regard to the free man, is managed by the free man himself. . . . It appears, accordingly, from the experience of all ages and nations, I believe, that the work done by free men comes cheaper in the end than the work performed by slaves” (from bk. 1, chap. 8, “Of the Wages of Labour”).

The Continental Congress passes a resolution (9 April 1776) calling for the eventual end of the importation of slaves into any of “the thirteen united colonies,” and votes on 2 July 1776 for independence and refines the Declaration of Independence before releasing it to the public two days later.

David Hartley (1732–1813)—son of the founder of the Associationist school of psychology, philosopher David Hartley (1705–1757) and a Member of Parliament from Kingston-upon-Hull—moves a resolution (which was

easily defeated, and apparently generated little attention) against the slave trade, stating that it “is contrary to the laws of God and the rights of men.”

Pallas publishes the first volume of his *Sammlung historischer Nachrichten über die mongolischen Völkerschaft* [Collection of historical reports about the Mongolians] (St. Petersburg, 1776); a second volume is published in 1802.

Lavater publishes the second part of the *Physiognomische Fragmente*.

1777

Kant publishes a revised version of the announcement for his 1775 summer semester course in physical geography, “Von der verschiedenen Racen der Menschen,” in *Der Philosoph für die Welt*, vol. 2, ed. Johann Jacob Engel (Leipzig, 1777), 125–64.

The twenty-three-year-old Johann Georg Adam Forster (1754–1794), who had served as an assistant to his father on James Cook’s second voyage to the Pacific (1772–1775), publishes—after resolution of a dispute with the Admiralty over the literary rights—an unofficial account, based loosely upon his father’s journal of the voyage, first in English, *A Voyage Round the World, in His Britannic Majesty’s Sloop, Resolution, Commanded by Captain James Cook, during the Years 1772, 3, 4, and 5*, 3 vols. (London, 1777), and the following year in German, *Reise um die Welt während den Jahren 1772 bis 1775 in dem durch den Capitain Cook geführten Schiffe the Resolution unternommen*, 2 vols. (Berlin, 1778).

Lavater publishes the third part of the *Physiognomische Fragmente*.

Vermont adopts a constitution (2 July 1777) prohibiting slavery.

1778

Virginia prohibits the importation of slaves.

Buffon publishes—as the twentieth volume and fifth supplement to the *Histoire naturelle, générale et particulière—Les époques de la nature* [The epochs of nature] (Paris, 1778), a work in which natural history is divided into six periods and the age of the earth is estimated to be at least seventy-five thousand years.

Eberhard August William Zimmermann (1745–1815), professor of mathematics and natural philosophy at the Collegium Carolinum (University of Braunschweig), publishes the first volume of his *Geographische Geschichte des Menschen und der allgemein verbreiten vier-füßigen Tiere* [Geographical history of human beings and the universally dispersed quadrupeds], 3 vols. (Leipzig, 1778–1781).

Samuel Thomas Sömmerring (1755–1830) defends and publishes his Göttingen medical dissertation, *De basi encephali et originibus nervorum*

cranio egredientium [On the base of the brain and the origins of the cranial nerves] (Göttingen, 1778); as a professor of anatomy and surgery at the Collegium Carolinum (a scientific society founded in 1709) in Kassel (1779–1784), a professor of anatomy and physiology at the University of Mainz (1784–1797), and a privy councilor and resident member of the Bavarian Academy of Sciences in Munich (1805–1820), Sömmerring was subsequently to become the leading German anatomist of the late eighteenth and early nineteenth century.

Johann Reinhold Forster (1729–1798), father of Georg Forster, publishes his *Observations Made During a Voyage round the World; or, Physical Geography, Natural History, and Ethic Philosophy: Especially on 1. The Earth and its Strata; 2. Water and the Ocean; 3. The Atmosphere; 4. The Changes of the Globe; 5. Organic Bodies; and 6. The Human Species* (London, 1778).

Lavater publishes the fourth and final part of the *Physiognomische Fragmente*.

Georg-August-Universität (Göttingen) physicist, aphorist, and Anglo-ophile, Georg Christoph Lichtenberg (1742–1799), satirically critiques the work of Lavater in an article, “Über Physionomik” [On physiognomy], published in the *Göttingener Taschen Calender vom Jahr 1778*, 1–31.

Peter Camper (1722–1789), a prominent Dutch anatomist and naturalist and professor of medicine, surgery, and anatomy at the University of Groningen from 1763–1773, writes a letter (dated 2 December 1778) to John Pringle (1707–1782), president of the Royal Society of London from 1772–1778, that is read before the Society on 7 January 1779 and published under the title “Account of the Organs of Speech of the Orang Outang” (*Philosophical Transactions of the Royal Society of London* 69 [1779]: 139–59).

1779

Blumenbach dates (24 April 1779) the preface to the first of twelve editions of his *Handbuch der Naturgeschichte* [Handbook of natural history] (Göttingen, 1779; 12th ed., 1830).

Blumenbach begins (25 August 1779) correspondence with Peter Camper, which lasts until Camper’s death in 1789.

Dutch physician, physicist, and inventor Jan Ingenhousz (1730–1799), who had studied medicine at the University of Louvain and was most well known in his own lifetime for successfully inoculating the members of the Habsburg family in Vienna against smallpox in 1768, publishes *Experiments upon Vegetables, discovering Their great Power of purifying the Common Air in the Sun-shine, and of Injuring it in the Shade and at Night* (London, 1779), in which, in effect, he showed that plants use carbon dioxide and that they require light in order to produce oxygen.

1780

Georg Forster's article, "O-Tahiti," appears in the first issue of a journal he coedits with Lichtenberg, the *Göttingenisches Magazin der Wissenschaften und Literatur* 1, no. 1 (1780): 69–109 and 420–58, together with articles by Blumenbach, "Von den Zähnen der alten Ägyptier und von den Mumien" [On the teeth of ancient Egyptians and on mummies] (*ibid.*, 109–39), several by his father, J. R. Forster, including a letter to Lichtenberg commenting on Buffon's *Époques*, "Über Buffons Epochen der Natur" (*ibid.*, 140–157), and a contribution from Meiners, "Beytrag zur Geschichte der Denkart der ersten Jahrhunderte nach Christi geburt, in einigen Betrachtungen über die neo-platonische Philosophie" [Contribution to the intellectual history of the first century AD, in some considerations of neo-Platonism] (*ibid.*, 370–415).

Blumenbach's essay, "Über den Bildungstrieb (*Nisus formativus*) und seinen Einfluß auf die Generation und Reproduction" [On the formative drive and its influence on generation and reproduction], first appears in *Göttingenisches Magazin der Wissenschaften und Literatur* 1, no. 5 (1780): 247–66.

Italian naturalist Lazzaro Spallanzani (1729–1799)—who had already conducted experiments intended to discredit belief in spontaneous generation in the mid-1760s and had been appointed professor of natural history and curator of the museum at the University of Pavia when it was reestablished in 1768—publishes *Dissertationi de fisica animale e vegetale*, 2 vols. (Pavia, 1780), in which he clearly demonstrates the true physiological nature of digestion, and establishes, on the basis of experimentation, the respective functions of spermatozoa and the ovum in reproduction. (French, English, and German translations of the work quickly followed in the years 1783–1788, e.g., *Dissertations Relative to the Natural History of Animals and Vegetables*. 2 vols. [London, 1784].)

Lavoisier, together with his French colleague, the mathematician and astronomer Peter-Simon Laplace (1749–1827), presents a report to the Académie royale des sciences in Paris ("Mémoire sur la chaleur" [Report on heat], *Mémoires de l'Académie royale des sciences* 75 [1780]: 355–408) in which they explain their theory of chemical and thermal phenomena based on the assumption that heat is a substance, which they call "caloric," and deduce the notion of specific heat, which they express in terms of the heat absorbed in raising one pound of water one degree; they also conclude that respiration is a form of combustion.

The Pennsylvania legislature passes An Act for the Gradual Abolition of Slavery, the first attempt by any body of government in the Western hemisphere to initiate the end of slavery.

William Wilberforce (1759–1833), who eventually becomes a leader in the abolitionist movement after he comes into contact with Granville Sharp

and others in 1787, is elected to Parliament. (Wilberforce was “from a prosperous merchant family of Kingston-upon-Hull, a North Sea port which saw little in the way of slave trading,” and his early years in Parliament—during which “he was noted for his eloquence and charm, attributes no doubt enhanced by his considerable wealth, but . . . did not involve himself at first with any great cause”—have been described as “not untypical for a young back-bencher;” but his “sudden conversion to evangelical Christianity in 1785 changed that and from then onwards he approached politics from a position of strict Christian morality,” which, in his view, required support for the abolition of slavery [www.brycchancarey.com/abolition/wilberforce.htm]).

1781

Kant dates (29 March 1781) the dedication to the first edition of the *Kritik der reinen Vernunft* (AA 4:5–252).

Blumenbach’s *Über den Bildungstrieb und das Zeugungsgeschäft* [On the formative drive and the generative process] appears in book form in the first of three editions (Göttingen, 1781).

Sömmerring publishes “Etwas Vernünftiges vom Orang Utang” [Something reasonable about the orangutan] in the *Göttingener Taschen Calender vom Jahr 1781*, 40–64.

Danish entomologist and economist Johann Christian Fabricius (1745–1808), who had studied with Linnaeus in the early 1760s, claims in his *Betrachtungen über die allgemeinen Einrichtungen in der Natur* [Observations on universal structures in nature] (Hamburg, 1781), 329–30, that Negroes arose from the crossing of a white human being with an ape.

Blumenbach dates (22 May 1781) the second edition of *De generis humani varietate nativa* (Göttingen, 1781), in which—based upon the measurement of skulls, or craniometry—he divides the human species into five “varieties” instead of four, identifying the Malayan (Austral-Asian) as the fifth, in addition to, to use the terminology first employed only in the 1795, third edition (see below), the Caucasian, the Mongolian, the Negroid, and the American.

1782

Camper publishes his *Naturkundige verhandelingen over den orang outan; en eenige andere aap-soorten; over den rhinoceros met den dubbelen horen; en over het rendier* [Natural history of the orangutan and a few other apes, the African rhinoceros, and the reindeer] (Amsterdam, 1782).

“Muthmaßliche Gedanken von den Ursprungen der Amerikaner,” by Johann Eberhard Fischer (1697–1771)—speculations on the origin of the Americans, first published in 1771, by a member of the St. Petersburg Academy of Sciences who succeeded Gerhard Friedrich Müller (1705–1783) as the historian on the Second Kamchatka Expedition (1733–1743)—is reprinted in a journal edited by Pallas, the *Neue Nordische Beyträge zur physikalischen und geographischen Erd- und Völkerbeschreibung, Naturgeschichte und Oekonomie* 3 (1782): 289–322.

1783

Kant publishes *Prolegomena zu einer jeden künftigen Metaphysik, die als Wissenschaft wird auftreten können* (AA 4:255–383).

Georg Forster publishes the German translation of his father’s 1778 *Observations* under the title *Bemerkungen über Gegenstände der physischen Erdbeschreibung, Naturgeschichte und sittlichen Philosophie auf seiner Reise um die Welt gesammelt* (Berlin, 1783).

A treatise, first published in Dutch, by the German botanist, Dutch East Indies colonial administrator, and Secretary of the Academy of Batavia (now Jakarta), Friedrich Baron von Wurmb (1742–1781), appears in German translation under the title “Beschreibung der großen Orangutangs der Insel Borneo” [Description of the great apes of the island of Borneo] in *Magazin für das Neueste aus der Physik und Naturgeschichte* 1, no. 4 (1783): 1–13.

Lavoisier presents a paper to the Académie royale des sciences in Paris (“Réflexions sur le phlogistique, pour servir de suite à la théorie de la combustion et de la calcination” [Thoughts on phlogiston, as a follow-up to the theory of combustion and calcination]) in which he openly challenges the adequacy of the phlogiston theory of combustion to account for the results of the quantitative chemical experiments he had been performing for some years—but he also defends the later discredited “caloric theory”; the paper is subsequently published in the Académie’s journal, *Mémoires de l’Académie royale des sciences* 78 (1783): 505–38 (Paris, 1785).

The inventors of the first practical hot-air balloon, the Montgolfier brothers, Joseph-Michel (1740–1810) and Jacques-Étienne (1745–1799), stage the first public demonstration of their invention on 4 June 1783; a demonstration with live animals—a sheep (named Montauciel, “Climb-to-the-sky”), a duck, and a rooster—staged before King Louis XVI and Queen Marie Antoinette and a crowd at the royal palace, takes place on 19 September 1783; the first free flight with humans follows on 21 November 1783.

The first British antislavery organization is founded by Quakers, and the movement begins to be recognized by the British public; a Quaker-initiated petition to end the slave trade is presented to Parliament.

1784

The preeminent German poet, playwright, novelist, and natural philosopher Johann Wolfgang Goethe (1749–1832) writes (27 March 1784) to Johann Gottfried Herder (1744–1803) announcing his discovery—contrary at the time to the view of figures such as Camper, Blumenbach, and Sömmerring—that the intermaxillary bone (*os intermaxillare*) exists in humans as well as in animals. (Herder had been a favorite student and close to Kant in the early 1760s, but he had received in 1776 an appointment as General Superintendent of the Lutheran Clergy at Weimar, partly through Goethe's influence, and had in the intervening period progressively distanced himself from his former teacher.)

Herder dates (23 April 1784) the first part of his *Ideen zur Philosophie der Geschichte der Menschheit* [Reflections on the philosophy of the history of humankind] (Riga and Leipzig, 1784).

Sömmerring publishes his University of Mainz inaugural address, *Über die körperliche Verschiedenheit des Mohren von Europäer* [On the physical difference of Moors from Europeans] (Mainz, 1784).

Kant's "Ideen zu einer allgemeinen Geschichte in weltbürgerlicher Absicht" appears in *Berlinische Monatsschrift* 4 (November 1784): 385–411 (AA 8:17–31).

Kant's "Beantwortung der Frage: Was ist Aufklärung?" appears in *Berlinische Monatsschrift* 4 (Dezember 1784): 481–94 (AA 8:35–42).

Ship's surgeon and Anglican priest James Ramsay (1733–1789), already a noted critic of the slave trade and the inhumane treatments of slaves in the West Indies, publishes his most significant tract, *Essay on the Treatment and Conversion of African Slaves in the British Sugar Colonies* (London, 1784).

Rhode Island and Connecticut pass gradual emancipation laws; the first petition against the slave trade by a municipality is sent to the House of Commons by the town of Bridgewater; the Continental Congress prohibits slavery in the Northwest Territories.

1785

Kant publishes *Grundlegung zur Metaphysik der Sitten* (AA 4:387–463).

Kant's anonymous review of the first part of Herder's *Ideen* appears in *Allgemeine Literatur-Zeitung* (6 Januar 1785): 17–22 (AA 8:43–55).

Blumenbach's review of Sömmerring's *Über die körperliche Verschiedenheit des Mohren vom Europäer* appears in *Göttingische Anzeigen von gelehrten Sachen* (22 Januar 1785): 108–111.

Kant publishes an anonymous response to a defense of Herder by Karl Leonard Reinhold (1757–1823), an Austrian-born, Jesuit-trained-turned-

Freemason, and recent (Herder-befriended) convert to Lutheranism (later to be known as Kant's "first disciple") entitled "Errinerungen des Rezensenten der Herderschen *Ideen zur Philosophie der Geschichte der Menschheit* über ein im Februar des *Teutschen Merkur* gegen diese Rezension gerichtetes Schreiben," in *Allgemeine Literatur-Zeitung*, Appendix to the March issue (2 pp., unpaginated) (AA 8:56–58).

The English physicist and "pneumatic chemist" Henry Cavendish (1731–1810) reads a report (dated 2 July 1785) to the Royal Society of London, published as *Experiments on Air* (London, 1785), in which he describes experiments performed several years earlier in which he had successfully synthesized water by exploding hydrogen in oxygen.

Meiners publishes his *Grundriß der Geschichte der Menschheit* [Outline of the history of humankind] (Göttingen, 1785); a second edition of the work appears in 1793.

Herder publishes the second part of the *Ideen*.

Kant's "Bestimmung des Begriffs einer Menschenrace" appears in *Berlinische Monatsschrift* 6 (November 1785): 390–417 (AA 8:91–106).

Sömmerring sends a copy of the second, enlarged edition of *Über die körperlicher Verschiedenheit des Mohren vom Europäer*—with the slightly altered title, *Über die körperliche Verschiedenheit des Negers vom Europäer* [Of the physical difference of Negroes from Europeans] (Frankfurt, 1785)—to Georg Forster, accompanied by a personal letter dated 8 November 1785.

Kant's anonymous review of the second part of Herder's *Ideen* appears in *Allgemeine Literatur-Zeitung* 1785 (4), no. 271 (15 November): 153–56 (AA 8:58–66).

1786

Kant's "Mutmaßlicher Anfang der Menschengeschichte" appears in *Berlinische Monatsschrift* 7 (Januar 1786): 1–27 (AA 8:109–23).

Kant publishes *Metaphysische Anfangsgründe der Naturwissenschaft* (AA 4:467–565), in which he proposes—in the defense and further development of Newton's theories—the doctrine of the unity and convertibility of forces, and also asserts that "chemistry can become nothing more than a systematic art [*systemtische Kunst*] or experimental doctrine [*Experimentallehre*], but never science proper [*eigentliche Wissenschaft*]; for the principles of chemistry are merely empirical and admit of no presentation a priori in intuition" (trans. Ellington; AA 4:470–71).

Blumenbach's review of Sömmerring's *Über die körperliche Verschiedenheit des Negers vom Europäer* appears in *Göttingische Anzeigen von gelehrten Sachen* (25 Februar 1786): 302–3.

A previously published article by the Swedish physician and Linnaeus-disciple botanist Anders Sparrmann (1748–1820), who had accompanied the Forsters on Cook's voyages to Antarctica and Tahiti and explored on foot the southwest African interior in the years 1772–1776, appears in translation as “Beytrag zur Naturgeschichte der Hottentotten” [Contribution to the natural history of the Hottentots] in *Magazin für das Neueste aus der Physik und Naturgeschichte* 4, no. 1 (1786): 25–32.

Blumenbach dates (24 April 1786) the preface to his *Geschichte und Beschreibung des Knochens des menschlichen Körpers* [History and description of the bones of the human body] (Göttingen, 1786).

Georg Forster writes (8 June 1786) to Sömmerring of his displeasure with Blumenbach's review of Sömmerring's *Über die körperlicher Verschiedenheit des Negers vom Europäer*.

Georg Forster writes (23 June 1786) to Sömmerring of his displeasure with Kant's definition of human races.

Karl Leonard Reinhold (1757–1823), after intensive study of Kant's first critique, begins to publish letters favorable to the critical philosophy (later published as *Briefe über die Kantische Philosophie* [Leipzig, 1790]) in *Teutscher Merkur* (August 1786): 99–127 and 127–41; the eight letters—which both promoted and popularized the critical philosophy—continues in monthly installments from January through August (excepting March and April).

Kant publishes “Was heißt: Sich in denken zu orientieren?” in *Berlinische Monatsschrift* 8 (October 1786): 304–29 (AA 8:133–47).

Thomas Clarkson (1760–1846), another leader of the British abolitionist movement, whose first written contribution to the cause was an essay, written in Latin for a 1785 competition at Cambridge (which he won), publishes (“with additions”) an English translation of the essay, *An Essay on the Slavery and Commerce of the Human Species, Particularly the African* (London, 1786).

The first installment of Georg Forster's response to Kant's November 1785 and January 1786 *Berlinische Monatsschrift* articles, “Noch etwas über die Menschenraßen” [Something more about the human races] appears in *Teutscher Merkur* (Oktober 1786): 57–86; the conclusion, “Beschluß der im vorigen Monat angefangenen Abhandlung des Herrn G[ehemen] R[ath] Forsters über die Menschen-Rassen,” appears the following month, *Teutscher Merkur* (November 1786): 150–166.

Blumenbach publishes the first of the four editions of his *Institutiones physiologicae* [Elements of physiology] (Göttingen, 1786).

1787

Lavoisier makes (17 April 1787) a report to the Académie royale des sciences in Paris, “Mémoire sur la nécessité de la réformer et de perfectionner la

nomeclature de la chemie” [Report on the need for reform and improvement of chemistry nomenclature] (subsequently published in Lavoisier et al, *Méthode de nomenclature chymique* [Paris, 1787]), in which he—taking the lead from his compatriot French revolutionary, the mathematician, political reformer, and historical visionary Nicolas Condorcet (1743–1794), who had adopted the view that “languages” are implicitly analytic methods—introduces a system of chemical nomenclature much like that still in use today.

French physicist Jacques Alexander César Charles (1746–1823) determines by experiment that the volume of a fixed mass of gas at constant pressure is proportional to its thermodynamic temperature—but is not credited with this discovery, known as Charles Law, or the Law of Volumes, until 1802, by Joseph Louis Gay-Lussac (1778–1850), who in subsequent years becomes a leading figure of French science, especially in the fields of chemistry and physics.

Kant dates (23 April 1787) the dedication to the second edition of the *Kritik der reinen Vernunft* (AA 3:2–552).

Herder publishes the third part of the *Ideen*; Kant declines to review the text and writes in a letter (dated 25 June 1787; AA 10:489–90) to the editor of the *Allgemeine Literatur-Zeitung*, Christian Gottfried Schütz (1747–1832), that he needs the time that it would take to write the review to work instead on “the foundation of the critique of taste.”

Blumenbach’s “Einige naturhistorische Bemerkungen bey Gelegenheit einer Schweizerreise: Von den Negern” [Some natural-historical comments on the occasion of a Swiss tour: Of Negroes] appears in *Magazin für das Neueste aus der Physik und Naturgeschichte* 4, no. 3 (1787): 1–12.

Twelve men (including only two Anglicans, Granville Sharp and Thomas Clarkson, but nine Quakers) gather in a printing shop in London on 22 May 1787 to form The Society for the Abolition of the Slave Trade.

Kant completes (June/July 1787) his second critique, the *Kritik der praktischen Vernunft* (AA 5:1–164), but the work does not appear in print until the following year, 1788.

The framers of the Constitution of the United States of America meeting in Philadelphia (from 25 May to 17 September 1787) prohibit slavery north of the Ohio River, but compromise on two other issues concerning slavery and the slave trade: (1) each slave (“those bound for Service for a Term of Years, . . . excluding Indians not taxed”) will count as three-fifths a person for the purpose of apportionment of direct taxes and representatives; and (2) the Congress will be given the power to abolish the slave trade, but not for twenty years, or before 1808.

1788

Kant's reply to Forster's criticisms of his notion of race and of the purpose and goal of the natural sciences, "Über den Gebrauch teleologischer Prinzipien in der Philosophie," appears in two installments in *Teutscher Merkur* (Januar 1788), 36–52; (Februar 1788), 107–36 (AA 8:157–84).

The Association for Promoting the Discovery of the Interior Parts of Africa (commonly known as the African Association) is founded in London on 9 June 1788 to promote both the abolition of the slave trade and the exploration of West Africa, including discovery of the source of the Niger River and the location of Timbuktu, a fabled "lost city of gold," as well as new opportunities for British commerce.

1789

Two articles on issues of race and heredity by Blumenbach, "Über Menschen-Racen und Schweine-Racen" [On human races and swine races], and "Über Künstleleyen oder zufällige Verstümmelungen am thierischen Körper, die mit der Zeit zum erblichen Schlag ausgeartet" [On artificial or accidental deformation in the animal body, which in time becomes a heritable stock], and one by F. A. Meyer, "Noch Etwas über die Gesichtsbildung der Neger" [Something more about the facial formation of the Negro] appear in *Magazin für das Neueste aus der Physik und Naturgeschichte* 6, no. 1 (1789): 1–13; 13–23; and 47–50.

Antoine Laurent Jussieu (1748–1836), a botanist at the Jardin du roi/Jardin des plantes in Paris from 1770 to 1826, publishes *Genera plantarum, secundum ordines naturales disposita, juxta methodum in horto regio parisiensi exaratum anno 1774* [The genera of plants arranged according to the natural orders, pursuant to a method developed in the Royal Garden of Paris in the year 1744] (Paris, 1789), in which he both improves upon Linnaeus' sexual method of classifying flowering plants—by instead using multiple characters—and stresses the significance of the internal organization of organisms.

Lavoisier publishes (March 1789) *Traité élémentaire de chemie présenté dans un ordre nouveau et d'après les découvertes modernes*, 2 vols. (Paris, 1789), a work commonly regarded as "laying the foundations of modern chemistry" because it includes a table of thirty-three chemical elements divided into four categories on the basis of their chemical properties (gases, nonmetals, metals, and earths. (An English translation appears within months, *Elements of Chemistry, in a Systematic Order, Containing All the Modern Discoveries*, trans. Robert Kerr [Edinburgh, 1790]; a German translation follows two years later,

with the more definitive title, *System der antiphlogistischen Chemie*, trans. S. F. Hermbstädt [Berlin, 1792]).

Wilberforce—drawing extensively on evidence presented in the widely read publication of Thomas Clarkson—delivers (12 May 1789) his first major pro-abolitionist speech in the House of Commons. (Wilberforce, however, opposed extending the franchise to working-class reformers, and he organized the Society for Suppression of Vice and Encouragement of Religion to curb political aspiration and support for the French Revolution.)

Blumenbach dates (28 June 1789) the preface to the second edition of *Über den Bildungstrieb* (Göttingen, 1789).

The “storming of the Bastille,” the event usually cited as marking the beginning of the French Revolution, takes place on 14 July 1789.

The Society for the Abolition of the Slave Trade promotes the publication of the autobiography of a freed slave, *The Interesting Narrative of the Life of Olaudah Equiano, or Gustavus Vassa, the African* (London, 1789), which is quickly republished in many editions and energizes the anti-slavery movement. (The first American edition, published in New York, appears in 1791.)

1790

Parliament agrees in January 1790 to form a select committee to consider the slave trade and to examine the vast quantity of evidence presented by Wilberforce in his speech of 12 May 1789.

A petition (dated 3 February 1790) “for promoting the Abolition of Slavery, the relief of free Negroes unlawfully held in bondage, & the Improvement of the Condition of the African Races” from The Pennsylvania Abolition Society is sent to both chambers of the Congress of the United States; the petition is signed by Benjamin Franklin, President of the Society.

La Société des amis des noirs [The society of the friends of blacks] concludes the presentation of their case for the abolition of the slave trade before the French National Assembly on 5 February 1790; the Colonial Committee of the National Assembly proposes to exempt the colonies from the constitution and to prosecute anyone who attempts to spark uprisings against the slave system in March 1790; several hundred “mulattoes” rebel in Saint-Domingue in October (French army troops cooperate with local planter militias to put down the rebellion).

Meiners’ “Über der Natur der Afrikanischen Neger; und die davon abhängende Befreyung, oder Einschränkung der Schwarzen” [On the nature of the African Negro and the liberation or restriction of Blacks determined by this nature], primarily a criticism of Blumenbach’s opinions, appears in his *Göttingisches historisches Magazin* 6 (1790): 385–456; Meiners’ “Von den

Varietäten und Abarten der Neger” [Of the varieties and deviate forms of Negroes] appears in the same issue (*ibid.*, 625–45), as well as, along with eight other contributions from Meiners on various topics, a defense of the West Indian slave trade, “Historische Nachrichten über die wahre Beschaffenheit des Slaven-Handels, und der Knechtschaft der Neger in West-Indien” [Historical reports on the true condition of the slave trade, and the servitude of the Negro in the West Indies] (*ibid.*, 645–79).

Publication (20 April 1790) of the first edition of Kant’s third and final critique, the *Kritik der Urteilskraft* (AA 5:165–486).

Blumenbach dates (24 April 1790) the preface to his *Beyträge zur Naturgeschichte* [Contributions to natural history] (Göttingen, 1790), in which he replies to Meiners’ criticisms of his views (chap. XI, 62–78).

Goethe publishes *Versuch die Metamorphose der Pflanzen zu erklären* [Attempt to explain the metamorphosis of plants] (Gotha, 1790), in which he attempts to describe the laws of transformation (*Umwandlung*) by which plants yield one part through another and present the most different forms through the modification of a single agency (*Organ*), an effort that reflects his search for the “primal plant” (*Urpflanze*) and leads him to coin the term *morphology* (Morphologie).

Blumenbach dates (10 September 1790) the preface he has written for the five-volume German translation of Scottish explorer James Bruce’s (1730–1794) *Travels to Discover the Source of the Nile, In the Years 1768, 1769, 1770, 1771, 1772 and 1773*, 5 vols. (London, 1790), which is published in German as *Reisen zur Entdeckung der Quellen des Nils*, trans. J. J. Volkmann (Leipzig, 1790).

Kant begins work (thought to have intensified after 1796 and continuing until around 1801) on fragmentary manuscripts that have been well described as “undertak[ing] the task of making the transition from the special metaphysics of nature contained in the *Metaphysical Foundations* to physics itself” (Eric Watkins, “Kant’s Philosophy of Science,” in *Stanford Encyclopedia of Philosophy* (Spring 2009 Edition), ed. Edward N. Zalta, <http://plato.stanford.edu/archives/spr2009/entries/kant-science/>), but these materials were not gathered together until a century after Kant’s death and then published (in a version edited by Erich Adickes now generally considered seriously problematic) under the title *Kants Opus postumum* (Berlin, 1920).

1791

Kant publishes “Über die Mißlungen aller philosophischen Versuch in die Theodice” in *Berlinische Monatsschrift* (September 1791): 194–225 (AA 8:255–71).

Herder publishes the final part of the *Ideen*.

Sömmerring publishes the first three volumes of his masterpiece, *Vom Baue des menschlichen Körpers* [On the construction of the human body] (Frankfurt, 1791).

Blumenbach dates (2 February 1791) the preface of the third and final edition of *Über den Bildungstrieb* (Göttingen, 1791).

Wilberforce introduces in April 1791 the first parliamentary bill to abolish the slave trade, but it is easily defeated, 163 votes to 88, after only two evenings of debate.

Franz Joseph Gall (1758–1828), who had studied medicine both in Strasbourg and Vienna, publishes the first two chapters of his (never completed) book, *Philosophisch-medizinische Untersuchungen über Natur und Kunst im kranken und gesunden Zustande des Menschen* [Philosophical-medical investigations concerning nature and artifice in the sickly and healthy state of humans] (Vienna, 1791), the first of many works that establishes his reputation both as a serious researcher, who, for example, correctly identified differences in the composition of the “gray” and “white” matter of the brain and spurred investigation in the notion that brain function is localized, but also as the “founder” of the pseudo-sciences of craniology, or phrenology, and craniometry, which was widely used throughout the nineteenth century to determine the inferiority of the “lower races.”

A slave revolt breaks out in Saint-Domingue (present-day Haiti) on 22 August 1791; the rebels take control of the entire Northern Province of the island in only ten days, but the conflict is not resolved until Haitian independence is achieved on 1 January 1804, when Jean-Jacques Dessalines (1758–1806), a principal lieutenant of the leader of the revolution, François-Dominique Toussaint L’Ouverture (1743–1803), declares Haiti a free republic—and himself, the following year, Emperor, before being assassinated in the year following that, in 1806.

Goethe publishes the first of two long essays in a projected series, *Beyträge zur Optik* [Contributions to optics] (Weimar, 1791–1792), which eventually lead to the publication of his *Zur Farbenlehre* [Toward a theory of colors], 2 vols. (Tübingen, 1810), a compendium of chromatic phenomena, the study of which, in Goethe’s view, could provide humans with a personalized relation to the holistic continuity of organic and inorganic nature, a vision of nature which he opposes to Newtonian reductionism’s dependence on theoretical constructs.

A series of German translations of Peter Camper’s works begins with *Naturgeschichte des Orang-Utangs und einiger andern Affenarten, des Africansischen Nashorns, und des Renntheirs* [Natural history of the orangutan and a few other apes, the African rhinoceros, and the reindeer] (Düsseldorf, 1791).

Johann Christian August Grohmann (1769–1847)—who subsequently becomes an active proponent of the critical philosophy, first as a member of

the philosophy faculty at the University of Wittenberg (1792–1810), and later as professor of theoretical philosophy and rhetoric at the Akademische Gymnasium in Hamburg (1810–1833)—publishes *Ideen zu einer physiognomischen Anthropologie* [Proposals for a physiognomical anthropology] (Leipzig, 1791).

1792

Sömmerring publishes a German translation of other works by Peter Camper under the title *Über den natürlichen Unterschied der Gesichtszüge in Menschen verschiedener Gegenden und verschiedenen Alters; über das Schöne antiker Bildsäulen und geschnittener Steine: nebst Darstellung einer neuen Art, allerlei Menschenköpfe mit Sicherheit zu zeichnen* [On the natural difference in the facial features of humans from different regions and ages; on the beauty of ancient statues and cut stone: together with a presentation of a new method to draw all kinds of human heads with certainty] (Berlin, 1792).

A German translation of selections from the second edition of the enterprising British fur trader John Meares's (1756–1809) personal account of his (political crisis-provoking) 1788–1789 expedition to China, Hawaii, and the American Pacific Northwest, *Voyages made in the Years 1788 and 1789, from China to the North West Coast of America* (London, 1791), is published in *Magazin für das Neueste aus der Physik und Naturgeschichte* 7, no. 4 (1792): 1–18.

Alessandro Giuseppe Antonio Anastasio Volta (1745–1827), a professor of physics at the University of Pavia since 1779, discovers he can arrange metals in a series in such a way that chemical energy is converted into electrical energy, which led before the turn of the century to the invention of the electrochemical, or voltaic, cell, or what would now simply be called a battery.

Sömmerring publishes the fourth and the first part of the fifth volume of *Vom Baue des menschlichen Körpers* (Frankfurt, 1792).

Meiners composes (August 1792) “Fortgesetzte Betrachtungen über den Slaven handel, und die Freylassung der Neger” [Continued observations on the slave trade and the liberation of the Negro], which appears the following year in his *Neues Göttingisches historisches Magazin* 2 (1793): 1–58; Christian Gottlob Heyne (1729–1812), a prolific contributor to the *Göttingische Anzeigen von gelehrten Sachen* under whose directorship the library of the Georg-August-Universität (Göttingen) becomes one of the best research libraries in Germany, makes negative comments about the article in a letter to Forster dated 9 August 1792.

Kant receives (2 November 1792) advance copies of the second edition of the *Kritik der Urteilskraft*, although the publication date is given as 1793.

1793

German naturalist Georg Wilhelm Steller's (1709–1746) "Tagebuch seiner Seereise aus dem Petripauls Hafen in Kamtschatka bis an die westlichen Küste von Amerika, und seiner Begebenheiten auf der Rückreise" (journals from the years 1740–1746 spent exploring the Kamchatka Peninsula, the first eighteen months of which were spent on the Second Kamchatka Expedition with Danish explorer Vitus Bering [1681–1741]) is published in Pallas' *Neue Nordische Beyträge* 5 and 6 (1793): 165–249 and 1–26, and in book form under the title, *Reise von Kamtschatka nach Amerika mit dem Commandeur Capitän Bering* [A voyage from Kamchatka to America with Commander Captain Bering] (St. Petersburg, 1793).

Carl Friedrich Kielmeyer (1765–1844)—who had studied with Blumenbach and Lichtenberg at the Georg-August-Universität (Göttingen), had been appointed professor of chemistry at the Karlsschule in Stuttgart in 1792, and whose ideas significantly influenced both Goethe and the next generation of French and German biologists with university positions—delivers (11 February 1793) his festival oration, *Über die Verhältnisse der organischen Kräfte unter einander in der Reihe der verschiedenen Organisationen, die Gesetze und Folgen dieser Verhältnisse* [On the relations among the organic powers in the series of the various organized systems: The laws and consequences of these relations] (Stuttgart, 1793).

Herder publishes the first and second collections of his *Briefe zu Beförderung der Humanität* [Letters for the advancement of humanity] (Riga, 1793).

Kant publishes *Religion innerhalb der Grenzen der bloßen Vernunft* (AA 6:1–202).

"Reise von Ochotsk nach Amerika, vom Jahr 1783 bis 1789," by Gregor Selechov (German: Schelechof; English: Shelikoff), who headed the unsuccessful trading voyage of three ships to Kodiak Island described in the article, appears in *Neue Nordische Beyträge* 6 (1793): 167–249.

English historian and politician Bryan Edwards (1743–1800), who had been a leading member of the colonial assembly in Jamaica in the 1770s, publishes a multivolume defense of British colonial interests in the West Indies, *History, Civil and Commercial, of the British Colonies in the West Indies*, 2 vols. (Dublin, 1790).

1794

The French National Convention, after hearing a report from three delegates from Saint-Domingue (a free black, a white, and a mulatto), passes a decree on 4 February 1784 to abolish slavery in the colonies.

The American inventor, Yale-trained Eli Whitney (1765–1825), is granted a patent (14 March 1794) for the cotton “gin” (short for “engine”), which he had invented during time spent as a guest on a South Carolina plantation after a teaching position that he had traveled from New England to South Carolina to accept fell through.

Erasmus Darwin (1731–1802), the grandfather of Charles Darwin (1809–1882), publishes *Zoonomia; or, the Laws of Organic Life*, 2 vols. (London, 1794), a comprehensive medical work in which, in “Sect. XXX-IX. Of Generation” (vol. 1, 478–533), he ridicules the “encapsulation” (or “encasement” [*emboîtement*]) theory of both *ovist* and *vermist* (or “spermist”) preformationists (ibid., 489–90), as well as Buffon’s notion of “certain organic particles [the *moule intérieur*] . . . supposed to be partly alive, and partly mechanical springs . . . that exist in the spermatic fluids of both sexes . . . derived thither from every part of the body . . . believed to be in constant activity, till they become mixed in the womb [where] they instantly join to produce an embryo or fetus similar to the two parents” (ibid., 491–92), and proposes, in part: (1) that “all animals have a similar origin, viz. from a single living filament; and that the difference of their forms and qualities has arisen only from the different irritabilities and sensibilities, or voluntarities, or associabilities, of this original living filament; and perhaps . . . from the different forms of the particles of the fluids, by which it has been at first stimulated into activity” (ibid., 498); (2) that “from their first rudiment, or primordium, to the termination of their lives, all animals undergo perpetual transformations; which are in part produced by their own exertion in consequence of their desires and aversions, of their pleasures and their pains, or of irritations, or of associations; and many of these acquired forms or propensities are transmitted to their posterity” (ibid., 502–3); and (3) that “the final cause of this contest among the males seems to be that the strongest and most active animals should propagate the species, which should thence become improved” (ibid., 503); Darwin’s book is translated over the next few years into German, *Zoonomie, oder Gesetze des organischen Leben*, trans. J. D. Brandis, 3 vols. in 5 (Hanover, 1795–1799).

Kant publishes “Das Ende aller Dinge” in *Berlinische Monatsschrift* (Juni 1794): 495–522 (AA 8:327–39).

Herder publishes the third and fourth collections of his *Briefe zu Beförderung der Humanität* (Riga, 1794).

Goethe—immersed in study of Kant’s third critique and stimulated by discussions during the Christmas season with the visiting Humboldt brothers, Wilhelm (1767–1835), philosopher and the founder, in 1810, of the University of Berlin, and Alexander (1769–1859), Göttingen-educated naturalist and explorer (and a close friend of Georg Forster)—begins the *Erster Entwurf einer allgemeinen Einleitung in die vergleichende Anatomie und Osteologie*

[First sketch of a general introduction to comparative anatomy and osteology], a work that culminates nearly three decades later with the publication of the final volume of the six-part series, *Zur Naturwissenschaft überhaupt, besonders zur Morphologie* [Of the science of nature in general, especially morphology] (Stuttgart and Tübingen, 1817–1824).

1795

Scottish farmer and naturalist James Hutton (1726–1797), “the father of modern geology” (whose work was later to influence Charles Lyell [1797–1875], and through him, Charles Darwin [1809–1882]), publishes *Theory of the Earth*, 2 vols. (Edinburgh, 1795), in which he further defends views first presented (7 March and 4 April 1785) to the Royal Society of Edinburgh in a paper titled *Theory of the Earth, or an Investigation of the Laws Observable in the Composition, Dissolution and Restoration of Land upon the Globe*—namely, “that geology is not cosmogony, but must confine itself to the study of the materials of the earth; that everywhere evidence may be seen that the present rocks of the earth’s surface have been in great part formed out of the waste of older rocks; that these materials having been laid down under the sea were there consolidated under great pressure, and were subsequently disrupted and upheaved by the expansive power of subterranean heat; that during these convulsions veins and masses of molten rock were injected into the rents of the dislocated strata; that every portion of the upraised land, as soon as exposed to the atmosphere, is subject to decay; and that this decay must tend to advance until the whole of the land has been worn away and laid down on the sea-floor, whence future upheavals will once more raise the consolidated sediments into new land” (summary from *Encyclopedia Britannica*, 11th ed. [1910–1911]).

Kant publishes *Zum ewigen Frieden: Ein philosophischer Entwurf* (Königsberg, 1795).

Blumenbach dates (11 April 1795) the preface to the third and final edition of *De generis humani varietate nativa* (Göttingen, 1795), the first to use the term *race* (Latin: *gens*, which, however, could also be translated as “people”) instead of “variety” (Latin: *varietas*), as well as the first to use the terms *Caucasian*, *Mongolian*, *Ethiopian*, *American*, and *Malay* to describe the peoples inhabiting the regions of, or identifiable as, respectively: Europe, West Asia, and Northern India; Asia; black Africans; the indigenous peoples of the New World; and the South Pacific Islanders (Michael James, “Race,” *Stanford Encyclopedia of Philosophy* [Fall 2011 Edition], Edward N. Zalta [ed.], <http://plato.stanford.edu/archives/fall2011/entries/race/>>).

Herder publishes the fifth and sixth collections of his *Briefe zu Beförderung der Humanität* (Riga, 1795).

The Trewlany Town Maroons, who had come last into the settlement that ended the previous conflicts between the British and the Maroons on the island of Jamaica in 1739–1740 (see above), declare war on the British because they do not feel that they are being treated fairly under the previous treaty; they are subsequently tricked into a settlement that provides not for a revision of the previous treaty but instead their resettlement, first to Nova Scotia, then to the new British settlement of Sierra Leone in West Africa.

1796

Sömmerring publishes the second and final part of the fifth volume of *Vom Baue des menschlichen Körpers* (Frankfurt, 1796).

A brief contribution by Kant, “Bemerkungen zu Sömmerring’s *Über das Organ der Seele*,” is included as an appendix to Sömmerring’s *Über das Organ der Seele* [Concerning the organ of the soul], 81–86 (Königsberg, 1796), which he dedicated to Kant (AA 12:30–35).

Kant’s *Zum ewigen Frieden* republished with an additional eight pages of text (Königsberg, 1796) (AA 8:343–86).

Herder publishes the seventh and eighth collections of his *Briefe zu Beförderung der Humanität* (Riga, 1796).

French mathematician and astronomer Peter-Simon Laplace (1749–1827), in *Exposition du système du monde* [System of the world], 2 vols. (Paris, 1796), hypothesizes that the solar system was created from a spinning cloud of gas when gravity pulled most of the gas to the center, thereby creating the sun, while at the same time, some of the material because of its spin could not be absorbed by the young sun and instead settled into a disk and eventually became planets, a theory known in the nineteenth century as the Kant-Laplace theory.

Christoph Girtanner (1760–1800)—an eclectic, Göttingen-trained physician of many talents and interests, including helping to popularize in Germany the anti-phlogiston chemistry of University of Edinburgh chemist, John Brown (1735–1788), albeit without giving proper credit to Brown—publishes *Ueber das Kantische Prinzip für die Naturgeschichte: Ein Versuch diese Wissenschaft philosophisch zu behandeln* [Concerning the Kantian principle for natural history: An attempt to treat this science philosophically] (Göttingen, 1796).

Distinguished British-Dutch soldier John Gabriel Smith (1784–1797) publishes *Narrative of a Five Years Expedition against the Revolted Negroes*

of Surinam, in Guiana, on the Wild Coast of South America: from the Year 1772, to 1777 (London, 1796), which, with its firsthand descriptions of the conditions of slavery and colonization (and illustrations by the English poet and printmaker William Blake [1757–1827] and the Italian engraver Francesco Bartolozzi [1725–1815]), further fueled the abolitionist movement in the United Kingdom.

1797

Kant publishes *Metaphysik der Sitten* (AA 6:205–493).

Herder publishes the ninth and tenth collections of his *Briefe zu Beförderung der Humanität* (Riga, 1797).

German, post-Kantian philosopher Frederick Wilhelm Joseph Schelling (1775–1854) suggests, in an early work, *Ideen zu einer Philosophie der Natur* [Ideas for a philosophy of nature] (Leipzig, 1797), that, while the difference between the forces of mind and nature must be only a matter of degree, nature is subordinate to mind and knowledge is absorbed in the unity of mind and matter. (At the time this work appeared, Schelling was a student of Johann Gottlieb Fichte [1762–1814], who thought the critical philosophy in need of a more systematic formulation and rigorous defense, and a contemporary and friend of Kant's most prominent successor in the history of German philosophy, the Absolute Idealist Georg Wilhelm Friedrich Hegel [1770–1831].)

Edwards publishes *Historical Survey of the French Colony in the Island of St. Domingo: Comprehending a Short Account of Its Ancient Government, Political State, Population, Productions, and Exports; A Narrative of the Calamities which have Desolated the Country ever since the Year 1789, with Some Reflections on Their Causes and Probable Consequences; and a Detail of the Military Transactions of the British Army in that Island to the End of 1794* (London, 1797); the work was subsequently reissued as the third volume of Edwards' 1793 book (see above) in 1801, and republished again in 1805 (with additional materials from three other contributors) together with the first two volumes under the same title, *History, Civil and Commercial, of the British Colonies in the West Indies*, 4 vols. (London, 1805–1806).

Kant publishes “Über ein vermeintes Recht, aus Menschenliebe zu lügen” in *Berlinische Blätter* (6 September 1797): 301–14 (AA 8:425–30).

1798

The Reverend Thomas Robert Malthus (1766–1834), a Fellow of Jesus College, Cambridge, since 1793, and curate in “the sleepy town of Albany, a few miles from his father's house” since 1796, spurred by debates with his father over the

“perfectibility of society” thesis advanced by political reformers such as the British journalist and novelist William Godwin (1756–1836) and the French mathematician Condorcet, publishes *An Essay on the Principle of Population as it affects the Future Improvement of Society: with Remarks on the Speculation of Mr. Godwin, M. Condorcet, and Other Writers* (London, 1798), in which he contends that population increases by a geometric ratio whereas the means of subsistence increase by an arithmetic ratio.

Kant publishes “Von der Macht des Gemüths durch den bloßen Vorsatz seiner krankhaften Gefühle Meister zu seyn” in *Journal der practischen Arzneykunde und Wundarzneykunst* 5 (1798): 701–51 (AA 7:97–116).

Kant publishes *Streit der Facultäten, in drey Abschnitten* (AA 7:5–116).

Kant publishes *Anthropologie in pragmatischer Hinsicht*; a second, “corrected” version of the text is published in 1800 (AA 7:119–333).

The first edition of Blumenbach’s *De generis humani varietate nativa* published in German appears, *Über die natürlichen Verschiedenheiten im Menschengeschlechte* [On the natural varieties of humankind], trans. Johann Gottfried Gruber (Leipzig, 1798).

1799

Humphrey Davy (1778–1829), the largely self-taught son of an impoverished Cornish woodcarver who had been apprenticed to an apothecary-surgeon, hypothesizes, in his first published paper, “An Essay on Heat, Light, and the Combinations of Light” (in *Contributions to Physical and Medical Knowledge, Principally from the West of England*, ed. Beddoes [Bristol, 1799] that heat is not the consequence of a “caloric” substance, as Lavoisier believed, but instead “motion,” as Newton had asserted—or more specifically, in Davy’s terminology, “a peculiar motion, probably a vibration, of the corpuscles of bodies, tending to separate them,” or “repulsive motion.”

Laplace begins publication of *Traité de mécanique céleste* [Treatise on celestial mechanics], 5 vols. (Paris, 1799–1825), in which he restated with far greater mathematical sophistication the nebular hypothesis of the origin of the universe and reformulates the (Newtonian) geometric presentation of classical mechanics into one based entirely on calculus, which makes it possible to address a broader range of problems.

Kant publishes “Erklärung in Beziehung auf Fichte’s Wissenschaftslehre” in *Intelligenzblatt der Allgemeine Literatur-Zeitung* (28 August 1799): 876–78 (AA 12:370–71).

Napoleon Bonaparte (1769–1821) overthrows the Directory in the successful coup d’état of 18 Brumaire (9 November) 1799; France adopts a new constitution that does not recognize any of the rights either prefaced to or

included in the constitutions adopted since the beginning of the Revolution, in 1791, 1793 (which, however, had been suspended shortly after its ratification by a vote of 1,880,000 to 17,000), and 1795.

For the third year in a row, Wilberforce fails to introduce a bill in Parliament to end the slave trade.

1800

French anatomist and physiologist Marie François Xavier Bichat (1771–1802) publishes the first of several works, *Recherches physiologiques sur la vie et la mort* [Physiological research on life and death] (Paris, 1800)—followed by *Anatomie générale appliquée à la physiologie et à la médecine* [General anatomy applied to physiology and to medicine] (Paris, 1801) and *Traité des membranes en général, et de diverses membranes en particulier* [Treatise on membranes in general, and especially on various membranes] (Paris, 1802)—in which he introduces the notion of tissue (*tissues*) and defends the view that diseases attack tissues rather than entire organs, thereby establishing the fields of biology now known as histology and pathology.

German physician and philosopher Karl Friedrich Burdach (1776–1847) coins the term *Biologie* to denote the study of human beings from a morphological, physiological, and psychological perspective and to replace the term *natural history*, which traditionally had three components, zoology, botany, and mineralogy; however, the first formal use of the term in a book title is usually attributed to German naturalist and transmutationist Gottfried Reinhold Treviranus (1776–1837), who publishes, two years later, *Biologie, oder Philosophie der lebenden Natur für Naturforscher und Ärzte* [Biology, or the philosophy of living nature for naturalists and physicians], 6 vols. (1802–1822), while Jean-Baptiste Monet Lamarck (1744–1829) is also frequently credited with having first used the term, in the preface to his 1802 book, *Hydrogéologie* (Paris, 1802; English translation by Albert V. Carozzi, *Hydrogeology* [Urbana: University of Illinois Press, 1964]). (Burdach had earned degrees in both philosophy and medicine from the University of Leipzig; he held the chair of anatomy and physiology at the Albertus-Universität [Königsberg] from 1814 to his death; and from 1817 to 1827, he was the first director of the university's Anatomical Institute.)

English chemist William Nicholson (1752–1815) and English surgeon Anthony Carlisle (1768–1842) demonstrate that chemical reactions can be produced by decomposing water into hydrogen and oxygen in the process now called “electrolysis.”

British astronomer and composer Frederick William Herschel (1738–1822), who had discovered the planet now known as Uranus in 1781, hypoth-

esizes the existence of infrared and radiant heat after noting a temperature rise on a thermometer placed beyond the visible red light cast by a prism.

The Haitian rebel leader Toussaint finds himself in control of the entire island of Hispaniola and not only Saint-Domingue, but he does not declare independence and continues to pledge allegiance to the French Republic.

1801

Kant publishes “Nachricht an das Publicum, die bey Vollmer erschienene unrechtmäßige Ausgabe der physischen Geographie von Imm. Kant betreffend” in *Intelligenzblatt der Allgemeine Literatur-Zeitung* (24 Juni 1801): 968 (AA 12:372).

English chemist John Dalton (1766–1844), a member of the Manchester Literary and Philosophical Society, independent researcher, and private tutor to students at New College (Manchester), formulates—independently of Charles, in a paper entitled “New Theory of the Constitution of Mixed Aeri-form Fluids, and Particularly of the Atmosphere” (and three supplementary papers)—the law of gaseous expansion at constant pressure and the law of gaseous partial pressures, according to which the total pressure exerted by a mixture of gases is equal to the sum of the partial pressure of the individual gases—conclusions that undermined the Newtonian view of chemical affinity as a force in the atmosphere and support the view that the interactions between gases are purely physical and not chemical.

English physician, physicist, and polymath Thomas Young (1773–1829), who had studied medicine in London, Edinburgh, and Göttingen, is appointed professor of physics at Cambridge University and proposes in lectures that color perception depends on the presence in the retina of three kinds of nerve fibers that respond, respectively, to red, green, and violet light, a view—developed further by the prominent nineteenth-century German physicist and physician, Hermann Ludwig Ferdinand Helmholtz (1821–1894)—that is also consistent with the modern understanding of color vision, namely, that the eye does indeed have three types of color receptors, or cone cells, each of which is sensitive to different wavelength ranges.

Napoleon begins deployment in December of warships and soldiers (eventually totalling more than thirty thousand, according to some sources) to Saint-Domingue; Toussaint, after signing (7 May 1802) a treaty on the condition that slavery not be reinstated, is eventually arrested (on suspicion of plotting an uprising) and transported to France where he dies in prison on 7 April 1803 (but the French army is defeated in November 1803, and Haitian independence is declared on 1 January 1804 by the leader of the rebel forces who succeeded Toussaint, Dessalines [see above]).

1802

Friederich Theodor Rink (1770–1811), professor of philosophy and theology in Königsberg and the author, after Kant's death (12 February 1804), of one of the first biographies of Kant (*Ansichten aus Immanuel Kant's Leben* [Views from the life of Immanuel Kant] [Königsberg, 1805]), publishes, presumably with Kant's approval, *Immanuel Kants physische Geographie* [Immanuel Kant's physical geography] (Königsberg, 1802) (AA 9:151–436).

William Paley (1743–1805), a 1763 graduate of Christ's College, Cambridge, a fellow of the College since 1766 and a tutor since 1768, the vicar of Dalston since 1780, and the Archdeacon of Carlisle since 1782, publishes his last book, *Natural Theology; or, Evidences of the Existence and Attributes of the Deity, Collected from the Appearances of Nature* (London, 1802), in which he argues that “no mechanistic law . . . could conceivably have produced the exquisite structure of every organic kind, or their webs of mutual dependence and support” and, therefore, that “each species must have been crafted by a Being whose benevolence had arranged a hierarchy of inanimate and animate things to produce a suitable habitation for each species, and especially for the species He valued most, human beings” (Greene and Depew, 160). (Paley's book is significant in the history of English natural theology for shifting the focus of the design argument from the domain of astronomy to the natural world and remained a best seller for much of the nineteenth century; Darwin even portrays himself in his *Autobiography* as having all but memorized the text during the period when he was preparing for his B.A. examination [*Autobiography of Charles Darwin*, ed. Francis Darwin (Seattle, WA: Pacific Publishing Studio, 2010), 23]; Paley, however, was more well known during his lifetime as a utilitarian philosopher and for an earlier book, *Principles of Moral and Political Philosophy* [London, 1785], which became required reading for examinations at Cambridge beginning the year following its publication and contained a short section (Part II, Chapter 3) condemning both slavery and the slave trade, a theme that Paley also addressed in a famous speech delivered at Carlisle on 9 February 1782, available online at http://williampaley.com/html/recollections_of_paley_speech_.html).

German physician and amateur astronomer Heinrich Wilhelm Matthias Olbers (1758–1840)—after previously rediscovering the first asteroid, or “dwarf planet,” Ceres, between Mars and Jupiter (which had become “lost” after having been first observed on 1 January 1801 by Italian astronomer Giuseppe Piazzi [1746–1826])—discovers a second asteroid and names it Pallas.

Slavery officially restored in the French empire by the Law of 20 May 1802.

1803

Dalton reads a report to the Manchester Literary and Philosophical Society (21 October 1803), “The Absorption of Gases by Water and Other Liquids,” now regarded as the first public announcement of the development of modern atomic theory—but was at the time intended only to explain why water treats different gases differently, that is, to defend his 1801 papers (see above).

1804

A lecture by Young (read on 24 November 1803) is published in the *Philosophical Transactions of the Royal Society of London* 94 (1804): 1–16 (“Experimental Demonstration of the General Law of the Interference of Light”) that did much to convince physicists that light (as had previously been proposed by the seventeenth-century Dutch mathematician, astronomer, and physicist Christian Huygens [1629–1695]) was a wave motion, although this conclusion was strongly opposed by contemporary scientists who believed that Newton, who had proposed that light was corpuscular in nature, could not possibly be wrong. (The experiment on which Young reports in this lecture is now usually referred to as the “double-slit,” or “two-slit,” experiment.)

1805

For the second year in a row, Wilberforce introduces a bill in Parliament to abolish the slave trade; the bill passes in the House of Commons, but is rejected by the House of Lords.

1807

President Thomas Jefferson signs into law (3 March 1807) a bill approved by Congress the day before “to prohibit the importation of slaves into any port or place within the jurisdiction of the United States,” but provisions in the United States Constitution prohibit the act from taking effect before 1 January 1808.

A bill to abolish the slave trade (introduced this time by Granville) finally passes in both the House of Lords (by a vote of 100 to 34) and the House of Commons (by a vote of 283 to 16) and receives assent on 25 March 1807, making the slave trade illegal throughout the British Empire.

1808

Dalton publishes *New System of Chemical Philosophy* (Manchester, 1808), in which he emphasizes the importance of the relative weight and structure of particles of a compound for explaining chemical reactions, thereby transforming atomic theory and laying the basis for much of modern chemistry.

1809

Jean-Baptiste Monet Lamarck (1744–1829)—appointed an assistant botanist at the Jardin du roi in Paris in 1778 on the merits of his first book, *Flore Française* [French flora], 3 vols. (Paris, 1778) (and the patronage of Buffon)—publishes *Philosophie zoologique* [Zoological philosophy], 2 vols. (Paris, 1809), in which he argues that acquired characters could be achieved by selective breeding and that the use and disuse of body parts could lead to the production of new organs, the modification of old ones, and even to the formation of new species (or what Lamarck and his followers referred to as “transmutation”), in accordance with the following two laws, which appear in a chapter of the text titled “Concerning the Influence of Circumstances (*circonstances*) on the Actions and Habits of Animals, and the Influence of the Actions and Habits of these Living Bodies As Causes Which Modify Their Organic Structure and Their Parts”: (1) “First Law: In every animal which has not exceeded the limit of its development, the more frequent and sustained use of any organ gradually strengthens this organ, develops it, makes it larger, and gives it a power proportional to the duration of this use; whereas, the constant lack of use of such an organ imperceptibly weakens it, makes it deteriorate, progressively diminishes its faculties, and ends by making it disappear;” and (2) “Second Law: Everything which nature has made individuals acquire or lose through the influence of conditions to which their race has been exposed for a long time and, consequently, through the influence of the predominant use of some organ or by the influence of the constant disuse of this organ, nature preserves by reproduction in the new individuals arising from them, provided that the acquired changes are common to the two sexes or to those who have produced these new individuals” (J. B. Lamarck, *Zoological Philosophy*, trans. Ian Johnston, <http://records.viu.ca/~johnstoi/lamarck/lamarck7.htm>).

The controversial and contentious German *Naturphilosoph* and naturalist Lorenz Oken (1779–1851) commences publication of his *Lehrbuch in der Naturphilosophie* [Textbook in the philosophy of nature], 3 vols. in 2 (Jena, 1809–1811), a central theme of which—namely, the speculative theory that (1) life begins as a primitive mucous substance [*Urschleim*] that evolved from

inorganic constituents existing in shallow marine waters, that (2) the individual vesicles of this mucous could be equated with the smallest organism known at the time, the infusoria, and that (3) all other organisms were “metamorphoses” of these infusoria—is now generally credited as having influenced the late 1830s research of Matthias Schleiden and Theodor Schwann (see below), as well, later, as the thinking of the foremost German biologist of the late-nineteenth century (and German popularizer of the work of Darwin), Ernst Haeckel (1834–1919). (Oken had studied at the universities in Freiburg, Würzburg, and Göttingen, from which he earned a medical degree in 1805, and was considered, even before completing his university studies, a leading figure of early nineteenth-century German *Naturphilosophie*; he held academic positions in Göttingen, Jena, Basel, Munich, and Zurich; he founded and edited the culturally significant encyclopedic periodical *Isis* from 1817 to 1848; he was among the first to organize an academic conference [Leipzig, 1817] and founded in 1822 the *Gesellschaft Deutscher Naturforscher und Ärzte* [Society of German Natural Scientists and Physicians]; and he was later called “a poet of science” by the American transcendentalist Ralph Waldo Emerson [1803–1882].)

1812

French naturalist and zoologist Georges Cuvier (1769–1832), who had been a student of Kiemeyer’s in Stuttgart and was a significant critic of Lamarck, publishes *Recherches sur les ossements fossiles de quadrupèdes* [Research on the fossil bones of quadrupeds] (Paris, 1812), in which, making use of Jussieu’s methods of classification to animals (see above), he argues that the stratigraphic succession proves that fossils occur in the chronological order of creation (fish, amphibians, reptiles, and mammals), but interprets the paleontological evidence to justify a succession of cataclysms, each followed by creation of new flora and fauna, rather than the notion of species change, or transformationism. (An English translation appears the following year, *Essay on the Theory of the Earth, and the Changes thereby Produced in the Animal Kingdom*, trans. Robert Kerr [Edinburgh, 1813], and the entire work was republished in 1825 under a title borrowing from that given the English translation, *Discours sur les révolutions de la surface du globe et sur les changemens quelles ont produit dans le règne animal* [Paris, 1825]; the work became a canonical text in nineteenth-century vertebrate paleontology, just as two other works by Cuvier became standard works in, respectively, the fields of comparative anatomy and systematics: *Leçons d’anatomie comparée* [Lessons in comparative anatomy], 5 vols. [Paris, 1800–1805], and *Le règne animal distribué d’après son organisation* [The animal kingdom arranged according to its organization] [Paris, 1817] [Greene and Depew, 132].)

1813

Scottish-American physician and printer William Charles Wells (1757–1817)—who was born in Charleston, South Carolina, but earned his medical degree from the University of Edinburgh, and had relocated to London in 1784 to practice medicine—reads several essays before the Royal Society of London not published until 1818, including one as an appendix, *An Account of a Female of the White Race of Mankind, Part of Whose Skin Resembles that of a Negro, with Some Observations on the Cause of the Differences in Colour and Form Between the White and Negro Races of Man* (available online at http://spot.colorado.edu/~friedmaw/Early_Evolution/Wells_files/wells-1818.pdf); Wells is later identified by Charles Darwin (in the fourth paragraph of the preliminary “Historical Sketch” included with the 1866 fourth and subsequent editions of *On the Origin of Species*) as having first “distinctly recognise[d] the principle of natural selection,” if only among human populations, inasmuch as Wells had suggested that some African populations had been selected for survival because of their relative resistance to local diseases and darker skin color.

1814

A provision in the Treaty of Ghent ending the War of 1812 between Great Britain and the United States pledges both countries to work together to end the slave trade.

1815

The slave trade is explicitly condemned as “repugnant to the principles of humanity and universal morality” by the governments of Britain, France, Spain, Sweden, Austria, Prussia, Russian, and Portugal at the Congress of Vienna in February 1815, and the powers with colonies agree that it is their “duty and necessity” to abolish the trade as soon as possible; however, the timing and details were left to further negotiation, and it was conceded that no nation could be made to abolish the trade “without due regard to the interests, the habits, and even the prejudices” of its subjects (Thomas, 585–86).

Napoleon—after his return from exile on Elba and in an effort to recreate his rule in a new “liberal” regime—issues a decree (dated 29 March) abolishing slavery and the slave trade throughout the empire.

1817

Russian biologist and embryologist Christian Heinrich Pander (1794–1865), who, as a doctoral student at the Julius-Maximilian-Universität (Würzburg),

had examined two thousand embryos at fifteen-minute intervals during the first five days of incubation, identifies three distinct regions, or “germ layers,” in chick embryos, each of which gives rise to specific organ systems.

1818

French zoologist Étienne Geoffroy Saint-Hilaire (1772–1844) develops the concept of homology, but somewhat confusingly uses the term *analogie* in his presentation of it as a method for identifying “the *same* body part existing in different organisms under different conditions of modification . . . by their connectedness within a system of body parts (not by their ‘form’ or shape alone)” (Ron Amundson, “Historical Development of the Concept of Adaptation,” in *Adaptation*, ed. Ruse and Lauder [San Diego, CA: Academic Press, 1996], 24): “When you succeed [Geoffroy writes] in encountering together several animals of one and the same class, like a horse, a cat, a dog, etc., if you cannot consider them without protecting yourself against the impression of the analogy [*analogie*] of their parts; if every sense organ, those of locomotion, all the others, in fact, exist in all the animals, are obvious in the same way in all the forms, acting in the same way . . . [why] would you hesitate to believe in the same identity in the internal parts?” (*Philosophie anatomique des organes respiratoires sous le rapport de la détermination et de l’indentité de leurs pièces osseuses* [Anatomical philosophy on respiratory organs under report by determination and identification of their bones] (Paris, 1818), trans. Marjorie Greene, in Hervé Le Guyader, *Geoffroy Saint-Hilaire: A Visionary Naturalist* [Chicago: University of Chicago Press, 2004], 39). (Geoffroy had completed a law degree in 1790 but continued studies in medicine and natural history at the Collège du Cardinal Lemoine in Paris; he had held positions at the Jardin des plantes and other departments of the Muséum d’histoire naturelle since the early 1790s, was a member of Napoleon’s scientific staff during the 1798–1801 “Egyptian campaign,” and had been professor of zoology at the University of Paris since 1809.)

1819

German philosopher Arthur Schopenhauer (1788–1860), in his most well-known work, *Welt als Wille und Vorstellung* (Leipzig, 1819; 2nd ed., extensively revised and doubled in size, 1844), writes: “The sexual impulse is proved to be the decided and strongest affirmation of life by the fact that for man in the natural state, as for the animal, it is life’s final end and highest goal. . . . [G]eneration [*Zeugung*] is only reproduction passing over to a new individual. . . . The genitals are [thus] the life-preserving principle assuring

to time endless life. . . .” (A. Schopenhauer, trans. E. F. Payne, *World as Will and Representation* [New York: Dover Publications, 1969], vol. 1, 329–30).

1820

Lamarck publishes *Système analytique des connaissances positives de l'homme* [Anatomical system of positive knowledge of humankind] (Paris, 1820), in which he describes the origin of living things as a process of gradual development from matter.

1823

Hungarian mathematician János Bolyai (1802–1860), who had completed the seven-year course in engineering at the Royal Engineering College in Vienna in four years (1818–1822), prepares in the years 1820–1823 a treatise on a complete system of non-Euclidean geometry, specifically, a system of geometry that does not assume the parallel postulate; the work is not published, however, until 1832–1833, as an appendix (“Appendix scientiam spatii absolute veram exhibens” [Appendix explaining the absolutely true science of space]) to a textbook coauthored by his father, Farkas Bolyai et al, *Tentamen juventutem studiosam in elementa matheseos purae introducendi* [An attempt to introduce studious youth to the elements of pure mathematics], 2 vols. (Tirgu-Mures, Hungary, 1832–1833).

The Society for the Mitigation and Gradual Abolition of Slavery Throughout the British Dominions, also known as the Anti-Slavery Society, is formed in London.

1824

Three papers are presented to the Royal Horticultural Society of London in 1822 and 1823 by the English pea breeders—Alexander Seton (“On the Variation in the Colour of Peas from Cross-Impregnation”), John Goss (“On the Variation in the Colour of Peas, Occasioned by Cross-Impregnation”), and Thomas Andrew Knight (“An Account of Some Experiments on the Fecundation of Vegetables”)—in which each of them independently report observations of the segregation of a recessive trait in peas, but none of them kept records of later generations; the papers are published in *Transactions of the Horticultural Society of London* 5 (1824): 195–204 and 234–36.

French physiologist Marie-Jean-Pierre Flourens (1794–1867), a student of Cuvier's who strongly opposed Gall's phrenology, develops the thesis in his *Recherches expérimentales sur les propriétés et fonctions du système nerveux, dans les animaux vertébrés* [Experimental research on the properties and functions of the nervous system in vertebrate animals] (Paris, 1824), that while every organ of the brain has its specific function, these parts function as a whole such that all perceptions can concurrently occupy the same places in the forebrain.

1825

French physician Jean Baptiste Bouillard (1796–1881)—a researcher at the Hôpital de la Charité in Paris credited with investigating many medical diseases and ailments, including cancer, cholera, heart disease, rheumatism, and encephalitis (but who was also devoted to the practice of blood-letting)—publishes *Traité clinique et physiologique de l'encéphalite, ou inflammation du cerveau* [Clinical and physiological treatise on encephalitis, or inflammation of the brain] (Paris, 1825), in which he includes one of the earliest studies regarding localization of brain functions, specifically, research showing that loss of articulate speech is associated with lesions of the anterior lobes (an account which actually accords with Gall's phrenology).

1826

An (unusual for the time) anonymous pro-Lamarckian article (“Observations on the Nature and Importance of Geology”) defending transmutation—namely, the view that various species of both plants and animals have arisen from an original generic form—appears in the first issue of the *Edinburgh New Philosophical Journal* 1 (1826): 292–302; the authorship of the article is now usually attributed to Robert Edmond Grant (1793–1874), a leading figure in Edinburgh zoological circles, an early teacher of Charles Darwin, and an enthusiastic Lamarckian (or possibly to Grant's mentor, Robert Jameson [1774–1854], Regius Professor of Natural History at the University of Edinburgh, a leading mineralogist and geologist, and the editor of the journal in which the article appeared).

Russian mathematician Nikolai Ivanovich Lobachevsky (1792–1856) announces the development of a system of hyperbolic geometry in which Euclid's parallel postulate is replaced by one allowing more than one parallel line through a fixed point.

1827

Robert Brown (1773–1858), who had enrolled to study medicine at the University of Edinburgh but spent more time studying botany than medicine during his student years and the years 1801–1805 collecting specimens in Australia, is appointed Keeper of the Banksian Botanical Collection of the British Museum, and observes random movement of microscopic particles contained in the pollen from plants when suspended in fluid, a phenomenon—among the simplest of the continuous-time stochastic, or probabilistic, processes—now known as Brownian movement.

1828

Prussian-born Estonian embryologist Karl Ernst Baer (1792–1886), who had studied under Burdach in Dorpat (Estonia) and (together with Pander) under Johann Ignaz Döllinger (1770–1841) in Würzburg, and had attained the rank of professor of zoology in Königsberg in 1822, begins to publish the work for which he is most well known, *Über Entwicklungsgeschichte der Tiere* [On the developmental history of animals] (Königsberg, 1828–1837), in which, based upon observations of the fetal anatomy of numerous species, he concludes that not only chicks, but all animals have three “germ layers,” and that the ontogeny of embryos proceeds from initial homogeneity to heterogeneity by stages similar to that observable in other young animals, not by the recapitulation of the adult forms of lower animals. (Baer’s observations are thus usually understood as providing strong support for the epigenetic view of development, which he formulated in four statements now known as “von Baer’s Laws” that may be summarized as follows: “The first law says that the general features of a large group of animals appear earlier in the embryo than the special features. The second law says that less general characters are developed from the most general, and so forth, until finally the most specialized appear. The third law is that instead of passing through the stages of other animals, each embryo of a given species departs more and more from them. Finally, the fourth law concludes from the previous three that the embryo of a higher animal is never like the adult of a lower animal, but only like its embryo” [Kimberly A. Buettner, “Karl Ernst von Baer,” *Embryo Project Encyclopedia* (2007) ISSN: 1940-5030. URI: <http://hdl.handle.net/2286/embryo:124751>].)

German chemist Friedrich Wöhler (1800–1882), who had completed a medical degree at the Ruprecht-Karls-Universität (Heidelberg) in 1823 and then studied with the prominent Swedish chemist Jöns Jacob Berzelius

(1779–1848) (often considered to be among the founders of modern chemistry together with Boyle, Lavoisier, and Dalton), successfully synthesizes urea by heating ammonium cyanate—the first synthesis of an organic compound from inorganic material and a blow to vitalism, namely, the view that because organic compounds are produced under the influence of a vital force they could not be produced artificially, a view previously supported by Berzelius.

1830

Scottish gentleman lawyer turned geologist Charles Lyell (1797–1875)—whose views are later dubbed “uniformitarianism” by the polymath and co-founder in 1831 of the British Association for the Advancement of Science, William Whewell (1794–1866)—publishes the first volume of *Principles of Geology; Being an Attempt to Explain the Former Changes of the Earth's Surface, by Reference to Causes Now in Operation*, 3 vols. (London, 1830–1833), in which he develops a “science” of geology based on the methodological limitation that the past can be studied only by analogy to what natural agencies, given enough time, could accomplish in the present, a view that challenges then popular catastrophic theories of geological change and, because (in Lyell's own words) it “implied that [these agencies] must forever produce an endless variety of effects, both in the animate and inanimate world,” is also typically viewed as setting the stage for acceptance of Darwin's theory of natural selection (which Whewell opposed).

Geoffroy publishes *Principe de philosophie zoologique* [Principles of zoological philosophy] (Paris, 1830), an account of his debates with Cuvier over the existence of a unity of type within the animal kingdom—which had culminated in eight well-attended public debates between the two at the Muséum d'histoire naturelle in the period February to April 1830. (Geoffroy—relying on the abstract notion of a universal body plan that allows for a continuum of intermediate transformations and modifications and his *principe des connexions* [principle of connection], according to which homologous organs are determined by their positional relationship within the body and the topological relationship of that positional relationship to other organs—defended a unity of type; Cuvier defended his alternate theory, according to which there are instead four basic body plans (or *embranchements*—Vertebrata, Articulata [arthropods and segmented worms], Mollusca [which at the time meant all other soft, bilaterally symmetrical invertebrates], and Radiata [cnidarians and echinoderms]). (Cf. Phillip Sloan, “Evolution,” *Stanford Encyclopedia of Philosophy* [Fall 2010 Edition], ed. Edward N. Zalta, [http://plato.stanford.edu/archives/fall2010/entries/evolution.](http://plato.stanford.edu/archives/fall2010/entries/evolution/))

1831

Brown, in a paper presented to the Linnaean Society of London entitled “Observations on the Organs and Mode of Fecundation in Orchideae and Asclepiadeae” (published in *Transactions of the Linnaean Society* 16 [1829–1832]: 685–746), notes that each cell in orchids and other plants contains a dark “circular aeola,” an observation usually credited as the discovery of the cell nucleus (although Brown himself seems not to have investigated the phenomenon further).

The HMS *Beagle* sets sail from Plymouth Sound (27 December 1831) on its second survey expedition to South America with the young Charles Darwin—who had only completed his studies for the Bachelor of Arts degree at Christ’s College, Cambridge, in January of the same year—on board as a “gentleman naturalist” companion to the ship’s captain, Robert FitzRoy (1805–1865); the expedition, which was planned to last only two years, took instead (returning by way of Australia and Tahiti) nearly five, and through the 1839 publication of his journals helped establish Darwin’s early reputation as a geologist and fossil collector. (Darwin’s journals were first published under the title *Journals and Remarks, 1832–1835*, as the third volume of the report prepared by FitzRoy, *Narrative of the surveying voyages of His Majesty’s ships Adventure and Beagle between the years 1826 and 1836 describing their examination of the southern shores of South America, and the Beagle’s circumnavigation of the globe*, 3 vols. [London, 1839], but the demand for Darwin’s journals was so great that the publisher first reissues it—apparently without consulting Darwin—in a single-volume edition with a new title page only a few months later, and the work went through many editions in the next several decades, with varying titles, some of which include passages pointing toward the development of the theory of natural selection.)

1833

The Slavery Abolition Act of Parliament is given royal assent on 28 August 1833, paving the way for abolition throughout the empire on 1 August 1834—but with the provision that freed slaves would first become indentured apprentices to their former masters through either 1 August 1838 or 1 August 1840.

Whewell, acting on a request from the poet Samuel Taylor Coleridge (1772–1834), coins the English word *scientist* to replace terms previously in use, such as *natural philosopher* and *man of science*.

1835

Silesian curate and beekeeper Jan Dzierzon (1811–1906), born in an region of Poland then a part of the Kingdom of Prussia, first observes parthenogenesis in bees—specifically, that among bees, the drones hatch from unfertilized eggs while workers and queens come from fertilized eggs—an observation which, when publicized ten years later in 1845, together with his promotion of significant innovations in bee keeping, such as the first movable-frame beehive, earned him an international reputation.

1836

German anatomist Friedrich Tiedemann (1781–1861)—who had studied in Bamberg, Würzburg, Marburg, and Paris, and been director of the Institute of Anatomy at the Ruprecht-Karls-Universität (Heidelberg) since 1816—publishes, first in English, “On the Brain of the Negro, compared with that of the European and the Orang-Outang” (*Philosophical Transactions of the Royal Society of London*, Part 2, 1836: 497–527), in which he argues that the Negro brain is comparable to the European (Caucasian) brain and not to the orangutan, a claim that was apparently still controversial throughout Europe. (A German version of the essay appears the following year, *Das Hirn des Negers mit dem des Europäers und OrangOutangs verglichen* [Heidelberg, 1837].)

1838

German botanist Mattias Jakob Schleiden (1804–1881)—who had studied with the eminent physiologist and comparative anatomist Johannes Peter Müller (1801–1858) at the University of Berlin (“one of the first to use the new microscopic approach in studies of pathological phenomena” [Magner, 178])—publishes “Beiträge zur Phytogenesis” [Contributions to phytogenesis], in Müller’s journal, *Archiv für Anatomie, Physiologie und wissenschaftliche Medicin* (1838): 137–76, in which he develops the theory that plant tissues are composed of cells, and duly recognizes the significance of the nucleus, “which he renamed the *cytoblast*, as a universal elementary organ in the plant world” (Magner, 180).

1839

Johannes Evangelista Purkinje (1787–1869) coins the term *protoplasm* to replace Oken’s *Urschleim* to describe the cell substance, or, for him, “whatever

was first produced in the development of the individual plant or animal cell" (Magner, 177). (Purkinje was a pioneer Czech experimental physiologist with an 1819 medical degree from and later a position as professor of physiology at the University of Prague [1850–1869], whose investigations in the fields of histology, embryology, and pharmacology helped create a modern understanding of the eye and vision, brain and heart function, mammalian reproduction, and the composition of cells.)

Theodor Ambrose Hubert Schwann (1810–1882) publishes *Mikroskopische Untersuchungen über die Übereinstimmung in der Struktur und dem Wachstume der Tiere und Pflanzen* [Microscopic investigations into the agreement in the structure and growth of plants and animals] (Berlin, 1839), extending, with some modifications, Schleiden's view of the cell from plants to animals, thereby removing the barrier that had previously been thought to divide the plant and animal kingdoms. (Schwann, a colleague of Schleiden and a favored disciple of Müller, was already well known in the mid-1830s for work showing that yeast consists of tiny plant-like organisms and that the fermentation of sugar is a result of the physiological processes of living yeast cells.)

1840

Swiss born "microscopic anatomist" Rudolf Albrecht Kölliker (1817–1905) realizes that sperm from the male and ova from the female are cells; but it is not until 1842 that cell division involving the nucleus and the structures later named chromosomes is observed by Koelliker's fellow Swiss botanist Karl Wilhelm Nägeli (1817–1891), it is not until 1876 that the German zoologist Wilhelm August Oscar Hertwig (1849–1922) realizes (on seeing two nuclei in a fertilized cell) that one comes from the sperm and that fertilization includes the penetration of a spermatozoon into an egg cell (which led him to propose in 1885 "that nuclein was probably responsible for fertilization and the transmission of hereditary characteristics" [Magner, 423]), and it is not until 1895 that Columbia University professor of zoology Edmund Beecher Wilson (1856–1939) determines "that the chromosome complements contributed by the two sexes [are] equivalent to each other . . . [and] that the two sexes play an equal role in heredity, even though other species vary in other aspects of reproduction and development" (ibid.)—a view that Wilson developed in a book first published the following year, *The Cell in Development and Inheritance* (New York, 1896; 2nd ed., 1900; 3rd ed., 1925).

1842

Johann Japetus Steenstrup (1813–1897), professor of zoology at the University of Copenhagen, describes the alternation of sexual and asexual generations in animals and plants in *Om forplantning og udvikling gennem vekslede generationsrækker, en særegen form for opfostringen i de lavere dyrklasser* (Copenhagen, 1842), published the same year in a German edition, *Über den Generationswechsel; oder, Die Fortpflanzung und Entwicklung durch abwechselnde Generationen, eine eigenthümliche Form der Brutpflege in den niederen Thierclassen* (Copenhagen, 1842), and a few years later in English in an edition printed for the Ray Society, *On the Alteration of Generations; or, The Propagation and Development of Animals through Alternate Generations: A Peculiar Form of Fostering the Young in the Lower Classes of Animals* (London, 1845).

Darwin composes a manuscript known as the “Sketch,” usually described as his first attempt to develop his theory of natural selection in essay form.

1843

The British comparative anatomist Richard Owen (1804–1892), drawing inspiration from both Cuvier’s theory of *embranchements* and Geoffroy’s *principe des connexions* (see above) clearly delineates homology from analogy in the Glossary of the published version of his *Lectures on Comparative Anatomy and Physiology of the Invertebrate Animals Delivered to the Royal College of Surgeons in 1843* (London, 1843): “Homologue . . . the same organ in different animals under every variation of form and function. . . . Analogue . . . A part or organ in one animal which has the same function as another part or organ in a different animal.” (Owen, after beginning his medical training with a Lancaster surgeon in 1820, began his formal medical studies at the University of Edinburgh in 1824, enrolled next—like Darwin after him—at the private Barclay School, but left Edinburgh without a degree the following year to apprentice with the surgeon and philosopher John Abernathy [1764–1831] at St. Bartholomew’s Hospital in London, where, with the support of Abernathy, he quickly began making the connections that contributed to his rise as a leading figure of nineteenth-century British science; after 1859, he becomes well known as a leading critic of Darwin’s theory of natural selection, but he is also remembered for the campaign he led after becoming the first Superintendent of the British Museum’s natural history departments in 1856 to establish a museum dedicated to natural history, or what he conceived as a “cathedral to nature,” which was realized in 1881 with the opening of the

British Museum [Natural History] in South Kensington, London—but known officially as the Natural History Museum only since 1992.)

1844

Scottish author, journal editor, and publisher Robert Chambers (1802–1871)—a fellow of both the Royal Society of Edinburgh and the Geological Society of London, as well as an early member of the Edinburgh Phrenological Society, much influenced by the positivism of the French “progressive” materialist philosopher Auguste Comte (1798–1857)—publishes (anonymously) *Vestiges of the Natural History of Creation* (London, 1844; New York, 1847), a scandalous but very popular work (reportedly read by Prince Albert to Queen Victoria) in which he combines notions of stellar evolution, spontaneous generation, and Lamarckian-inspired notions of the transmutation of species together in what the American paleontologist and science writer Stephen Jay Gould (1941–2002) describes as “evolutionary theory as a metaphorical extension of [Ernst] von Baer’s principle,” namely, “that development proceeds inexorably from the general to the specific” (*Ontogeny and Phylogeny* [Cambridge, MA: Harvard University Press, 1977], 110 and 70). (A Dutch translation of Chambers’ book appeared in 1849, and a German translation a couple years later with the title, in full, *Natürliche Geschichte der Schöpfung des Weltalls, der Erde und der auf ihr befindlichen Organismen, begründet auf die durch die Wissenschaft errungenen Thatsachen*, trans. Karl Christoph Vogt [Braunschweig, 1851].)

Darwin composes a 198-page manuscript known as the “Essay,” from which an excerpt is included in the 1 July 1858 presentation of his work to the Linnaean Society (see below).

1847

German zoologist Karl Bergmann (1814–1865) publishes *Über die Verhältnisse der Wärmeökonomie der Thiere zu ihrer Grösse* [On the relationship of the economy of heat in animals to their size] (Göttingen, 1847), in which he develops the theory (or “ecographic rules”) that populations of warm-blooded species living in cool climates tend to be larger on average than members of the same species living in warmer climates because the surface area to volume ratio in the larger animals is less and, therefore, heat loss is reduced.

The eminent University of Berlin physiologist and comparative anatomist Johannes Peter Müller (see above) correctly proposes that the larynx is the source of speech sounds and the rest of the vocal tract acts only as a filter

that modulates the sound energy of the source, or alternatively stated, that one of the biological mechanisms necessary for human speech is a superlaryngeal vocal tract.

1848

France, under the Second Republic, again abolishes slavery by the 27 April 1848 decree of Victor Schoelcher (1804–1893), a prominent French abolitionist who had been appointed undersecretary of the navy in the Second Republic at the beginning of March that same year.

1851

German botanist Hugo Mohl (1805–1872) publishes *Grundzüge der Anatomie und Physiologie der vegetabilischen Zelle* (Braunschweig, 1851), a clear, single-volume presentation of cell theory, including a concise description of cell division and a refutation of the theory of cell “free formation” propounded by Schleiden; the work is quickly translated into English with the support of the Ray Society as *Principles of the Anatomy and Physiology of the Vegetable Cell*, trans. Arthur Henfrey (London, 1852). (Mohl had begun his studies in medicine at Eberhard-Karls-Universität [Tübingen] in 1823; he graduated with distinction and furthered his studies in Munich, but returned to Tübingen with an appointment as professor of botany in 1832, and among other accomplishments, began using the term *protoplasm* in the 1840s—apparently with no knowledge of Purkinje’s use of the same term—and showed that it was the source of the phenomenon known as “Brownian motion.”)

1852

Victorian-era social philosopher Herbert Spencer (1820–1903) publishes (anonymously) an article in a small radical press periodical *The Leader* (20 March 1852) entitled “The Developmental Hypothesis,” in which he argues against defenders of special creation, writing, “Even could the supporters of the Development Hypothesis merely show that the origination of species by the process of modification is conceivable, they would be in a better position than their opponents. But they can do much more than this. They can show that the process of modification has effected, and is effecting, decided changes in all organisms subject to modifying influences. . . . [T]hey can show that any existing species—animal or vegetable—when placed

under conditions different from its previous ones, immediately begins to undergo certain changes fitting it for the new conditions. They can show that in successive generations these changes continue; until, ultimately, the new conditions become the natural ones. They can show that in cultivated plants, in domesticated animals, and in the several races of men, such alterations have taken place.” (Spencer had been educated at home and spent ten years working as a civil engineer on the railways and writing in his spare time before securing an entry position into upper middle-class Victorian society by becoming a subeditor at *The Economist* in 1848; he is most well-known now as having coined the phrase “survival of the fittest” in his *Principles of Biology*, 2 vols. [London, 1864–1867] in an effort to draw parallels between his economic theories and Darwin’s concept of natural selection and for a comprehensive philosophical system, usually referred to as “social Darwinism,” which he developed from the fundamental notion that all growth—or more precisely, “evolution,” as he used the term in ways that suggest the influence of Lamarck—involves a transition from an innately unstable homogeneous state to a stable heterogeneous condition.)

1853

French writer and diplomat Joseph-Arthur Gobineau (1816–1882) begins publication of *Essai sur l'inégalité des races humaines* [Essay on the inequality of the human races], 4 vols. (Paris, 1853–1855), in which—influenced, according to some sources, by his study in the period following the 1848 revolutions of the theories of Blumenbach and Bichat and driven by his “hatred of democracy and its weapon, the Revolution” (quotation from an 1856 letter to the Austrian statesman, diplomat, and general, Anton Prokesch-Osten [1795–1876])—he develops theses such as: (1) “race” is the central, driving force of all history; (2) there are only three major racial groupings, the “white,” the “yellow,” and the “black”; (3) the Aryan race is, among “whites,” pre-eminent; (4) the European aristocracies are all descended from Aryans and represent the highest stage of possible human development; and (5) although some “racial mixing” is acceptable, too much mixing has led to the downfall of every great civilization; Gobineau also believed that what he considered the ten greatest civilizations throughout history (the Indian; the Egyptian; the Assyrian; the Greek; the Chinese; the “old civilization” of the Italians, i.e., the civilization that existed before it became, according to Gobineau, a mixture made up of Aryans, Celts, Iberians, and Semites; the German of the fifth century CE; and “the three civilizations of America,” the Alleghanian, the Mexican, and the Peruvian) were all started by the white race. (A partial translation of the work into English appeared even before it was completed [see below], but a German translation,

by a member of the Bayreuth Circle, that is, devotees of the famously anti-Semitic German composer Richard Wagner [1818–1883] who attended annual festivals held after his death at which his operas were staged, did not begin to appear until 1898, *Versuch über die Ungleichheit der Menschenrassen* [Essay on the inequality of the human races], 4 vols., trans. Ludwig Schemann [Stuttgart, 1898–1901], and the first complete English translation did not appear until 1915, *The Inequality of Human Races*, trans. Adrian Collins [New York and London, 1915].)

The young (mostly self-taught) Thomas Henry Huxley (1825–1895), who later came to be known as “Darwin’s bulldog” for his aggressive support of Darwin’s theory of natural selection and as a prominent comparative anatomist for his research in both zoology and paleontology, publishes a long review of German cell theory (“The Cell-Theory,” *British and Foreign Medico-Chirurgical Review* 12 [1853]: 285–314), in which he harshly criticizes the preformationist tenets of the Schleiden-Schwann model of the cell (as modified by Kölliker), which posited the nucleus as the seat of organic vitality (Marsha L. Richmond, “T. H. Huxley’s Criticism of German Cell Theory: An Epigenetic and Physiological Interpretation of Cell Structure,” *Journal of the History of Biology* 33 [2000]: 247–89).

1854

South Carolina physician Josiah Clark Nott (1804–1873), who had completed a medical degree at the University of Pennsylvania in 1827 and then spent time in Paris for further training, and George Robbins Gliddon (1809–1857), an American Egyptologist born in England, who, like Nott, was influenced by the racial theories of Samuel George Morton (1799–1851), a University of Edinburgh educated physician and professor of anatomy at the University of Pennsylvania from 1839 to 1843, publish a coauthored tribute to Morton, *Types of Mankind; or, Ethnological Researches Based Upon the Ancient Monuments, Paintings, Sculptures, and Crania of Races, and Upon Their Natural, Geographical, Philological and Biblical history, Illustrated by Selections from the Unedited Papers of Samuel George Morton and by Additional Contributions from L. Agassiz, W. Usher, and H. S. Patterson* (Philadelphia, 1854), in which they—building upon Morton’s “craniology” and following research trends first institutionalized in France in the 1820s by Cuvier-influenced figures such as Julien-Joseph Virey (1775–1846) and William F. Edwards (1776–1842) (which had since spread to both the United States and Great Britain)—defend polygenism much more forcefully than Morton himself seems to have been inclined to do (Jackson and Weidman, “The Establishment of Racial Typology, 1800–1859,” in *Race, Racism, and Science*, 29–60). (Darwin explicitly criticizes

the views of Nott and Gliddon in the first edition of *Descent of Man, and Selection in Relation to Sex* [London, 1871], 217, and defends monogenism.)

1855

British naturalist, explorer, and biogeographer Alfred Russel Wallace (1823–1913) publishes the first of two papers that stimulate Darwin to publish his own thoughts on the same topic, “On the Law which has Regulated the Introduction of New Species,” *Annals and Magazine of Natural History*, 2nd ser., 16 (September 1855): 184–96; the papers advance the principles that Wallace had used in the designation of “the Wallace Line,” an imaginary boundary dividing the natural distribution of Asian and Australian/New Guinea species and their independent biological evolution, which he had determined by carefully cataloguing the species found in the archipelago. (Wallace was the eighth of nine children of a poor family whose formal education ended when he left school at age fourteen, but his scientific reputation had already been well established before he published these articles by the earlier publication of a book detailing the four years [1848–1852] he had spent collecting objects of natural history in South America, *Narrative of Travels on the Amazon and Rio Negro, with an Account of the Native Tribes, and Observations on the Climate, Geology, and Natural History of the Amazon Valley* [London, 1853].)

French physiologist Claude Bernard (1813–1878) succeeds his mentor François Magendie (1783–1855) as professor of medicine at the prestigious Collège de France in Paris, an appointment that both confirmed the recognition that had already been given him for his previous accomplishments—including research on the role of the pancreas in digestion, on the role of the vasomotor nerves in regulating the blood supply, and on the selective way in which the dreaded poison curare causes paralysis and death by attacking the motor nerves, while having no effect on the sensory nerves—and sets the stage for his many accomplishment yet to come, including refutation of Lavoisier’s theory that the body’s heat was generated exclusively in the lungs, early investigation of the way in which alterations of nutrient-blood flow and the opposing effects of the somatic and autonomic nervous systems affect organ function, further studies on glucose (which correctly identified, as confirmed a century later, its key role in generating body heat), and further development of his concept of the *milieu intérieur*, summarized by a well-known aphorism of his, namely, “The constancy of the internal milieu is the condition for free and independent life,” and developed further by early twentieth-century researchers such as Lawrence J. Henderson (1878–1942) and Walter Bradford Cannon (1871–1945) with reference to the notion of *homeostatis*, a term coined by Cannon in 1926 (Magner, 236). (Bernard’s

publication ten years later of a work modestly entitled *Introduction à l'étude de la médecine expérimentale* [Introduction to the study of experimental medicine] [Paris, 1865], stimulated perhaps by having worked as an assistant to an apothecary in Lyon where he routinely observed medicines “so haphazardly compounded . . . that no two batches were ever the same” [Magner, 232], is similarly viewed as a milestone event in the history of modern medicine.)

1856

Nott arranges for the translation and publication of portions of Gobineau's *Essai* already published, which appeared with the title, *Moral and Intellectual Diversity of Races with Particular Reference to Their Respective Influences in the Civil and Political History of Mankind*, trans. Henry Hotze, with an appendix containing a summary of the latest scientific facts bearing upon the question of unity or plurality of species by J. C. Nott (Philadelphia, 1856).

First publicized discovery of skeletal remains presently classified either as the species *Homo neanderthalensis* or as the human subspecies *Homo sapiens neanderthalensis* in the Neander valley (*Thal*) of northwest Germany east of Düsseldorf (earlier discoveries of skulls later identified as “Neanderthal” had taken place in Belgium in 1829 and in Gibraltar in 1848).

1857

French chemist Louis Pasteur (1822–1895)—who had defended theses in both chemistry and physics before the Faculty of Sciences in Paris in 1847—publishes a paper on “lactic fermentation,” accepts a position as the director of scientific studies at the *École Normale*, and presents two reports to the *Académie des sciences* in Paris (the first on lactic, the second on alcohol fermentation) that set the stage for further research that conclusively refutes the doctrine of spontaneous generation and initiates significant scientific advances both practical (such as the pasteurization of milk, interventions that rescued the French wine and silkworm industries from ruin, and the development of vaccines for rabies, chicken cholera, and anthrax), and theoretical, including the germ theory of disease and, in general, the establishment of microbiology as a distinct field of biological research.

Kölliker first describes what is now called *mitochondria*, but called them *sarcosomes*—and it is not until 1890 that the German pathologist Richard Altman [1852–1900] proposes that they are intracellular parasites and eight years after that the German microbiologist Carl Benda [1857–1933] gives them the name *mitochondria*.

1858

Darwin's friends, including Lyell, arrange for the simultaneous announcement of Wallace's and Darwin's idea of natural selection with a presentation (by Charles Lyell and Joseph Hooker—because Wallace was still in Borneo and “Darwin was not present because of illness amongst his children”) to the Linnaean Society on 1 July 1858 of a paper entitled, “On the Tendency of Species to Form Varieties” (published in *Journal of the Proceedings of the Linnaean Society for August 1858*, 45–62), which actually consists, following a brief introduction by Lyell and Hooker, of three documents printed sequentially, including: (1) “Extract from an Unpublished Work on Species by C. Darwin, Esq., consisting of a portion of a Chapter entitled, ‘On the Variation of Organic Beings in a State of Nature; on the Natural Means of Selection; on the Comparison of Domestic Races and True Species’”; (2) “Abstract of a Letter from C. Darwin, Esq., to Prof. Asa Gray, Boston, U.S., dated Down, September 5th, 1857”; and (3) “‘On the Tendency of Varieties to depart indefinitely from the Original Type,’ by Alfred Russel Wallace”—which is the second of the two 1855 papers by Wallace referenced above, sent to Darwin from the Moluccas (or “Spice Islands”) and received in mid-June 1858, that stimulated Darwin to proceed with the publication of his ideas. (Images of the original text and other information on the circumstances of its presentation and publication are available online at http://darwin-online.org.uk/EditorialIntroductions/Freeman_TendencyofVarieties.html.)

German physician, pathologist, and public health advocate Rudolph Ludwig Karl Virchow (1821–1902), who had studied medicine and chemistry in Berlin at the Prussian Military Academy from 1839 to 1843 and had held the position of professor of pathological anatomy at the Julius-Maximus Universität (Würzburg) since 1849, and in Berlin, publishes a series of lectures under the title *Cellularpathologie* [Cellular pathology] in which he advances the general view that “[a]ll disease . . . is simply modified life” (or, stated more technically, cellular misfunction and not an imbalance of the humors or a disorder of the nervous system, as others then maintained), which led him to conclude that “the study of pathology must be linked to the study of physiology in order to describe the subtle changes that take place in a pathological state” (Magner, 161). (Virchow, however, also endorsed the view that the Neandertal bones were merely rachitic and not those of a *Homo sapiens* precursor, and he subsequently strongly opposed Darwin's theory of natural selection—especially in the version of it promoted by his former student (and over the next several decades, foremost rival, both in science and in politics), Ernst Haeckel, whose work he discerningly viewed as often based on a style of speculative theorizing that reminded him too much of “the Romantic vision of science that German *Naturphilosophie* had engendered in his youth” [Pat

Shipman, *The Evolution of Racism: Human Differences and the Use and Abuse of Science* (Cambridge, MA: Harvard University Press, 2002), 94].)

1859

Darwin publishes *On the Origin of Species by Means of Natural Selection; or, the Preservation of Favored Races in the Struggle for Life* (London, 1859; New York, 1860); a German translation, based on the 1860 second edition appeared in the same year as that edition, *Charles Darwin über die Entstehung der Arten im Thier- und Pflanzen-Reich durch natürliche Züchtung; oder Erhaltung der vervollkommnesten Rassen im Kampfe um's Daseyn*, trans. Heinrich Georg Bronn (Stuttgart, 1860), but beginning with the 1867 German translation, the title is more accurately given as *Über die Entstehung der Arten durch natürlich Zuchtwahl; oder, die Erhaltung der begünstigten Rassen im Kampfe um's Dasein*, trans. H. G. Bronn and J. Victor Carus (Stuttgart, 1867); the first French translation appeared three years after the first edition, *De l'origine des espèces ou des lois de progrès chez les êtres organisés*, trans. Clémence-Auguste Royer (Paris, 1862).

Notes

Notes to Translator's Introduction

1. For a more detailed presentation of this view, which acknowledges a tension between foundationalist and anti-foundationalist tendencies in the development of the critical philosophy in the period following the initial publication of the *Critique of Pure Reason* (*Kritik der reinen Vernunft*) in 1781, see Tom Rockmore, *On Foundationalism* (Lanham, MD: Rowman & Littlefield, 2004), esp. chaps. 3–5, 63–140. See also Paul Guyer, *Kant's System of Nature and Freedom* (Oxford: Oxford University Press, 2005), a collection of essays written over a period of fifteen years in which the author progressively explores issues that he describes as arising from the tension between Kant's ideal of "systematicity" with regard to the domains of nature and freedom and the demand of reason that leads Kant, in the third of his three critiques, to investigate the power of judgment (*Urteilkraft*) for clues as to how we might at least imaginatively—but within the epistemological framework of the critical philosophy—conceive, in Kant's own words, how "the concept of freedom should make the end (*Zweck*) that is imposed by its laws real in the sensible world, and [how] nature must . . . be able to be conceived in such a way that the lawfulness of its form is at least in agreement with the possibility of the ends (*Zwecke*) that are to be realized in it in accordance with the laws of freedom. . . ." (Immanuel Kant, *Critique of the Power of Judgment*, trans. Paul Guyer and Eric Matthews [Cambridge: Cambridge University of Press, 2000], 63; cited by Guyer, *Kant's System*, 2). More specifically, for a detailed but brief presentation of the general perspective from which I approach the study of the critical philosophy, see A. C. Genova, "Kant's Three Critiques: A Suggested Analytical Framework," *Kant-Studien* 60 (1969): 135–46, and for a presentation of the "systematic" importance of the third critique and its "place" [*Ort*] within the development of the critical philosophy, see Wolfgang Bartuschat, *Zum systematischen Ort von Kants Kritik der Urteilkraft* (Frankfurt am Main: Vittorio Klostermann, 1972), esp. 246–66. References to Kant's works hereafter cited in the usual manner by volume and page number of the Akademie edition (AA), *Kants gesammelte Schriften*, 29 vols. to date, ed. Königlich-preussischen Akademie der Wissenschaften (Berlin: Walter de Gruyter, 1900–). The passage from the third critique included above—which, when properly understood, actually presents a general statement of the problem central to the controversies addressed by the present volume, namely, whether or not Kant ever resolved the tension in the critical system occasioned by the conflicting demands of his fully developed moral philosophy and his career-long concern with formulating

a properly naturalistic concept of race—would thus be cited as AA 5:175–76. (See below, n. 150, for an alternative translation of the same passage.)

2. Although this image of Kant is clear enough from the accounts provided in the standard biographies, such as Ernst Cassirer's classic *Kants Leben und Lehre* [Kant's life and thought] (Berlin: Bruno Cassirer, 1918), and Manfred Kuehn's more recent *Kant: A Biography* (Cambridge: Cambridge University Press, 2001), or from John H. Zammito's more narrowly focused study of Kant's development during the period from approximately 1762–1773, *Kant, Herder, and the Birth of Anthropology* (Chicago: University of Chicago Press, 2002), the point is perhaps best summarized by Otfried Höffe in his *Immanuel Kant*, trans. Marshall Farrier [Albany, NY: SUNY Press, 1994], 14: "In his classes, Kant demonstrates the unusual breadth of his horizon. He teaches not only logic and metaphysics but also mathematical physics and physical geography (an academic discipline which he proudly introduces for the first time), anthropology (as of the winter semester of 1772–73) and education (as of the winter semester of 1776–77), philosophy of religion (natural theology), moral philosophy, natural law (as of the winter semester 1776–77) and philosophical encyclopedia (as of 1767–68), even fortress-building and fireworks. . . ." For a more detailed listing of courses regularly taught by Kant, see Robert Louden, *Kant's Impure Ethics: From Rational Beings to Human Beings* (New York: Oxford University Press, 2000), 4–5, or the helpful tabular, semester-by-semester display of the topics on which Kant lectured throughout his entire career available at the website presently maintained by Steve Naragon, www.manchester.edu/kant/Lectures/lecturesIntro.htm; see also Manfred Kuehn, "Kant's Teachers in the Exact Sciences," in *Kant and the Sciences*, ed. Eric Watkins, 11–30 (New York: Oxford University Press, 2001).

3. Kantian "liberal internationalism" might be described generally as the modern view that the best prospects for peace and stability in international relations will be realized only when (1) republican nation states are established fully in every inhabitable region of the earth and (2) these sovereign states join together in some sort of federation. For, however, a brief discussion of the difficulties inherent in any attempt to define this view, see Antonio Franceschet, *Kant and Liberal Internationalism: Sovereignty, Justice, and Global Reform* (New York: Palgrave Macmillan, 2002), 68–71. The classic, modern formulation of this view can then arguably be traced to Kant's influential 1795 monograph, "Toward Perpetual Peace: A Philosophical Sketch [*Entwurf*]," which can be viewed as a revision and further development of points first sketched in a 1784 article, "Idea for a Universal History from a Cosmopolitan Perspective [*weltbürgerlicher Absicht*]." For recent translations of both the 1784 "Idea" and the full text of "Perpetual Peace" (which was republished with a few changes in 1796) together with significant "other writings on politics, peace, and history" and essays by three prominent scholars who have played significant roles in the revival of serious interest in Kant's political philosophy in the past several decades, see Immanuel Kant, *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, ed. Pauline Kleingeld, trans. David L. Colclasure (New Haven, CT: Yale University Press, 2006). For a brief account of how various appeals to Kant's "legacy" shaped the recent revival of this perspective, see Franceschet, *Kant and Liberal Internationalism*, 78–83; for other recent, influential contributions to the reassessment of Kant's contribution to liberal internationalism, see Otfried Höffe, ed., *Immanuel Kant: Zum ewigen Frieden*

(Berlin: Akademie Verlag, 1995), and James Bohman and Matthias Lutz-Bachmann, eds., *Perpetual Peace: Essays on Kant's Cosmopolitan Ideal* (Cambridge, MA: MIT Press, 1997), and articles from the past several decades cited in n155 below.

4. Jürgen Habermas and Seyla Benhabib, "Modernity versus Postmodernity," *New German Critique* 22 (1981): 3–14; Habermas's lecture is also frequently reprinted under the title, "Modernity—An Incomplete Project," e.g., in *Postmodernism: A Reader*, ed. Thomas Docherty, 98–109 (New York: Columbia University Press, 1993). See also Fransechet, *Kant and Liberal Internationalism*, esp. chap. 5, "The Crisis of Liberal Internationalism: From International to Global Governing Institutions," 83–102. For another, more general presentation of the issues, both theoretical and practical, that have shaped recent discussion of the "crisis" condition of modern liberalism, see Stanley Hoffmann, "The Crisis of Liberal Internationalism," *Foreign Policy* 98 (1995): 159–77.

5. For a more general reevaluation of the critical philosophy and its potential contemporary significance, see Robert Hanna's contribution, "Kant in the Twentieth Century," in Dermot Moran, ed., *Routledge Companion to Twentieth Century Philosophy* (London: Routledge, 2008), 149–203.

6. See, for representative work from the 1980s that corroborate this view of Kant, John Rawls, "Kantian Constructivism in Moral Theory," *Journal of Philosophy* 77 (1980): 515–72; David A. J. Richards, "Rights and Autonomy," *Ethics* 92 (1981): 3–20; Michael W. Doyle, "Liberalism and World Politics," *American Political Science Review* 80 (1986): 1151–69; and Carlos S. Nino, "The Communitarian Challenge to Liberal Rights," *Law and Philosophy* (1989): 37–52. For a more recent, brief statement of the standard view of Kant's contribution to the development of the modern concept of human rights, see William A. Edmundson, *An Introduction to Rights* (Cambridge: Cambridge University Press, 2004), 31–33.

7. In emphasizing the term *ideological*, I have in mind the way in which Michael Omi and Howard Winant distinguish a "racial project" simpliciter from and a *racist* "racial project." "We have," they write in summarizing their view, "argued that race has no fixed meaning, but is constructed and transformed sociohistorically through competing political projects. . . . This emphasis on projects allows us to refocus our understanding of racism as well, for racism can now be seen as characterizing some, but not all, racial projects. // A racial project can be defined as *racist* if and only if it *creates or replaces structures of domination based on essentialist categories of race*. . . ." ("Racial Formation in the United States," in *The Idea of Race*, ed. Robert Bernasconi and Tommy L. Lott, 205–206 [Indianapolis, IN: Hackett, 2000]).

8. Kant's denial of strict scientific status to chemistry—which for him still meant the phlogistic chemistry of Georg Stahl (1659–1734)—can be found in the following remarks from the Preface to the 1786 *Metaphysical Foundations of Natural Science* (*Metaphysische Anfangsgründe der Naturwissenschaft*), trans. James Ellington (Indianapolis, IN: Bobbs-Merrill, 1970), 7–8; AA 4:470–71: "So long, then, as there is for the chemical actions of matters on one another no concept which admits of being constructed, i.e., no law of the approach or withdrawal of the parts of matter can be stated according to which (as, say, in proportion to their densities and suchlike) their motions together with the consequences of these can be intuited and presented a priori in space (a demand that will hardly ever be fulfilled), then chemistry can

become nothing more than a systematic art [*systemtische Kunst*] or experimental doctrine [*Experimentallehr*], but never science proper [*eigentlichle Wissenschaft*]; for the principles of chemistry are merely empirical and admit of no presentation a priori in intuition. Consequently, the principles of chemical phenomena cannot make the possibility of such phenomena in the least conceivable inasmuch as they are incapable of the application of mathematics." See also n. 119 below.

9. The first use of the term in the modern sense, as described by Marjorie Grene and David Depew in *Philosophy of Biology: An Episodic History* (Cambridge: Cambridge University Press, 2004), 123, as designating a "comprehensive science that would gather together information about living things from a variety of special sciences, such as physiology, systematics, and comparative anatomy," and which is "no longer a part of physics," appears in the title of a work by the Göttingen naturalist Gottfried Reinhold Treviranus (1776–1837), *Biologie, oder Philosophie der lebenden Natur für Naturforscher und Ärzte* [Biology, or philosophy of living nature for naturalists and physicans], 6 vols. (Göttingen: J. F. Röwer, 1802–1822). See also Vassiliki Betty Smocivitis, "Biology," in *New Dictionary of the History of Ideas*, vol. 1, ed. M. C. Horowitz, 220–26 (Detroit, MI: Charles Scribner's Sons, 2005), who further notes that the term was not widely used until it was popularized in the writings of the French social philosopher August Comte (1798–1857), who, in his philosophy of positivism, classified it as one of the "higher sciences."

10. See, e.g., Elliott Sober, *Philosophy of Biology*, 2nd ed. (Boulder, CO: Westview Press, 2000), Alex Rosenberg and Daniel W. McShea, *Philosophy of Biology: A Contemporary Introduction* (London: Routledge, 2007), David Hull and Michael Ruse, eds., *Philosophy of Biology* (Oxford: Oxford University Press, 1998), and Sohotra Sarkar and Anya Plutynski, eds., *A Companion to the Philosophy of Biology* (Malden, MA: Blackwell, 2008).

11. For a brief, but helpful, overview of the development of the field of natural history—which properly emphasizes the importance of the Swedish naturalist Carolus Linnaeus (1707–1778) and his French counterpart and rival Georges-Louis Leclerc Buffon (1707–1788)—and its significance for the development of modern biology, see Paul Farber, "Natural History," in *New Dictionary of the History of Ideas*, vol. 4, ed. M. C. Horowitz, 1598–1601 (Detroit, MI: Charles Scribner's Sons, 2005); for a more detailed presentation, see Paul Farber, *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E. O. Wilson* (Baltimore, MD: The Johns Hopkins University Press, 2000), esp. chap. 1, "Collecting, Classifying, and Interpreting Nature: Linnaeus and Buffon, 1735–1788," 6–21. For, on the other hand, a general introduction to recent work in "race theory," see Les Back and John Solomos, eds., *Theories of Race and Racism: A Reader* (London: Routledge, 2000), and Berel Lang, ed., *Race and Racism in Theory and Practice* (Lanham, MD: Rowman & Littlefield, 2000); for representative recent work on the intersection of race and philosophy, see Robert Bernasconi, ed., *Race* (Malden, MA: Blackwell Publishers, 2001), Julie K. Ward and Tommy L. Lott, eds. *Philosophers on Race: Critical Essays* (Malden, MA: Blackwell Publishers, 2002), and Andrew Valls, ed., *Race and Racism in Modern Philosophy* (Ithaca, NY: Cornell University Press, 2005); and for an excellent collection of selections from key historical texts on the subject of race

written from many perspectives dating from the seventeenth century through the 1990s, see Bernasconi and Lott, eds., *Idea of Race*.

12. Emmanuel Chukwudi Eze, "The Color of Reason: The Idea of 'Race' in Kant's Anthropology," *Bucknell Review* 38 (1994): 201–41; repr. in *Postcolonial African Philosophy: A Critical Reader*, ed. Emmanuel Chukwudi Eze, 103–140 (Cambridge, MA: Blackwell Publishers, 1997). For a subsequent, but not significantly altered, abbreviated restatement of Eze's evaluation of Kant, see Emmanuel Chukwudi Eze, "Race: A Transcendental?" in *Achieving Our Humanity: The Idea of the Postracial Future*, 77–111 (London: Routledge, 2001). References below to the 1994 article, "The Color of Reason," are cited according to the pagination in the reprinted version published in *Postcolonial African Philosophy*, ed. Eze.

13. Tsenay Serequeberhan, "Eurocentrism in Philosophy: The Case of Immanuel Kant," *Philosophical Forum* 27 (1996): 333–356; repr. in *Postcolonial African Philosophy*, ed. Eze, 140–161. A substantially revised, expanded, and, in my opinion, much improved version of this article—which surely merits consideration as a substantial contribution to the more recent discussion of Kant's contribution to modern liberal internationalism—can be found in Tsenay Serequeberhan, *Contested Memory: The Icons of the Occidental Tradition* (Trenton, NJ: Africa World Press, 2007), 29–62. I leave it to the reader, however, to consider the subtle shifts in Serequeberhan's views in this more recent work compared to the earlier version and focus below only on the earlier version of the text reprinted in *Postcolonial African Philosophy*, ed. Eze.

14. Mark Larrimore, "Sublime Waste: Kant on the Destiny of Races," in *Civilization and Oppression*, ed. Catherine Wilson, 93–137 (Calgary, Canada: University of Calgary Press, 1999).

15. Robert Bernasconi, "Who Invented the Concept of Race? Kant's Role in the Enlightenment Construction of Race," in *Race*, ed. Bernasconi, 11–36, and Robert Bernasconi, "Kant as an Unfamiliar Source of Racism," in *Philosophers on Race*, ed. Ward and Lott, 145–66.

16. For representative work in German that predates Eze, but which he seems not to have been aware of, see Alex Sutter, "Kant und die 'Wilden': Zum impliziten Rassismus in der Kantischen Geschichtsphilosophie," *Prima Philosophie* 2 (1989): 241–65, and Monika Firla-Forkl, "Philosophie und Ethnographie: Kants Verhältnis zu Kultur und Geschichte Afrikas," in *Zeitschrift der deutschen morgenländischen Gesellschaft*. Suppl. X: XXV. *Deutscher Orientalistentag: vom 8. bis 13.4.1991 in München: Vorträge*, ed. Cornelia Wunsch, 432–442 (Stuttgart: Fritz Steiner, 1994); Eze does, however, credit Christian M. Neugebauer, "The Racism of Kant and Hegel," in *Sage Philosophy: Indigenous Thinkers and Modern Debate on African Philosophy*, ed. H. Odera Oruka, 259–71 (Leiden: Brill, 1990), for his selection of quotations from Kant's lecture notes published in 1802 under the title *Physische Geographie* (AA 9:151–336), which Neugebauer himself apparently compiled simply by consulting the fewer than twenty pages from the 1802 text included at the beginning of the 1985 printing of the contemporary German writer and satirist Eckhard Henscheid's (b. 1941) well-written little screed against long-standing European—especially German—racist attitudes, *Der Neger (Negerl)* (Frankfurt am Main: Fischer, 1985; first published 1982 by Verlag Klaus G. Renner, Munich). The 1802 *Physische Geographie* is, however,

considered by many commentators, including Larrimore ("Sublime Waste," 111), to be based on lecture notes likely dating from before 1775 and, therefore, not a reliable source for Kant's mature views; Bernasconi similarly notes that "[t]wo very different editions of the *Physische Geographie* were published in Kant's lifetime: the authorized version in . . . in 1802 . . ." but he indicates a preference for "the unauthorized edition . . . published by Gottfried Bollmer of Mainz and Hamburg between 1801 and 1805" which, in his view, "remains a largely neglected source of information about Kant's extensive knowledge of the travel literature of his day" ("Who Invented the Concept of Race?" 31n12). The late date of the publication of these texts, the 1802 edition apparently with Kant's approval, has nevertheless clearly complicated greatly the case that Kant's defenders, such as Pauline Kleingeld (see below), have wanted to make for him in claiming that he revised significantly in the 1790s the views on race that he espoused in the precritical period through the late 1780s. Both Bernasconi and Larrimore have, therefore, in their more recent contributions to the continuing debate over the significance of Kant's racial views, tended to emphasize the authorized, late date of the publication of materials from the earlier lectures on physical geography in support of the view that Kant's views did not change nearly so significantly as others have argued (see nn. 36 and 61 below), and Larrimore now emphasizes that all three of the Kant texts included in translation in this volume were reprinted, the 1785 and 1788 articles more than once, in the 1790s (see Mark Larrimore, "Antinomies of Race: Diversity and Destiny in Kant," *Patterns of Prejudice* 42 [2008]: 358n30).

17. Earl W. Count, *This is Race: An Anthology Selected from the International Literature on the Races of Man* (New York: Schuman, 1950), 704; cited by Eze, "The Color of Reason," in *Postcolonial African Philosophy*, 103.

18. "The Color of Reason," 130–31.

19. See above, n. 2.

20. "The Color of Reason," 120. To Eze's credit, it should be noted that his thesis regarding Kant's relationship to Linnaeus is derived from Ernst Cassirer's view "that in establishing the principle of formal purposiveness [in the *Critique of Judgment*], [Kant] spoke as the *logician* of Linnaeus' descriptive science, just as in the *Critique of Pure Reason* and the *Metaphysical Elements of Natural Science* he had appeared as the *logician* for the Newtonian system . . ." (*The Problem of Knowledge: Philosophy, Science and History since Hegel*, trans. William H. Woglom and Charles Hendel [New Haven, CT: Yale University Press, 1950], 127).

21. "The Color of Reason," 122. Cf. Eze, *Achieving Our Humanity*, 105: "The inferiority of the Negro, as proposed by Hume, is now successfully grounded in transcendental philosophy." Hume's comment, which appeared in a note to his essay, "Of National Characters," first published in 1748, reads as follows: "I am apt to suspect the [N]egroes and in general all other species of men (for there are four or five different kinds) to be naturally inferior to whites. There never was a civilized nation of any other complexion than white, nor even any individual eminent either in action or speculations, no ingenious manufactures amongst them, no arts, no sciences . . ." (repr. in *Race and the Enlightenment: A Reader*, ed. Emmanuel Chukwudi Eze [Malden, MA: Blackwell Publishers, 1997], 33). Kant's knowledge of the passage is indicated by comments included in his 1764 *Observations on the Feeling of the Beautiful and Sublime* (*Beobachtungen über das Gefühl des Schönen und*

Erhabenen), which Eze cites prominently in his article, "The Color of Reason," and highlights in his anthology, *Race and the Enlightenment*, ed. Eze, 55: "The Negroes of African have by nature no feeling that rises above the trifling. Mr. Hume challenges anyone to cite a single example in which a Negro has shown talents, and asserts that among the hundreds of thousands of blacks who are transported elsewhere from their countries, although many of them have even been set free, still not a single one was ever found who presented anything great in art or science or any other praiseworthy talent, even though among whites some continually rise aloft from the lowest rabble, and through superior gifts earn respect in the world. So fundamental is the difference between these two races of man, and it appears to be as great in regard to mental capacities as in color. . . ."

22. Eze seems, however, as discussed in more detail below, to have it at least half backwards when he—following only Cassirer's lead—claims that "Kant's racial theories . . . follow more closely that of Linnaeus than of Buffon" ("The Color of Reason," 120). The partial correctness of Eze's claim is better captured by Grene and Depew, when they briefly describe Kant's relationship to both Linnaeus and Buffon by writing that "Kant was less opposed than Buffon . . . to efforts at systematic classification like those of Linnaeus . . . as long as [such an enterprise] retains its fundamentally pragmatic status as a resource for what Kant calls 'Naturkunde', or skill in dealing with nature, sometimes of a very humble, barnyard sort . . ." (*Philosophy of Biology*, 117–18). Further, while Grene and Depew give credence to the claims of Robert Bernasconi (see below) that "because [Kant] gave the concept of race a clearer definition than others had done, and because he treated races as more stable than local variations, [he] can be linked with the articulation of the ill-fated concept of race," they distance his project from that of Linnaeus when they also write: "[Kant's] key idea is that races are not classificatory subspecies, as they were, at least potentially, for Linnaeus. For Kant, the concept of race becomes useful for reflection on the genuine questions posed by natural history, such as questions about the geographical distribution of populations of the same species, only when one abandons the tyranny of the classificatory impulse" (*ibid.*, 119).

23. More specifically, Eze can be faulted for relying too much on texts from the 1760s and 1770s, sources such as student lectures notes or materials for which the date of origin is difficult to determine, and his lack of familiarity with sources other than the texts from which he develops his case, including not only the core "critical" works, i.e., the three critiques, but texts such as the 1797 *Metaphysics of Morals*, which contains Kant's most strongly worded condemnation of the colonial practice of taking land from people who had already settled there by force and without their consent, as, for example, when he writes—in response to the question of whether such colonization is permissible—that "even though there seem to be a sufficient number of reasons justifying violence as a means for bettering the world: for one, bringing culture to underdeveloped peoples . . . for another, purging one's own land of depraved individuals with the hope that they or their offspring will improve in another part of the world . . . [.] [a]ll of these purportedly good intentions cannot wash away the stain of injustice in the means used to attain them. . . ." (Immanuel Kant, *Metaphysics of Morals*, Doctrine of Right, § 43–§ 62, in *Toward Perpetual Peace*, ed. Kleingeld, 147; AA 6:353).

24. Thomas E. Hill, Jr., and Bernard Boxill, "Kant and Race," in *Race and Racism*, ed. Boxill, esp. 453–55 (Oxford: Oxford University Press, 2000).

25. See, for example, Robert Louden, "Comments on Emmanuel Chukwudi Eze, *Achieving Our Humanity*" (paper presented at an Author Meets Critics session at the Central Division Meeting of the American Philosophical Association, Chicago, 27 April 2002), esp. 16–18. See also Thomas McCarthy, "On Reconciling Cosmopolitan Unity and National Diversity," *Public Culture* 11 (1999): 183n10: "Eze makes a convincing case for the significance of race in Kant's thinking about human nature, culture, and history, as well as for the claim that Kant constructed one of the more elaborate theories of race and philosophical justifications of racial hierarchy of his time. His argument for the claim that Kant's racial theories are transcendently grounded and are thus inseparable from his transcendental philosophy and his humanist project more generally is, in my view, less conclusive. . . ."

26. Eze's final book, published posthumously after his untimely, early death following a brief illness in December 2007, entitled *On Reason: Rationality in a World of Cultural Conflict and Racism* (Durham, NC: Duke University Press, 2008), generally shifts criticism of Kant from the specific details of his "race theory" to general dissatisfaction with his "transcendental philosophy" when contrasted with the "transcendental phenomenology" of Edmund Husserl (*ibid.*, 72–73). Eze's criticism, however, draws more on the promise of Husserl's project than on detailed philosophical analysis of that project compared with that of Kant, and even if he generally writes of Kant in a more respectful tone in this work than in the earlier texts, he cannot resist taking advantage of an opportunity in a subsection of his third chapter ("Science, Culture, and Principles of Rationality") headed "Science of 'Race'" (and subheaded "Race: What's the Idea?") to cast aspersion on Kant for hypothesizing (but Eze says that he "claims" the view described) in the 1777 version of "On the Different Human Races" that "phlogiston, in the blood of some races but not others, is responsible for the varieties in the species we attribute to racial differences" (*ibid.*, 168). However, in the following subsection ("Genes"), Eze favorably cites the epigenetic-paradigm oriented research claims of cell biologist and philosopher Lenny Moss as, presumably, providing us with a more reasonable way to think about issues surrounding the "science of 'race'" than we find in the writings of eighteenth-century figures such as Kant, but he conveniently ignores—or had not yet read Moss's book *What Genes Can't Do* (Cambridge, MA: MIT Press, 2003), which he cites both in his bibliography and endnotes, well enough to know—that Moss himself finds the precedent for his own epigenetic orientation in the philosophy of Kant (*ibid.*, esp. chap. 1, "Genesis of the Gene," 12–50).

27. The criticisms raised both by Hill and Boxill and by Louden depend upon technical points, but not ones of such difficulty that they cannot be briefly summarized. Hill and Boxill focus on the notion that Eze's criticism of Kant derives from the view, which Eze seems to presuppose, that Kant, when arguably conceiving race as a transcendental concept, must be understood as claiming that the truth of such concepts can be known a priori, and that in Kant's view all truths known a priori are necessary truths. For Eze, it is then an easy move from these presuppositions to claim that, as Hill and Boxill summarize his position, "Kant believed that the racial classification he offered was a necessary truth" (Hill and Boxill, "Kant and Race,"

454). Hill and Boxill, however, understand that Kant's frequent employment of such technical terminology in contexts such as this should be understood more broadly and comparable to the way in which we might, for example, using the term *a priori* more loosely—to state the point in their words, not Kant's—say that “it is an *a priori* truth that causes should not be multiplied unnecessarily” (ibid.). The crux of their criticism of Eze's position is thus encapsulated in the following single sentence: “[But] even if it is an *a priori* truth that causes should not be multiplied unnecessarily, and even if this leads us initially to prefer monogenesis over polygenesis, in the end monogenesis may still have to be withdrawn in the light of experience” (ibid.). For Hill and Boxill, in other words, the only sense in which the concept of race is, for Kant, transcendental, or *a priori*, is that it is, to use common Kantian pedagogical parlance, a concept that we “bring” to experience and not one that is derived from experience, or, more technically stated, the concept of race is a theoretical construct that might be used heuristically to give classificatory order to a certain chaotic manifold of sensory experience, but not, thereby, one which brings with it any guarantee of real knowledge. To expand then upon their criticism, whatever necessity Kant might have attributed to his use of the concept of race, it is hardly comparable, if comparable at all, to that which he claims to demonstrate for—in his view—the only truly transcendental, in the strict meaning of the term, as developed in the 1781 and 1787 editions of the *Critique of Pure Reason*, concepts found at the core of the critical philosophy, the categories, or “pure concepts of the understanding” (*reinen Verstandesbegriffe*). Further, the categories are alone constitutive of that sort of experience (*Erfahrung*) which, according to Kant, alone makes possible knowledge [*Erkenntnis*] of nature, which, of course, is, as previously noted (see n. 7 above), for him, presumably realized only in that kind of investigation of nature characterized by Newtonian physics. Consequently, with this framework in mind, it also makes perfect sense to suggest, as Hill and Boxill do, that even if we were to agree with Kant that we should “suppose that . . . there are races, and that the correct racial classification has a certain form . . . [.] it does not follow that Kant would have supposed [i.e., believed without any reason for ever revising his views on the subject—which, of course, he frequently did] that they are fixed or ‘metaphysical’ or ‘immutable,’ as Eze seems to believe.” For, to develop a point that some might argue is not incompatible with Kant's philosophy of science, but perhaps not fully developed by him, “a hypothesis that is not a generalization based on experience may still be fully revisable in the light of experience; it may not be derived from experience, but it may be falsifiable by experience” (ibid.). To read Kant's race theory from this perspective is, however, to emphasize the constructivist tendencies in the development of the critical philosophy highlighted by commentators such as Tom Rockmore (see n. 1 above), while Eze's interpretation can instead be characterized as relying on a (very) strong foundationalist reading that does not even take seriously Kant's distinction between the sense in which both “regulative” and “constitutive” principles might be said to be *a priori*. For, as Loudon, with reference to Hill and Boxill, reminds us, “regulative principles are also *a priori* principles that are not derived from experience. But in so far as they are not necessary conditions for any possible experience [i.e., possible experience as constituted by the pure concepts of the understanding], they are not transcendental principles in Kant's sense . . .” (“Comments on Emmanuel Chukwudi Eze, *Achieving Our Humanity*,” 17).

28. "The Critique of Eurocentrism," in *Postcolonial African Philosophy*, ed. Eze, 155–56.

29. *Ibid.*, 147.

30. Douglas Kellner, "Ernst Bloch, Utopia and Ideology Critique," www.uta.edu/english/dab/illuminations/kell1.html, par. 7.

31. "The Critique of Eurocentrism," 149.

32. *Ibid.*, 153.

33. For a brief presentation of Lyotard's assessment of Kant's philosophy of history that clearly demonstrates the distance between his fully developed view on this topic and Serequeberhan's assessment, see Jean-François Lyotard, "The Sign of History," trans. Geoff Bennigton, in *The Lyotard Reader*, ed. Andrew Benjamin, 393–411 (Oxford: Basil Blackwell, 1989); for a more detailed examination of Lyotard's reassessment of Kant's philosophy of history, see David Ingram, "The Postmodern Kantianism of Arendt and Lyotard," *Review of Metaphysics* 42 (1988): 51–77; and, for a brief, sympathetic presentation of core elements of Kant's philosophy of history, see Pauline Kleingeld, "Kant, History, and the Idea of Moral Development," *History of Philosophy Quarterly* 16 (1999): 59–80, and Louis Dupré, "Kant's Theory of History and Progress," *Review of Metaphysics* 51 (1998): 813–28. Serequeberhan, however, explicitly emphasizes that he has elected "not . . . to explore the conflicts between these narratives [namely, the Christian narrative of redemption of original sin through love, Kant's narrative of emancipation from ignorance and servitude through knowledge and egalitarianism, Hegel's narrative of the realization of the universal Idea through the dialectic of the concrete, the Marxist narrative of emancipation from exploitation and alienation through the socialization of work, and the capitalist narrative of emancipation from poverty through technoindustrial development], but rather to underline their foundational similitude . . . [to] underwrite the colonialist project of global subjugation and expansion . . . [inasmuch as] 'universal freedom' and 'the fulfillment of all humanity' presuppose . . . the *singularization* of human diversity by being forced on a singular track of historical 'progress' grounded on an emulation and/or mimicry of European historicity" ("The Critique of Eurocentrism," 146).

34. This point is well-summarized by Giles Deleuze near the end of his little book on Kant, *Kant's Critical Philosophy: The Doctrine of the Faculties*, trans. Hugh Tomlinson and Barbara Habberjam (Minneapolis, MN: University of Minnesota Press, 1984), 74: "It is not nature which realizes freedom, but the concept of freedom which is realized or accomplished in nature. The accomplishment of freedom and of the good Sovereign in the sensible world thus implies an original synthetic activity of man: *History* is this accomplishment, and thus it must not be confused with a simple development of nature. . . ."

35. A more complete development of this criticism of Serequeberhan's view of Kant's philosophy of history as presented in his 1996 *Philosophical Forum* article reprinted in Eze's anthology, *Postcolonial African Philosophy*, would require more detailed discussion of the relevant texts than is possible here, but one issue likely central to the discussion would be competing interpretations of the Fifth Thesis of Kant's 1784 "Idea for a Universal History from a Cosmopolitan Perspective," namely, "*The greatest problem for the human species* to which nature compels it to seek a solution is the achievement of a civil society which administers right [*das Recht*]

universally" (in *Toward Perpetual Peace*, 8; AA 8:22), and the nuanced differences between how Kant might himself have understood this thesis as written in 1784 and how he might have understood it from the perspective of the 1796 article, "Toward Perpetual Peace." I can, however, briefly note here only that the term *Providence* (der *Vorsehung*) appears only once—as a surrogate for the frequently used term *Nature*—in the penultimate paragraph of the 1784 article (AA 8:30), while Kant critically qualifies his use of this term in the 1796 text with the following explanation: "What *guarantees* perpetual peace is nothing less than that great artist [*die große Künstlerin*] *nature* (*natura daedala rerum*). The mechanical course of nature visibly reveals a purposive plan to create harmony through discord among people, even against their own will. Thus, if understood to be the compelling force of a cause whose laws of operation are unknown to us, this plan is called *Fate*. But if, upon consideration of nature's purposiveness [*Zweckmäßigkeit*] in the course of the world, it is understood as the underlying wisdom of a higher cause . . . directed toward the objective final end of the human species and which predetermines this course of events in the world, this plan is called *Providence*. To be sure, we do not actually *cognize* it as such based on the artifices [*Kunstanstalten*] of nature or *infer* its existence on the basis of such artifices, but rather (as in relationship in general between the form of things and ends) can and need only *add it in thought* in order to conceive of their possibility according to the analogy of human acts of artifice [*Kunsthandlungen*] . . ." (ibid., 85–86; AA 8:360–62). The explanation continues for another thirteen lines in the Akademie edition text and is supplemented by an explanatory footnote of over a page in length in which various uses of the term *Providence* are distinguished; Kant then concludes the section of the text in which this passage occurs with the following further qualification: "In this way nature guarantees perpetual peace through the mechanisms of human inclinations itself. To be sure, it does this with a certainty that is not sufficient to *foretell* the future of this peace (theoretically), but which is adequate from a practical perspective and makes it a duty to work toward this (not simply chimerical) goal" (ibid., 92; AA 8:368). For further discussion of Kant's account of the "way" in which "nature guarantees perpetual peace," see esp. Pauline Kleingeld, "Nature or Providence? On the Theoretical and Moral Importance of Kant's Philosophy of History," *American Catholic Philosophical Quarterly* 75 (2001): 201–219, and Pierre Laberge, "Von der Garantie des ewigen Friedens," in *Immanuel Kant: Zum ewigen Frieden*, ed. Otfried Höffe, 149–70 (Berlin: Akademie, 1995).

36. See n. 23 above for the exemplary passage from the *Metaphysics of Morals* cited by both Robert Louden ("Comments," 8–9) and Pauline Kleingeld ("Kant's Second Thoughts on Race," *Philosophical Quarterly* 57 [2007]: 587) to support the claim that Kant's race theory is not nearly so insidious an element of the critical philosophy as it is often claimed to be by Kant's critics—or, more specifically, in Kleingeld's view, that Kant must at least be credited in the 1790s with becoming "more egalitarian with regard to race" and with having "revised his view of the role of race in connection with intercontinental migration" (ibid., 588). As further described by Kleingeld, this shift in view was perhaps "prompted by [Kant's] general revision of his theory of biology," but, in her view, it was more likely a consequence of the "elaboration of his political theory and theory of right" during a period in his life when he was also coming to terms with the meaning of the French Revolution (ibid., 591–92).

37. "Sublime Waste," in *Civilization and Oppression*, 100.

38. Cited in "Sublime Waste," 110.

39. Cited in "Sublime Waste," 111. This passage comes from student notes of Kant's lectures on anthropology, a setting in which he seems to have regularly employed references to peoples from non-European cultures as negative examples of the kind of character development he expected from his students. Kant, however, was also not always sympathetic in his portrayals of the characteristic qualities of the five western European peoples—the French, the Italians, the Spanish, the Italians, and the Germans—the presentation of which, as Robert Louden properly notes in his detailed discussion of Kant's anthropology, "occupy the bulk of his discussion in all versions of the *Anthropology* lectures" (*Kant's Impure Ethics*, 91). The French, for example, are praised for the moralizing potential of their good taste, but criticized for suffering from "an infectious spirit of *freedom*," while the English are praised for being "more cultivated," because among them "knowledge extends out to the most common man," but criticized for going to the pub after dinner only to argue "about politics and religion." Similarly, both the Spanish and the Italians are praised for their good qualities, respectively, for being "moderate [and] wholeheartedly obedient to the laws" and for being well experienced and innovative in business practices, e.g., Italian bookkeeping, which is described as "a special, very well-conceived [work of] order." But the Spanish and the Italians are also criticized for their faults: the Spanish for being "lazy, because all nations that place their pride in blood are lazy," and the Italians for what Louden refers to as the "darker side" of their practical skill, namely, "systematic deceitfulness or deep-lying craftiness." Kant even subjects the Germans to such presumably descriptive, collective characterization, describing them, according to the notes of one of his students, as follows: "The Germans possess great diligence and all the skills to which industry and sustained, patient diligence belong: with them the spirit of order and method rules. But they stay so much with the formula that they forget the material . . ." (*ibid.*, 91–92).

40. For the classic, brief account of the origins of the term *miscegenation*, which also makes clear why it is better to avoid using the term altogether, see Ashley Montagu, *Man's Most Dangerous Myth: The Fallacy of Race*, 5th ed. (New York: Oxford University Press, 1974), 445–47.

41. Cited in "Sublime Waste," 114.

42. *Ibid.*, 121: "A classic trope of the literature of the sublime is the experience of the observer of a shipwreck. The ship is far out at sea, beyond the possibility of rescue; the observer is safe on shore. His reaction is sublime because the terror at the thought that he would be facing death if he were on the ship is transformed by his awareness of the fact that he is not, in fact, in danger. . . ."

43. *Ibid.*, 115: "It is difficult to determine the status of the claim that annihilation awaits the races, especially since we have no evidence that Kant included this claim in his lectures. . . . In any case, it seems incompatible with the claim that human beings are to populate the whole earth, and that this could occur only through the founding of races through the development of the *Keime*."

44. *Ibid.*, 123: "As we turn to Kant's ethics, it is clear that whatever his views on the races are, they must be trumped by the claims of his ethics, as they incorporate teleological principles based on the needs of practical reason. . . ."

45. *Ibid.*, 100.

46. *Ibid.*, 100–101.

47. *Ibid.*, 125.

48. Larrimore, who unlike Eze, recognizes the influence of Buffon upon Kant's thinking, which he finds already present in the 1755 *Universal Natural History and Theory of the Heavens* (*Allgemeine Naturgeschichte und Theorie des Himmels*), even suggests that Kant's acceptance of the natural "waste" represented by the production of races that were to be eventually "wiped out" (*ausgerotten*) was not part of a providential plan for human history, but simply a part of natural history. See the subsection of "Sublime Waste" titled "Waste" (118–20), which begins: "Could Kant have conceived of the (non-white) races as an unsalvageable waste, a mistake, meaningless in the grand teleological scheme of things? I think so. . . ."

49. *Ibid.*, 125.

50. See, e.g., for a classic defense of Kant that well demonstrates how little attention was previously given in mainstream Kant scholarship to the issues raised by recent critics such as Eze, Serequeberhan, Larrimore, and Bernasconi, Rudolf Malter, "Der Rassenbegriff in Kants Anthropologie" [The concept of race in Kant's anthropology], in *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde (1750–1850)*, ed. Gunter Mann and Franz Dumont, 113–122 (Stuttgart: G. Fischer Verlag, 1990).

51. See nn. 15 and 11 above for the complete references.

52. In Isaiah Berlin, *The Sense of Reality*, ed. Henry Hardy (New York: Farrar, Straus and Giroux, 1997), 232–48.

53. "Kant as an Unfamiliar Source of Racism," 145.

54. *Ibid.*, 145.

55. *Ibid.*, 149.

56. *Ibid.*, 147. Berlin-like, Bernasconi even goes so far in the note appended to this statement, in which he references a National Socialist source that makes use of Kant's essays on race, to stress that "the fact that National Socialists made use of Kant does not, of course, show that they did so legitimately" (*ibid.*, 164n10).

57. *Ibid.*, 147.

58. *Ibid.*, 149.

59. Specifically, Larrimore acknowledges that he "learned much" from Bernasconi, whom he credits for presenting a version of this article in lecture form at the New School for Social Research, New York, on 17 April 1998 ("Sublime Waste," 110n22).

60. "Kant as an Unfamiliar Source of Racism," 149.

61. The tentative, programmatic, and inconclusive—but informative—character of Bernasconi's presentation of Kant's views on chattel slavery is also evident from the concluding sentences of this section of the article: "Although it is extremely speculative, it is perhaps possible that, rather than denying that there are slaves, Kant understood such slaves as there are to be slaves by nature and so not human in the full sense. Did Kant's failure to repudiate the chattel slavery of Africans, even though his ethical principles seem from our point of view clearly to exclude it, arise from a lack of specific concern for this issue or because he did not regard them as fully human in the sense that they did not possess all the talents and dispositions?"

Kant was in full possession of the arguments to reject slavery, but one is left with the impression that the enslavement of Africans had Kant's attention when he was writing on anthropology, but not when he was writing on ethics." Pauline Kleingeld, however, in her contribution to this discussion, seriously challenges Bernasconi's entire account of Kant's view on chattel slavery, including the specific claims that "Kant was 'silent on the slave trade in Africans' and 'failed to speak out against chattel slavery,' and that he is 'aware of no direct statement by Kant calling for the abolition of either African slavery or the slave trade, even if only in principle'" ("Kant's Second Thoughts on Race," 587). See also her detailed response, with textual citations, to Bernasconi's suggestion that although "the basis" for attacking chattel slavery can be found in the *Metaphysics of Morals*, Kant never actually explicitly condemns the practice either in this text or anywhere else (ibid., 588n31). Cf. Robert Bernasconi, "Will the Real Kant Please Stand Up? The Challenge of Enlightenment Racism to the Study of the History of Philosophy," *Radical Philosophy* 117 (January/February 2003): 13–22, in which Bernasconi focuses primarily on "the failure of both Locke and Kant to oppose the African slave trade . . . not out of a refusal to engage in tabloid philosophy, but [due to] both a moral and philosophical shortcoming" (ibid., 13).

62. "Kant as an Unfamiliar Source of Racism," 149.

63. "However, rather than exploring this historical thesis . . ." (ibid.).

64. Ibid., 154.

65. Ibid., 149.

66. Ibid.

67. Ibid., 146–47.

68. Ibid., 162.

69. See, e.g., the introductory comments included in the volume coedited by Bernasconi with my previously published (but significantly revised for inclusion in the present volume) translation of the 1777 version of Kant's "Of the Different Human Races," which conclude: "The importance to Kant of the concept of race is reflected in the fact that he defended it in two further essays, in 1785 and 178[8]. The second of these, 'Of the Use of Teleological Principles in Philosophy,' prepares for the second part of the *Critique of Judgment*, thereby suggesting a possible link between Kant's writings on race and his critical project . . . currently being debated by scholars" (*Idea of Race*, 8). Further, in "Who Invented the Concept of Race," Bernasconi notes "[t]hat Kant's three essays on race are an important source for understanding the genesis of the *Critique of Judgment* has been recognized by a number of Kant scholars" (27), and he also advances this claim in an endnote (35n84). But what Bernasconi believes to be the specific logical point of connection between the race essays and the third critique, i.e., the precise way in which Kant's claims about race connect with "core" beliefs in the critical philosophy, remains unclear. Louden astutely suggests—with reference to the two citations noted above—that for Bernasconi the connection is surely to be found in what Kant calls "the principle of the teleological judging of nature in general as a system of ends" presented in the *Critique of Judgment*" (AA 5:377) ("Comments," 17). Bernasconi, however, has not yet addressed this issue squarely, and he seems instead content with citing, without further, detailed discussion, the work of German sources whom he credits with having made this connection, e.g., Theodor Elsenhans, *Kants Rassentheorie und ihre bleibende Bedeutung* [Kant's race

theory and its continuing significance] (Leipzig: Wilhelm Engelman, 1904), 40–52, and with challenging defenders of Kant to make clear to him how they can continue to think that for him race theory was only a minor issue at the periphery of his system of beliefs even when confronted with mounting evidence, which he is more than willing to supply, that Kant's interest in this issue was serious and lifelong.

70. See esp. "Kant as an Unfamiliar Source of Racism," 158: "[Kant's] prejudice [that] '[t]he Negro can be disciplined and cultivated, but is never genuinely civilized' found its way into his essay 'On the Use of Teleological Principles in Philosophy' where . . . he claimed that with the formation of the races further capacity for adaptation was lost. Africans, having adapted to a climate where nature's bounty did not require them to work, were now no longer capable of working except when they were forced to do so by others. [Thus] . . . whatever Kant said in his 'Idea for a Universal History with a Cosmopolitan Purpose' about seeds that through unsociability develop to reveal human purposefulness (AA [8:21–25]), Africans, Native Americans, and Indians would at best remain imitators, dependent on European discipline. One might imagine that race mixing provided a way by which other races might come to share in White perfectability, but there is no reason to suppose that Kant believed that history would bring the races together and break down the biological divisions nature had set up. Indeed, Kant insisted on the separation of the races, not their fusion, just as [he] favored the separation of states over their fusion (cf. AA [8:367])." For further evidence of Kant's belief that nature has properly provided for "the separation of races," see the brief section subtitled "On the Character of Races" in the *Anthropology from a Pragmatic Point of View* (*Anthropologie in pragmatischen Hinsicht*) (trans. Robert Louden [New York: Cambridge University Press, 2006], 223; AA 7:320), the second paragraph of which begins as follows: "Instead of assimilation, which nature intended in the melting together of different races, she has made here a law of exactly the opposite. . . ." Kant's view of this matter in other texts, including "On the Use of Teleological Principles in Philosophy" (AA 8:166–67) is, however, more nuanced: "With respect to varieties, nature seems to prevent the *fusing together* of characters because this is contrary to her goal [*Zweck*], namely, <to preserve> the manifold diversity of characters. As for racial differences, on the other hand nature at least permits, even if she does not encourage this (namely, the fusing together <of characters>), because by this means the creature will be suited for several climates, although <none of those produced by such fusing> are suited for several climates to the degree as was the first transmitted form [*Ausartung*]."

71. *Ibid.*, 159: "Kant wrote enough about race and was sufficiently committed to a defense of the concept of race to have a reasonable expectation that he should have addressed these problems [namely, how the non-White races might come to play an equal part in the cosmopolitan ideal]. Did Kant simply not think sufficiently hard about these issues? Or did he retreat in flight at a possible solution [namely, *pace* Larrimore, the possibility that '(a)ll races will be wiped out . . . except for the white']?"

72. *Ibid.*, 162.

73. *Ibid.*, 161.

74. Kleingeld, "Kant's Second Thoughts on Race," 592.

75. Kleingeld clearly recognizes this issue, too, inasmuch as she—citing important scholarship by Phillip R. Sloan, whose influential work is frequently

referenced below and in the following two sections of this introduction—suggests that Kant's changed views may either have their source in or are reflected by the fact that the notion of preformed germs (*Keime*), which played such an important role in the Kant's race theory in the 1770s and 1780s, seems to have become less important for him by the end of the 1780s. She even suggests, specifically, that “more research on this issue seems necessary. . . .” (*ibid.*, 591n40).

76. See, e.g., in addition to other articles previously noted, “Cosmopolitanism” (coauthored with Eric Brown), *Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, ed. Edward N. Zalta, <http://plato.stanford.edu/archives/fall2008/entries/cosmopolitanism/>; “Kant's Theory of Peace,” in *Cambridge Companion to Kant and Modern Philosophy*, ed. Paul Guyer, 477–504 (New York: Cambridge University Press, 2006); “Kant's Cosmopolitan Patriotism,” *Kant-Studien* 94 (2003): 299–316; “Kant's Cosmopolitan Law: World Citizenship in a Global Order,” *Kantian Review* 2 (1998): 72–90, and, especially, *Fortschritt und Vernunft: Zur Geschichtsphilosophie Kants* [Progress and reason: Kant's philosophy of history] (Würzburg, Germany: Königshausen und Neumann, 1995).

77. Bernasconi, “Who Invented the Concept of Race?” 11.

78. *Ibid.*, 14.

79. *Ibid.*, 19.

80. *Ibid.*, 21.

81. As Bernasconi notes, in defending this claim (*ibid.*): “The fact that the scientific concept of race was developed initially in Germany rather than in Britain or America suggests that it was not specifically the interests of the slaveowners that led to its introduction, but rather, as Kant's essays themselves confirm, an interest in classification and above all the attempt to provide a theoretical defense of monogenesis. . . . Kant's originality in this context arises from the fact that, having adopted Buffon's rule so as to defend monogenesis, he articulated a theory of race that is not to be found in Buffon. . . .”

82. *Ibid.*, 29: “[W]hen Kant [in his 1785 review of Herder's *Ideen zur Philosophie der Geschichte der Menschheit*] referred Herder's hostility to classification based on hereditary colorization to Herder's not yet having ‘clearly determined the concept of a race’ (AA [7:62]), something more was at stake than the conception of seeds. At issue was the conception of scientific investigation that afforded them a status. . . .”

83. *Ibid.*, 26–27. See also Robert Bernasconi, “Kant and Blumenbach's Polyps: A Neglected Chapter in the History of the Concept of Race,” in *The German Invention of Race*, ed. Sara Eigen and Mark Larrimore, 73–90 (Albany, NY: SUNY Press, 2006). For a brief introduction to and an historical overview of the epigenesis-preformationist debate, see Jane Maienschein, “Epigenesis and Preformationism,” *Stanford Encyclopedia of Philosophy (Fall 2006 Edition)*, ed. Edward N. Zalta, <http://plato.stanford.edu/archives/fall2006/entries/epigenesis/>.

84. I have not regularized references to this text, which has traditionally been referred to as the *Critique of Judgment*, or more simply as Kant's “third critique,” but in recent years has been more properly referred to as the *Critique of the Power of Judgment*. The difficulty arises from the fact that Kant's term *Urteilkraft*, which is employed throughout the first and second critique as well, has traditionally been translated simply as “judgment,” the same term that is used to gloss the German

word *Urteil*. For more detailed discussion of the significance of the term *Urteilkraft* in the first two critiques, see Bartuschat, *Zum Systematischen Ort von Kants Kritik der Urteilkraft*, 23–78.

85. Bernasconi, “Who Invented the Concept of Race?” 29.

86. *Ibid.*, 26.

87. *Ibid.*, 27.

88. *Ibid.*, 15: “Kant’s role in establishing the concept of race has been widely recognized by historians of the concept of race. It is only philosophers who have ignored it, until Emmanuel Eze restated the argument for them. Even so, a great deal more work needs to be done, both to establish the context of Kant’s discussion of race with reference to his sources and to clarify the various aspects of Kant’s theory of race that have been treated largely in isolation from one another.”

89. *Ibid.*, 30: “The scientific concept of race underwent many changes after Kant introduced it. . . . But if we acknowledge . . . that our current ways of talking about race are the residue of earlier views, then it is prudent to develop a deeper understanding of the history of race thinking as well as of racial practices.”

90. See also Charles W. Mills, “Kant’s *Untermenschen*,” in *Race and Racism in Modern Philosophy*, ed. Valls, 169–93. I regret that I have not been able to incorporate discussion of Mills’s work, which is philosophically significant, more explicitly into this review of the recent literature, but I became aware of the published version of this article (which represents a further development of points sketched in the “Comments” that Mills presented at the Author Meets Critics session on Eze’s 2001 *Achieving Our Humanity* at the American Philosophical Association’s Central Division Meeting, Chicago, 27 April 2002) too late to do this easily or well. Mills’s sharp statement of the dilemma posed by the controversy between Kant’s critics and his defenders concerning the significance of his race theory, with which I am in perfect agreement, does, however, merit special mention, and cannot be ignored. As Mills writes, “The position that Kant’s defenders have taken is not to deny Kant’s racial views but to deny that they have the philosophical implications claimed by Eze, Bernasconi, and others (such as myself). So either Kant’s racial views do not affect his philosophy at all (the extreme position), or they do not affect it in its *key/central/essential/basic* claims (the more moderate position). The assumption, obviously, is that we have a principled, non-question-begging way to demarcate what is central from what is peripheral to his philosophy, and a similarly principled way of showing how the racial views (and, of course, their implications) fail to penetrate to this inner circle. And the case critics must make is that such a penetration does in fact take place, so that what has been represented as Kant’s philosophy in innumerable journal articles, monographs, and textbooks is, insofar as it is racially neutral, quite misleading” (*ibid.*, 175–76). For a recent response to Mills’ work, with which I am nevertheless also in substantial agreement, see Kleingeld, “Kant’s Second Thoughts on Race,” 582–84.

91. If asked, however, to identify a single article from the past several decades which might best serve as a point of entry into the literature on this undercurrent in recent Kant studies, I would select Phillip R. Sloan’s early, pioneering article on Kant’s relationship to Buffon, “Buffon, German Biology, and the Historical Interpretation of Biological Species,” *British Journal for the History of Science* 12 (1979): 109–53. For book-length studies now commonly viewed as “foundational” for more recent work,

see Timothy Lenoir, *The Strategy of Life: Teleology and Mechanics in Nineteenth-Century German Biology* (Dordrecht: D. Reidel, 1982), and Frank William Peter Dougherty, *Gesammelte Aufsätze zu Themen der klassischen Perioode der Naturgeschichte / Collected Essays on Themes from the Classical Period of Natural History* (Göttingen: Norbert Klatt Verlag, 1996).

92. Phillipe Huneman, ed., *Understanding Purpose: Kant and the Philosophy of Biology* (Rochester, NY: University of Rochester Press, 2007).

93. Justin E. H. Smith, ed., *The Problem of Animal Generation in Early Modern Philosophy* (New York: Cambridge University Press, 2006).

94. See also Robert J. Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago: University of Chicago Press, 2002).

95. Cf. *German Invention of Race*, ed. Sara Eigen and Mark Larrimore, 1–2. My concern with the phrase “German invention of race” is not with its use when confined to the sense in which Robert Bernasconi usually employs it, namely, “by ‘the inventor of the concept of race’ I mean the one who gave the concept sufficient definition for subsequent users to believe that they were addressing something whose scientific status could at least be debated” (Bernasconi, “Who Invented the Concept of Race?” 11), because Bernasconi has made a compelling case for his claim that Kant bears significant responsibility for “inventing” the concept of race in this narrow, technical sense. To focus only on the “German invention” of this concept apart from the broader European and American contexts in which it reemerges and is further developed, especially in the nineteenth century dating from the publication of Joseph-Arthur Gobineau’s *Essai sur l’inégalité des races humaines* [Essay on the inequality of the human races] (Paris: Firmin Didot, 1853–1855), would, however, surely be a mistake, especially if this particular focus distracts us from investigating the “non-German” sources, development, and use of this concept. See, for a classic, critical survey of late nineteenth-century and early twentieth-century “race theories,” including extensive discussion of the influence of Gobineau, Friedrich Otto Hertz, *Rasse und Kultur* (Leipzig: A. Kröner, 1925), trans. by A. S. Levetus and W. Entz as *Race and Civilization* (New York: Macmillian, 1928; repr. New York: Latv Publishing House, 1970).

96. Translations of the 1775 version of “Of the Different Races of Human Beings” and of “Determination of the Concept of a Human Race” (both by Holly Wilson and Günter Zöllner) as well as a translation of “On the Use of Teleological Principles in Philosophy” (by Günter Zöllner) have, however, in the years since my work on these translations began, finally, after many delays, appeared in a volume of The Cambridge Series of the Works of Immanuel Kant in Translation titled *Anthropology, History, and Education*, ed. Robert B. Loudon and Günter Zöllner (Cambridge: Cambridge University Press, 2007); I have nevertheless deliberately not consulted these translations in completing my own. My translations of two of the Kant texts included in this volume have also previously appeared in print. A translation of the published, 1777 version of “Of the Different Human Races” was included in *Idea of Race*, ed. Bernasconi and Lott, 3–26, and a translation of “On the Use of Teleological Principles in Philosophy” appeared in *Race*, ed. Bernasconi, 37–56. These translations have, however, been corrected and revised significantly for inclusion in this volume.

97. See, e.g., Philippe Huneman, “Reflexive Judgment and Wolffian Embryology,” in *Understanding Purpose*, 84.

98. For an extensive list of issues at play in some current discussions of Kant's philosophy of biology, see Huneman's introductory essay, "Kant and Biology? A Quick Survey," to *Understanding Purpose*, 1–36.

99. The three texts are: S. T. Sömmerring, *Über die körperlicher Verschiedenheiten des Negers von Europäer* [On the bodily differences between Negroes and Europeans], 2nd ed. (Frankfurt and Mainz: Barrentrapp Sohn und Wenner, 1785; repr. in *Concepts of Race in the Eighteenth Century*, vol. 7, ed. Robert Bernasconi (Bristol, UK: Thoemmes Press, 2001); J. F. Blumenbach, *Über den Bildungstrieb* [On the formative drive], 3rd ed. (Göttingen: Johann Christian Dieterich, 1791); and C. F. Kielmeyer, *Über die Verhältnisse der organischen Kräfte unter einander in der Reihe der verschiedenen Organisationen, die Geseze und Folgen dieser Verhältnisse* [On the relations among the organic powers in the series of different organized systems: The laws and consequences of these relations] (Stuttgart: Mit akademischen Schriften, 1793; repr. Marburg an der Lahn: Basilisken-Press, 1993).

100. The reason why it is not clear to what extent such research might have an impact on or even be of interest to scholars concerned with the fate of liberal internationalism is that there are already so many other issues of more pressing significance for them to focus on that concern with the historical record of Kant's views on race might seem nothing more than a distraction. Franceschet thus makes no reference whatsoever to this problem in *Kant and Liberal Internationalism*, and chooses to focus instead on the issues broadly identified by his subtitle, *Sovereignty, Justice, and Global Reform*. Kant's views on race and their significance for our understanding of his cosmopolitanism are, however, clearly at issue, if only implicitly, in the work of other scholars, such as Todd Hedrick, "Race, Difference, and Anthropology in Kant's Cosmopolitanism," *Journal of the History of Philosophy* 46 (2008): 245–68, Thomas McCarthy, "On Reconciling Cosmopolitan Unity and National Diversity," *Public Culture* 11 (1999): 175–208; and Eşref Aksu, "'Perpetual Peace': A Project of Europeans for Europeans?" *Peace & Change* 33 (2008): 368–87, who concludes his analysis of "representative eighteenth-century perpetual peace projects" by saying that "Kant's [*Perpetual Peace*] stands out within the . . . tradition, not only because it rests on a systematic philosophy and is better grounded than all of the other proposals but also because its institutional scope and normative target remains unparalleled. None of the other proposals . . . takes the wider world into account sufficiently . . ." (ibid., 383–84). See also, for a more recent, significant contribution to this literature, Thomas McCarthy, *Race, Empire, and the Idea of Human Development* (New York: Cambridge University Press, 2009).

101. See, e.g., Kuehn, "Silent Years (1770–1780)," in *Kant: A Biography*, 188–237.

102. The version of this text included in the second volume of the standard edition of Kant's works, the Akademie edition (see n. 1 above), is famously garbled and unreliable because it does not clearly distinguish between the 1775 and 1777 versions of the text. I have, therefore, in preparing translations of both versions, relied primarily on the properly annotated scholarly version of the text available in Immanuel Kant, *Werke*, vol. 6: *Schriften zur Anthropologie, Geschichtsphilosophie, Politik und Pädagogik*, ed. Wilhelm Weischedel (Frankfurt am Main: Insel Verlag, 1964), 7–30, as well as the photomechanical reproduction of the original texts available in *Concepts of Race*, vol. 3, ed. Bernasconi.

103. The text of this article, which first appeared in *Berlinische Monatsschrift* 6 (1785), 390–417, is available in the Akademie edition (AA 8:89–106), in *Concepts of Race*, vol. 3, ed. Bernasconi, and online by searching the digitalized collection of Enlightenment periodicals, *Zeitschriften der Aufklärung*, presently maintained by the Universitätsbibliothek Bielefeld, www.ub.uni-bielefeld.de/diglib/aufklaerung/. I have, however, for my translation relied primarily on the version of the text included in Immanuel Kant, *Werke*, vol. 3: *Schriften zur Ästhetik und Naturphilosophie*, ed. Manfred Frank and Véronique Zanetti (Frankfurt am Main: Deutscher Klassiker Verlag, 1996), 339–56, and the photomechanical reproduction included in *Concepts of Race*, vol. 3, ed. Bernasconi.

104. The text of this article, which first appeared in *Teutscher Merkur* (January 1788): 36–52, and February 1788, 107–36, is available in the Akademie edition (AA 8:157–84), in *Concepts of Race*, vol. 3, ed. Bernasconi, and online by searching the digitalized collection of Enlightenment periodicals presently maintained by the Universitätsbibliothek Bielefeld, www.ub.uni-bielefeld.de/diglib/aufklaerung/. I have, however, for my translation relied primarily on the version of the text included in Immanuel Kant, *Werke*, vol. 3: *Schriften zur Ästhetik und Naturphilosophie*, ed. Frank and Zanetti, 381–414, and the photomechanical reproduction included in *Concepts of Race*, vol. 3, ed. Bernasconi.

105. For the benefit of readers not familiar with the publication dates of Kant's major and minor works and the many articles he published that are of possible significance for understanding the development of his thought and to familiarize readers with publications by Kant's contemporaries that may also be of significance for understanding Kant's interests in the fields he generally categorizes as part of natural history, I have included in this volume a Chronology (see above, 233–297) initially adopted from F. W. P. Dougherty's *Gesammelte Aufsätze*, 38–43; see also the pages of the Manchester University website maintained by Steve Naragon headed "Kant's Writings" and "Kant's Life," www.manchester.edu/kant/Home/index.htm.

106. See esp. Zammito, "Policing Polygeneticism," in *German Invention of Race*, ed. Eigen and Larrimore, 35–54.

107. See Richard Hartshorne, *The Nature of Geography* (Lancaster, PA: The Association of American Geographers, 1939), esp. 35–48; J. A. May, *Kant's Concept of Geography and Its Relation to Recent Geographical Thought* (Toronto, Canada: University of Toronto Press, 1970); Tim Unwin, *The Place of Geography* (Essex, Harlow, England: Addison Wesley Longman, Ltd., 1992), esp. 70–75; and Christian Amodeo, "Late Great Geographers #53: Immanuel Kant," *Geographical* 77 (March 2005): 9. For more recent, significant reassessments of Kant's contribution to the development of modern geography, see David Harvey, "Cosmopolitanism and the Banality of Geographical Evils," *Public Culture* 12 (2000): 529–64, and the contributions by Harvey and others in Stuart Elden and Eduardo Mendieta, eds., *Reading Kant's Geography* (Albany, NY: SUNY Press, 2011).

108. See, e.g., François-Marie Voltaire, "Of the Different Races of Men," in *Idea of Race*, ed. Bernasconi and Lott, 5–7. For discussion of the cautionary point, namely, that the eighteenth-century theory of "polygenesis did not necessarily imply racist" insofar as "polygenesis was a theory about the origin of the human species, and not

a theory of racial hierarchy," see T. Carlos Jacques, "From Savages and Barbarians to Primitives: Africa, Social Typologies, and History in Eighteenth-Century French Philosophy," *History and Theory* 36 (1997): 205n90.

109. Trans. John Goldthwait (Berkeley: University of California Press, 1960). See, for more detailed discussion of the place of the *Observations* in Kant's development, Zammito, *Kant, Herder, and the Birth of Anthropology*, esp. 104–120.

110. Zammito, *Kant, Herder, and the Birth of Anthropology*, 303.

111. See Klaus P. Fischer, "John Locke in the German Enlightenment: An Interpretation," *Journal of the History of Ideas* 36 (1975): 436–37: "For approximately two decades (1755–75) a group of men, generally referred to as Popular Philosophers (*Popularphilosophen*), embraced distinctly empirical modes of thought. . . . Their ideal, perhaps best expressed in Johann Jacob Engel's work *Der Philosoph für die Welt*, was the gentleman scholar who wrote philosophy during his 'idle and heavy hours'. . . . It was a naive and, at times, trivial credo which the Popular Philosophers taught."

112. Karl Ameriks aptly refers to this once prominent tradition of Kant scholarship as characteristic of "the first wave of Kant scholars," heralded by the work of Herman Cohen in Germany and extended to the English-speaking world by figures such as Norman Kemp Smith and H. J. Paton (*Interpreting Kant's Critiques* [Oxford: Clarendon Press, 2003], 1). As described by Ameriks, "first wave" scholarship emphasized "extensive synoptic treatments," published sequentially, on each of Kant's three critiques, following the pattern established by Cohen, whose first book, *Kants Theorie der Erfahrung* [Kant's theory of experience], in which Cohen developed the thesis that in writing the first critique Kant had discovered a new theory of experience (Berlin, 1871; 2nd ed., 1885; 3rd ed., 1918), was followed by similarly apologetic treatments of Kant's second and third critiques, *Kants Begründung der Ethik* [Kant's establishment of ethics] (Berlin; 2nd ed., 1910; 3rd ed., 2001) and *Kants Begründung der Ästhetik* [Kant's establishment of aesthetics] (Berlin, 1889), as well as, among many other volumes, three works in which he presented the positive doctrines resulting from the investigations of each of the three critiques, *Logik der reinen Erkenntnis* [Logic of pure cognition] (Berlin, 1902, 2nd ed., 1914, 3rd ed., 1922), *Ethik der reinen Willens* [Ethics of the pure will] (Berlin, 1905, 2nd ed., 1907; 3rd ed., 1921; 4th ed., 1922; 5th ed., 1981), and *Ästhetik des reinen Gefühls* [Aesthetics of pure feeling] (Berlin, 1921; 2nd ed., 1920; 3rd ed., 1982. For more detailed discussion of German Neokantianism, see Hans-Ludwig Ollig, *Der Neukantianismus* (Stuttgart: Metzler, 1979).

113. I draw again in these comments on my preference (see n. 1 above) for what in the German literature has been called the "systematic," "developmental-historical" (*entwicklungsgeschichtliche*), or "metaphysical" methods of interpretation in contrast to the "analytical" approach to the study of the critical philosophy. See, for more detailed discussion of this distinction, Volker Gerhardt and Friedrich Kaulbach, *Kant, Erträge der Forschung*, vol. 105 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1979), esp. 3–46.

114. Immanuel Kant, *Foundations of the Metaphysics of Morals*, 2nd ed., trans. Lewis White Beck (New York: Macmillan, 1990), 11; AA 4:395.

115. For a classic statement of this conflict between moral reason and natural purpose, see H. J. Paton's translation and commentary, *The Moral Law: Kant's*

Groundwork of the Metaphysics of Morals (New York: Barnes & Noble, 1967), 18: "If the function of reason in action were merely to attain happiness, this is a purpose for which instinct would have been a very much better guide. Hence if we assume that reason, like other organs, must be well adapted to its purpose, its purpose cannot be merely to produce a will which is good as a means to happiness. . . ." Also worth noting is the fact that, following Paton, many commentators simply do their best to dismiss entirely Kant's use of the terms *purposive* (*zweckmäßig*) and *purpose* (*Zweck*) in this passage, e.g., Brendan E. A. Liddell, in his translation and commentary, *Kant on the Foundations of Morality: A Modern Version of the Grundlegung* (Bloomington, IN: Indiana University Press, 1970), 47: "The first thing we notice in this argument is Kant's axiomatic belief in the purposive plan of nature. He curiously abandons his critical approach in stating this axiom, for it is a proposition about the entire universe throughout time and Kant has argued that we cannot have knowledge of such matters. But this is secondary, since the axiom itself is certainly questionable. . . ."

116. See, for a significant recent attempt to explore this thesis systematically, Christoph Horn, "Kant on Ends in Nature and in Human Agency: The Teleological Argument (GMS 394–396)," in *Groundwork of the Metaphysics of Morals*, ed. Christoph Horn and Dieter Schönecker with Corinna Mieth (Berlin: Walter de Gruyter, 2006), 45–71.

117. As suggested by the way in which I have described Kant's concern with "purposiveness" (*Zweckmäßigkeit*) in these works, this general concern remains far more constant than the specific details about the ways in which Kant describes and conceives the four races he identifies. The differences in these accounts, as found in particular in the 1775 and 1777 articles, are cataloged by both Larrimore, "Sublime Waste," in *Civilization and Oppression*, ed. Wilson, 104–5, and Zammito, "Policing Polygeneticism," in *German Invention of Race*, ed. Eigen and Larrimore, 42–43 and 51–52n41.

118. See above n. 12.

119. The classic statement of Kant's view of what properly constitutes a science is given in the "Preface" to the 1786 *Metaphysical Foundations of Natural Science*, 4; AA 4:468: "Only that whose certainty is apodeictic can be called science proper [*eigentliche Wissenschaft*]; cognition that can contain merely empirical certainty is only improperly called science." See also n. 7 above. For contrasting, extended but general presentations of the tension between "mechanistic" and "teleological" explanations in the development of Kant's philosophy of science, see J. D. McFarland, *Kant's Concept of Teleology* (Edinburgh, UK: Edinburgh University Press, 1970), and Peter McLaughlin, *Kant's Critique of Teleology in Biological Explanation* (Lewiston, NY: Edward Mellen Press, 1990).

120. Phillip R. Sloan, "Kant on the History of Nature: The Ambiguous Heritage of the Critical Philosophy for Natural History," *Studies in History and Philosophy of Biological and Biomedical Sciences* 37C:4 (2006): 637.

121. *Ibid.*

122. The omission of any text by Herder in this volume is significant, but hopefully excusable on the grounds that numerous, reasonably reliable translations of his works are already available, e.g., *On World History*, ed. H. Adler and E. Menze (Armonk, NY: Sharpe, 1997). Kant's relationship to Herder is also discussed

extensively in Zammito, *Kant, Herder, and the Birth of Anthropology*. I am, on the other hand, not aware of any translation of Meiners' *Outlines (Grundriß)*, and although Meiners was certainly a prolific, major figure of German philosophy in the last two decades of the eighteenth century (who, together with Johann Georg Heinrich Feder, founded and edited, from 1788 to 1791, the important anti-Kantian journal, the *Philosophische Bibliothek*), the only work of his to be published in English translation is his four volume *Geschichte des weiblichen Geschlechts* (Hanover: Helwingsche Hofbuchhandlung, 1788–1800), which appeared as *History of the Female Sex*, trans. Frederic Shoberl (London: printed for Henry Colburen, 1808).

123. See, for more detailed discussion of this issue, Sloan, "Buffon, German Biology, and the Historical Interpretation of Biological Species," esp. 112–30, and Grene and Depew, *Philosophy of Biology*, 66–82.

124. The use of the term *a priori* in statements such as this should, however, as previously discussed at some length (see n. 27 above), not be misunderstood. By *a priori*, in this context, Kant means no more than we would were we to say that without a theoretical framework we cannot even identify the relevant data that is needed to test an empirical hypothesis. From this perspective we can then easily understand why Kant might have said that the concept of race is not derived from nature. We, however, have generally come to doubt seriously the usefulness of this concept for research in the biological sciences, while Kant himself apparently never did (as his critics continue to emphasize). Nevertheless, as Pauline Kleingeld suggests (see n. 75 above), determining the proper use of the concept of race does seem to have become for Kant a matter of less and less concern during the period in which he becomes more focused on the development of his moral and political philosophy, that is, his metaphysics of morals, in the 1790s.

125. For general discussion of issues in recent biological research that arguably extends the eighteenth-century debates between the supporters of Linnaeus' approach to classification and those favoring Buffon's approach, including Kant, see Brent D. Mishler and Robert Brandon, "Individuality, Pluralism, and the Phylogenetic Species Concept," and Kevin de Queiroz and Michael J. Donoghue, "Phylogenetic Systematics and the Species Problem," both in *Philosophy of Biology*, ed. Hull and Ruse, 300–318 and 319–47. Significant in consideration of the framework employed in the recent debate is perhaps the fact that in the absence of both a notion of fixed species, which prevailed in the eighteenth-century debate prior to the widespread acceptance of Darwin's theory of natural selection in some form or other, and the discredited notion of race, the contested *a priori* concept has in recent years become the notion of species itself, as indicated by the following passage from the concluding paragraph of the second article cited above: "In considering these consequences, a given reader may see some as insurmountable difficulties and others as simple facts of life. However, which consequences are viewed as problems and which one as facts will differ, depending on one's point of view. This is the species problem. Given this state of affairs, we can imagine several possible fates for the term 'species.' One possibility is that it may become restricted to one of the classes of real biological entities, such as those resulting from interbreeding or those resulting from common descent. . . . Alternatively, 'species' may continue to be used as a general term referring to an assemblage of several classes sharing nothing more than having

been conflated historically. [But] realistically, the use of the term 'species' will be determined as much by historical and sociological factors as by logic and biological considerations . . ." (ibid., 343–44).

126. See, for a brief statement of the current scientific view, Appiah, "The Uncompleted Argument," in *Idea of Race*, ed. Bernasconi and Lott, 129–30; for more detailed and technical—but still brief—presentations, see Joseph L. Graves, Jr., *The Emperor's New Clothes: Biological Theories of Race at the Millennium* (New Brunswick, NJ: Rutgers University Press, 2001), 201–206, Daniel G. Blackburn, "Why Race Is Not a Biological Concept," in *Race and Racism in Theory and Practice*, ed., Lang, 3–26, and Massimo Pigliucci and Jonathan Kaplan, "On the Concept of Biological Race and Its Applicability to Humans," *Philosophy of Science* 70 (2003): 1161–72. For historical perspective, see Ashley Montagu, "The Concept of Race in the Human Species in the Light of Genetics," in *Idea of Race*, 100–107. See also Paul Farber, who, with reference to the work of both Montagu and the American anthropologist Franz Boas (1858–1942), in an article entitled "Changes in Scientific Opinion on Race Mixing: The Impact of the Modern Synthesis" (in *Race and Science: Scientific Challenges to Racism in Modern America*, ed. Paul Farber and Hamilton Cravens, 130–151 [Corvallis: Oregon State University Press, 2009]), reminds us that while it is "legitimate [for historians to] censure . . . life scientists for their support before the 1940s of dubious eugenic ideas regarding race and race mixing . . . [,] in telling that story [namely, that the 'scientific racism' of the late nineteenth and early twentieth centuries is a shameful blot on the integrity of the life sciences], we need to be mindful that science [namely, the evolutionary biology associated with the Modern Synthesis] was part of the solution" (ibid., 146).

127. Arthur O. Lovejoy famously argued in a two-part article entitled "Kant and Evolution," first published in *Popular Science Monthly* 77 and 78 (1910: 538–53 and 1911: 36–51), that nineteenth-century German scholars such as Fritz Schultze (*Kant und Darwin: Ein Beitrag zur Geschichte der Entwicklungslehre* [Kant and Darwin: A contribution to the history of the theory of evolution] [Jena, Germany: H. Dufft, 1875]) were mistaken in giving any credit to Kant as a precursor to Darwin, first, because Kant clearly adhered to the scholastic doctrine of fixed species and, second, because in Lovejoy's view, Kant's early adherence to preformationism rendered him incapable of imaging the development of any traits not implanted originally in the *Keime* ("germs") or *Anlagen* ("endowments," or "predispositions") of the human species (see below for more detailed discussion of these two terms, their significance, and the difficulties they pose for translation). Lovejoy wrote, however, prior to the development in the 1930s of Neo-Darwinian Theory, or what is also referred to (as in the previous note) as the Modern Synthesis, because of its success in integrating and further developing Darwin's theory of evolution by natural selection with Gregor Mendel's theory of genetics as the basis of biological inheritance. If, therefore, there has been a greater willingness in recent years to reexamine the thesis that Kant's views may in some sense "anticipate" Darwin, it is not because Lovejoy was wrong in emphasizing the points that he did in his criticism of Schultze, but because he does not emphasize in his account of Kant's views that aspect of them which others might now regard as roughly parallel to the central tenets of twentieth-century Neo-Darwinism, namely: (1) that evolution takes place because changes in the environment exert a selection pressure on the individuals

within a population; (2) that those individuals within this population that happen to adapt to the new environment are more likely to survive, have offspring, and thus pass on these favorable characteristics to their offspring; and (3) that the genetic changes which take place over time within the population as a consequence of this process will result in the formation of a new species. Kant, of course, was only interested in the historical formation of what he regarded as the “four base races” and not new species, and he was indeed of the opinion—as Lovejoy would emphasize could he join the conversation—that none of the seemingly new or different characteristics found in the different “races” was anything more than the “expression” of epigenetically-realizable potentialities present in the *Keime* and *Anlagen* of the *Stammgattung* (“lineal stem species,” or “stock”). See, however, for a far more sympathetic, late nineteenth-century appraisal of parallels between Kant’s theory and Darwin’s theory of natural selection in which it is argued that Kant’s views on evolution are much closer to those of Darwin than those of Herbert Spencer, Paul Carus, “Kant and Evolution,” *The Open Court*, no. 158 (n.d.), repr. in “Kant and Spencer: Reprinted Articles Relative to Mr. Spencer’s Estimate of Kant,” 33–53, *The Monist* 2 (1892): Appendix 1–53.

128. By “inference to the best explanation,” I mean of course only a scientific theory that has credibility based upon the theoretical framework and data available, but not one that has achieved the scientific status demanded by a rigorous Kantian or positivistic philosophy of science.

129. For representative recent research on this issue, see Gregory S. Barsh, “What Controls Variation in Human Skin Color?” *PloS Biology* 1(1): e27 (13 October 2003), www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.0000027, and Rebecca L. Lamason, et al, “SLC24A5, a Putative Cation Exchanger, Affects Pigmentation in Zebrafish and Humans,” *Science* 310:5755 (2005): 1782–86, and, for a brief description of the significance of the *Science* article, Rick Weiss, “Scientists Find a DNA Change that Accounts for White Skin,” *Washington Post*, 16 December 2005, available online at www.washingtonpost.com/wp-dyn/content/article/2005/12/15/AR2005121501728.html.

130. Mark Larrimore, however, has presented a compelling case for the view that Kant’s theory did nevertheless establish a framework that others could “fill in” with the details needed to support such claims, namely, that physical characteristics (*Charakter*) do determine moral character, and that Kant was likely suspect to such views himself, especially when writing from the perspective of a physical anthropologist and not from that of his fully developed moral theory. See Larrimore’s “Substitutes for Wisdom: Kant’s Practical Thought and the Tradition of the Temperaments,” *Journal of the History of Philosophy* 39 (2001): 259–88, and “Race, Freedom and the Fall in Steffens and Kant,” in *German Invention of Race*, ed. Eigen and Larrimore, 91–120.

131. For brief presentations of the leading theories of race of both the eighteenth and nineteenth centuries, see Graves, “Pre-Darwinian Theories of Biology and Race,” in Graves, *Emperor’s New Clothes*, 37–51.

132. For a recent comprehensive assessment of Zimmermann’s work and influence, see Petra Feuerstein-Herz, “Eberhard August Wilhelm von Zimmermann (1743–1815) und die Tiergeographie” (PhD. diss., Technische Universität Carolo-Wilhelmina zu Braunschweig, 2004), www.digibib.tu-bs.de/?docid=00001647.

133. Cf. Kleingeld, "Kant's Second Thoughts on Race," 578n13: "Zimmermann's disagreements with Kant did not so much touch on the concept of race as such, but rather seem to have been limited to explanation and interpretations of specific purportedly racial properties, e.g., as to whether Native American men were naturally beardless or pulled their beards out, and as to whether the short stature of certain Nordic peoples was caused by the arctic cold or by other external influences."

134. *Ibid.*, 577–78n13.

135. "Review of Herder's *Ideas for a Philosophy of the History of Mankind*," trans. Robert E. Anchor, in Immanuel Kant, *On History*, ed. Lewis White Beck, 27–52 (AA 8:43–66) (Indianapolis, IN: Bobbs-Merrill, 1963).

136. See, e.g., Manfred Riedel, "Historizismus und Kritizismus. Kants Streit mit G. Forster und J. G. Herder," *Kant-Studien* 72 (1981): 41–57. See also Kleingeld, "Kant's Second Thoughts on Race," 577.

137. See, e.g., Zammito, *Kant, Herder, and the Birth of Anthropology*.

138. Michael Ruse, in an otherwise all too sketchy reassessment of Kant's possible formative influence on the development of the Darwinian theory of natural selections, makes the point well, I believe, when he suggests that "Like Moses, [Kant] was never to enter the promised land—Israel for one, evolution for the other—but he did lead us to the borders" ("Kant and Evolution," in *The Problem of Animal Generation in Early Modern Philosophy*, ed. Smith, 415).

139. The final paragraph of the brief selection from Herder's *Reflections* included in *Idea of Race*, ed. Bernasconi and Lott, 26, serves well to summarize both what is admirable and what is lacking in his view (German words in brackets added for emphasis): "Finally, I would not like the distinctions that have been interjected into humankind out of the laudable zeal for a comprehensive science, to be extended beyond their legitimate boundaries. Some have for example ventured to call four or five divisions among humans, which were originally constructed according to regions or even according to colors, *races*; I see no reason for this name. Race derives from a difference in ancestry that either does not occur here or that includes the most diverse races within each of these regions in each of these colors. For each people [*Volk*] is a people: it has its national culture [*Nationalbildung*] and its language; the zone in which each of them is placed has sometimes put its stamp, sometimes only a thin veil, on each of them, but it has not destroyed the original ancestral core construction [*Stammgebilde*] of the nation. This extends itself even into families, and the transitions are as malleable as they are imperceptible. In short, there are neither four nor five races, nor are there exclusive varieties on earth. The colors run into one another; the cultures serve the genetic character [*die Bildungen dienen dem genetischen Charakter*]; and overall and in the end everything is only a shade of one and the same great portrait that extends across all the spaces and times of the earth. It belongs less to the systematic history of nature than to the physical-geographic history of humanity." Specifically, while we can surely praise Herder for anticipating in this passage the now prominent view that skin color is not a determinative characteristic that can be used to distinguish different races, he seems to have come to this conclusion more as a matter of poetic inspiration than as the result of any investigations that we might now regard as properly scientific. Further, Herder's use in this passage of the term that he elevates to significance subsequent to his criticism of the then current use of the term *race*, namely, *people* (*Volk*), clearly carries already the "essentialist" cultural and spiritual

significance that becomes characteristic of the forms of racism that develop in the course of the nineteenth century—which were arguably spawned from the “romantic nationalism” of the early decades of that century following the French Revolution.

140. Stated again in the broadest terms possible, the fundamental thesis of Kant's theory is that any attempt to explain the varying physical features of human beings must focus on an account of the interaction between internal, heritable elements, or structures (the “germs-and-endowments theory”), and the external environment rather than on either: (1) an account of the action of the external environment on a passive body with no internal systems devoted to the preservation of the species of which it is a member; or (2) as a purely internal development evolving on its own without reference to the influence of the external environment.

141. *Teutscher Merkur*, October 1786, 57–86, and November 1786, 150–66; repr. in *Concepts of Race*, vol. 3, ed. Bernasconi, and available online by searching the digitized collection of Enlightenment periodicals presently maintained by the Universitätsbibliothek Bielefeld, www.ub.uni-bielefeld.de/diglib/aufklaerung/.

142. See, for an appraisal of Forster from this perspective, Gordon A. Craig, “Engagement and Neutrality in Germany: The Case of Georg Forster, 1754–94,” *Journal of Modern History* 41 (1969): 2–16.

143. For more detailed criticism of Forster, see Riedel, “Historizismus und Kritizismus,” 45–51.

144. For more detailed discussions of the impact of Forster's article on Kant's thinking during this period, see Sloan, “Buffon, German Biology, and the Historical Interpretation of Biological Species,” 131–34, John H. Zammito, *The Genesis of Kant's Critique of Judgment* (Chicago: University of Chicago Press, 1992), 207–211 and 214–11, and Grene and Depew, *Philosophy of Biology*, 124–25.

145. See n. 7 above again for clarification of the all important difference in this context between a “racial project” simpliciter and a *racist* “racial project.”

146. See, e.g., Kant, *Critique of Judgment* § 67: “On the Principle by Which We Teleologically Judge Nature in General as a System of Purposes,” trans. Werner S. Pluhar (Indianapolis, IN: Hackett, 1987), 259; AA 5:379: “It goes without saying that this principle [for judging nature teleologically] holds only for reflective judgment but not for determinative judgment, that it is regulative and not constitutive. It only serves as a guide that allows us to consider natural things in terms of a new law-governed order by referring them to an already given basis (a purpose) as that which determines them. Thus we expand natural science (*Naturkunde*) in terms of a different principle, that of final causes, yet without detracting from the principle of mechanism in the causality of nature. That is all the principle does; it does not in any way allow us to decide whether anything we judge in terms of it is an intentional purpose of nature: whether grass is there for cattle or sheep, and these and all other natural things are there for man . . .” (brackets and German term in parenthesis in the Pluhar translation).

147. See “On the Use of Teleological Principles in Philosophy” (AA 8:181): “Now the concept of an organized being is the concept of a material being possible only through the relation of all that which is contained in it existing reciprocally as end and means (<which is> also how every anatomist, as physiologist, actually—from this concept—begins). A fundamental power by means of which an organization might operate must, therefore, be conceived as an efficient cause in conformity with *purposes* [Zwecken]. To be sure, these purposes <must be conceived> as laying the foundation

for the possibility of the effect. We recognize powers of this kind, however, *according to their determining grounds*, through experience solely *within ourselves*, namely, <through experience> of our understanding and will as a cause of the possibility of certain products set up entirely according to purposes, that is to say, <through our experience> of *works of art* [*Kunstwerke*]. . . .”

148. For a presentation of the problem of the third critique as an investigation of the “technical” employment of reason, see Kant, “First Introduction to the *Critique of the Power of Judgment*,” sec. 10: “On the search for a principle of the technical power of judgment,” in *Critique of the Power of Judgment*, trans. Guyer and Matthews, 37–41, esp. 40; AA 20:240: “A teleological judgment compares the concept of a product of nature as it is with one of what it **ought to be** [*was es sein soll*]. Here the judging of its possibility is grounded in a concept (of the end [*Zwecke*]) that precedes it *a priori*. There is no difficulty in representing the possibility of products of art in such a way. But to think of a product of nature that there is something that it **ought to be** and then to judge whether it really is so already presupposes a principle that could not be drawn from experience (which teaches only what things are).” Cf. Immanuel Kant, *Critique of Judgment*, trans. Pluhar, 429: “A teleological judgment compares . . . what [the product] is with what it is [*meant*] to be . . .” (brackets included in the Pluhar translation).

149. See “On the Use of Teleological Principles,” AA 8:166–174.

150. See Kant, *Critique of Judgment*, trans. Pluhar, 14–15; AA 5:175–76: “Now although these two different domains [nature and freedom] do not restrict each other in their legislation, they do restrict each other incessantly in the effects that their legislation has in the world of sense. Why do these two domains not form *one* domain? This is because the concept of nature does indeed allow us to present [*vorstellen*] its objects in intuition, but as mere appearances rather than as things in themselves, whereas the concept of freedom does indeed allow us to present its object as a thing in itself, but not in intuition: and so neither concept can provide us with theoretical cognition of its object (or even of the thinking subject) as things in themselves, which would be the supersensible. . . . // Hence an immense gulf [*unübersehbare Kluft*] is fixed between the domain of the concept of nature, [as (*als*)] the sensible, and the domain of the concept of freedom, [as (*als*)] the supersensible, so that no transition from the sensible to the supersensible (and hence by means of the theoretical use of reason) is possible, just as if they were two different worlds, the first of which cannot have any influence on the second; and yet the second *is* to actualize in the world of sense the purpose enjoined by its laws. Hence it must be possible to think of nature as being such that the lawfulness in its form will harmonize with at least the possibility of [achieving] the purposes that we are to achieve in nature according to laws of freedom . . .” (brackets around “achieving” included in the Pluhar translation; other English and German words in brackets added after consulting the German text). Cf. *Critique of the Power of Judgment*, trans. Guyer and Matthews, 62–63 (cited in part above, n. 1).

151. *Göttingisches historisches Magazin* 6 (1790): 625–45, available online by searching the digitalized collection of Enlightenment periodicals presently maintained by the Universitätsbibliothek Bielefeld, www.ub.uni-bielefeld.de/diglib/aufklaerung/.

152. This point is underscored in great detail by Zammito in *Kant, Herder, and the Birth of Anthropology*, especially in his description of “the ‘Göttingen Program’”

for anthropology as *schöne Wissenschaft* (beautiful, or fine, science), Meiners' role in the advancement of the "program" (245–53), and Kant's reaction against it, which in his view is central to "Kant's critical turn" in the 1770s (255–307); but it is also well summarized in Zammito's contribution to *German Invention of Race*, ed. Eigen and Larrimore, "Policy Polygeneticism in Germany, 1775," e.g., 38: "[W]hen, in 1772, Christoph Meiners gave a much more explicit formulation of what this *Revision der Philosophie* [that he and his colleague Johann Feder had already proposed for the program in philosophy at the Georg-August University of Göttingen, which had been founded in 1734 by King George II, King of Great Britain and Elector of Hanover, as a 'university of the Enlightenment'] betokened, . . . Kant may well have realized that he could not reconcile his own ambitions as metaphysician with the program of popular philosophy he had initially found congenial. . . . The course of Kant's thinking from 1772 onward not only aimed privately toward the grounding of the critical philosophy, but also aimed publicly toward policing this waywardness of popular philosophy [which would have eliminated metaphysics in favor of empirical psychology]."

153. See Dougherty, "Christoph Meiners und Johann Friedrich Blumenbach im Streit um den Begriff der Menschenrasse," in *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde (1750–1850)*, ed. Gunter Mann and Franz Dumont, 89–111 (Stuttgart, Germany: Gustav Fischer, 1990); repr. in F. W. P. Dougherty, *Gesammelte Aufsätze*, 176–90. Specifically, Dougherty notes (*Gesammelte Aufsätze*, 412n54) that a handwritten marginal reference to Kant's 1785 article, presumably penned by Meiners, appears in the 1785 first edition of Meiners' *Outlines (Grundriß)* available in the Meiners-Nachlaß in Göttingen, and that the reference is explicit in the second edition of the work (p. 60).

154. Cf. Hedrick, "Race, Difference, and Anthropology in Kant's Cosmopolitanism," who, in spite of the fact that he provides an excellent summary of Kant's "germs-and-endowments theory" in an otherwise generally excellent presentation of the problem he is addressing, also twice includes the seemingly inappropriate phrase "in the blood" to characterize Kant's views, e.g., 250: "Kant is unclear about whether the further differences in character among peoples of the same race are due to culture alone, or some further difference 'in the blood.'" (Kant does, however, in the 1798 *Anthropology*, describe "the Spaniard" as having "arose from the mixture of European with Arabian (Moorish) blood" [*Anthropology from a Pragmatic Point of View*, trans. Loudon, 218; AA 7:316.]

155. See, for a representative sampling of significant texts from the past century that well demonstrates this point: M. Campbell Smith, "Translator's Introduction," in *Perpetual Peace: A Philosophical Essay*, by Immanuel Kant, translated with introduction and notes by M. Campbell Smith, 1–105 (New York: Macmillan; London: George Allen & Unwin, 1903; repr. 1915); Wm. A. Dunning, "The Political Theories of the German Idealists. I," *Political Science Quarterly* 28 (1913): 193–206; Frank J. Goodnow, "Former Plans for a League of Nations," *Columbia Law Review* 20 (1920): 51–67; A. C. Armstrong, "Kant's Philosophy of Peace and War," *Journal of Philosophy* 28 (1931): 197–204; [Waldemar Gurian, et al.] "Editorial: Some Reflections on the War," *Review of Politics* 1 (1939): 369–81; John Bourke, "Kant's Doctrine of 'Perpetual Peace,'" *Philosophy* 17 (1942): 324–33; Carl J. Friedrich, "The Ideology of the United Nations Charter and the Philosophy of Peace of Immanuel Kant 1795–1945," *Journal of Politics* 9 (1947): 10–30; Alfred Stern, "Kant and Our Time," *Philosophy and Phenomenological*

Research 16 (1956): 531–39; Kenneth N. Waltz, “Kant, Liberalism, and War,” *American Political Science Review* 56 (1962): 331–40; W. B. Gallie, “Kant’s View of Reason in Politics,” *Philosophy* 54 (1979): 19–33; David A. Long, “Kant’s Pragmatic Horizon,” *American Philosophical Quarterly* 19 (1982): 299–313; Robert H. Jackson, “Quasi-States, Dual Regimes, and Neoclassical Theory: International Jurisprudence and the Third World,” *International Organization* 41 (1987): 519–549; George Modelski, “Is World Politics Evolutionary Learning?” *International Organization* 44 (1990): 1–24; Michael C. Williams, “Reason and Realpolitik: Kant’s ‘Critique of International Politics,’” *Canadian Journal of Political Science* 25 (1992): 99–110; Jens Bartelson, “The Trial of Judgment: A Note on Kant and the Paradoxes of Internationalism,” *International Studies Quarterly* 39 (1995): 255–79; and Lars-Erik Cederman, “Back to Kant: Reinterpreting the Democratic Peace as a Macrohistorical Learning Process,” *American Political Science Review* 95 (2001): 15–31. For representative recent work in German, see Michael Bösch, “Globale Vernunft: Zum Kosmopolitismus des Kantischen Vernunftkritik” [Global reason: Toward the cosmopolitanism of the Kantian critique of reason], *Kant-Studien* 98 (2007): 473–86; for a recent reassessment of German Neokantian readings of Kant’s *Toward Perpetual Peace* during the first two decades of the twentieth century, which challenges a received view that Kant’s influence on philosophical discourse about the war during this period was negligible when compared with that of Fichte, see Peter Hoeres, “Kants Friedensidee in der deutschen Kriegsphilosophie des Ersten Weltkrieges” [Kant’s idea of peace in the German war philosophy of the first world war], *Kant-Studien* 93 (2002): 84–112.

156. Worth noting, in this context, is that even though he is generally a much forgotten figure today, Meiners was appropriately remembered for his virulent racism in German press commentary in response to the “ethnic cleansing” that took place during the Kosovo Conflict of the late 1990s; see, e.g., Jörg Schmidt, “Wurzeln des Wahnes,” *Die Zeit* 18/1999, www.zeit.de/1999/18/199918.meiner.neu_.xml. Significant in this context is that Schmidt correctly, I think, traces the roots of the racist ideology of the past couple centuries back—through well-known figures such as the British-born proto-Nazi Houston Stewart Chamberlain (1855–1927), who acquired German citizenship in 1916, and the Frenchman Joseph-Arthur Gobineau (1816–1882), who is typically credited with being the father of modern racial demography and whose influence on the formation of American racist ideology in the second half of the nineteenth century is undisputed—to Meiners, and *not* to Kant. Further, although it can hardly be denied that Chamberlain does repeatedly praise Kant (as well as Goethe, Nietzsche, Wagner, and many others) in formulating his views on the superiority of the modern German race, the race theory that he sketchily presents in Chapter Four of Division II of his 1899 magnum opus, *Foundations of the Nineteenth Century* (*Die Grundlagen des Neunzehnhunderterts*), trans. John Lees (New York: Howard Fertig, 1968), vol. 1, 258–328, bears no resemblance whatsoever to Kant’s theory; and among his many appeals to the Kantian philosophy for support of his views there are no references to the *Rassenschriften*. For a brief summary of Chamberlain’s view, see Hertz, *Race and Civilization*, 166–72; for a representative late nineteenth- and early twentieth-century German response to Chamberlain’s portrayal of Kant “as the philosopher of Teutonism, as the deepest expressions of the Teutonic spirit,” see Hertz (citing a contemporary German historian of philosophical idealism), 315: “The idea

of praising Kant as the true German philosopher is absurd: Kant was a cosmopolite, he followed the English, was an enthusiast of Rousseau and the French Revolution. Kant's revolutionary sophistry is utterly antagonistic to German locality." See also for an alternative, corroborating discussion of Meiners' significant influence on the development of "scientific racism," Gustav Jahoda, *Images of Savages: Ancient Roots of Modern Prejudice in Western Culture* (London: Routledge, 1999), 65–68.

157. As evidence of Kant's endorsement of Girtanner's work, commentators point to his comments at the beginning of the section subtitled "On the Character of Races" in the 1798 *Anthropology*, in which Kant suggests that he need not develop this topic in this work because "Girtanner has stated so beautifully and carefully in explanation and further development (of my principles)" (*Anthropology from a Pragmatic Point of View*, trans. Loudon, 236; AA 7:320). Sloan, however, suggests that Kant's actual knowledge of Girtanner's work may well have been "indirect" and quite limited, since he seems not to have owned a copy of Girtanner's book ("Buffon, German Biology, and the Historical Interpretation of Biological Species," 152n136), and, in assessing Girtanner's own understanding of the critical philosophy, he concludes that "[i]n several respects . . . Girtanner's programme represents a return to Buffon" and that his "interpretation of Kant was to a large extent, 'pre-critical,' in the sense there were none of the mature Kantian strictures concerning the purely *regulative* character of inquiries into historical and genetic relationships . . ." (*ibid.*, 141).

158. Repr. in *Concepts of Race*, vol. 7, ed. Bernasconi. A reprinted version of the complete text published is also available in the series *Aetas Kantian*, vol. 82 (Brussels: Culture et Civilisation, 1968).

159. See, for representative, recent discussions of the promise—and possible perils—of "race-based" medicine, Priscilla Kehoe, "Race and Medicine: The Black Experience," in *Race and Racism in Theory and Practice*, ed. Lang, 229–41, and Jonathan Kaplan, "When Socially Determined Categories Make Biological Realities: Understanding Black/White Health Disparities in the U.S.," *The Monist* 93 (2010): 261–97.

160. By focusing on issues in the translation of the Kant selections included in this volume, I naturally do not mean to suggest that there are no issues of any significance surrounding the translations of the works of the other authors included. The difficulties in the translation of texts by these other authors are, however, minimal when compared with those of translating the texts by Kant.

161. The one exception to the use of these glosses in the Kant texts occurs in "On the Use of Teleological Principles" in a passage in which Kant also makes technical use of the term *Species*, which results in the use of "species type" instead of simply "species" for *Gattung* (AA 8:163–64).

162. See the description of Linnaeus' method provided by Grene and Depew, *Philosophy of Biology*, 73: "There was more to Linnaeus's method than appeared on the surface. Linnaeus was indeed a passionate classifier, who wanted things sorted out neatly. In this pursuit, he followed the cannons of Scholastic logic. At the same time, he was a devout believer in God's creation. It was the essences of natural kinds as God had made them that he wanted to discover. . . ." Farber, however, who similarly emphasizes the religious dimensions of Linnaeus's investigations ("For Linnaeus the naming and ordering of the products of Creation linked the study of nature with the worship of

God" [*Finding Order in Nature*, 11]), also stresses that Linnaeus himself tended to view the system of classification that he invented as "artificial" and not "natural," but that it was nevertheless the system "that naturalists . . . should use . . . until he developed one that actually conveyed God's plan in nature" (*ibid.*, 9). Farber's brief description of Buffon's project, on the other hand, clearly suggest why his work, beginning in the 1750s, would have appealed to Kant: "Buffon's secular vision of nature provided an attractive alternative to Genesis because, in his natural history, Buffon stressed the historical development of Earth and its products . . . without reference to Scripture or to the direct action of a supernatural power. Instead, Buffon claimed that a basic set of forces, analogous to Newton's concept of gravity, existed and gave rise to animal form and function. These 'internal molding forces,' as Buffon called them, worked on organic molecules, themselves the result of a chemical evolution of Earth, and thereby led to the diversity of life on the planet . . ." (*ibid.*, 19–20).

163. See, e.g., Smith, ed., *The Problem of Animal Generation in Early Modern Philosophy*. Also worth noting, in this context, is that Alexander Crichton's 1792 translation of the 1789 edition of Blumenbach's *Über den Bildungstrieb* [On the formative drive] is given the English title, *An Essay on Generation* (London: printed for T. Cadell; Faulder; Murray; and Creech, Edinburgh, 1792). See also Susan Meld Shell, *The Embodiment of Reason: Kant on Spirit, Generation, and Community* (Chicago: University of Chicago Press, 1996), in which the adoption of the term *generation* is, as suggested by her subtitle, employed unproblematically, as it should be.

164. See, for Kant's reflections on the derivation of all humankind from a single pair, "Determination" (AA 8:162), and the brief and playful—but with serious intentions—article he published the following year, "Conjectural Beginning of Human History" (*Mutmaßlicher Anfang der Menschengeschichte*), in Kant, *On History*, 53–68, esp. 54; AA 8:110.

165. See "Determination" (AA 8:106): "The character of the whites itself is only the development of one of the original endowments that was to be found next to the others in <that first lineal stem stock>." Cf. "Of the Different Human Races (1777)," in which the "lineal stem species" (*Stammgattung*) is identified as "White of more brown-complexioned character" (AA 2:440–41) and the 1775 version of the same text in which Kant openly declares that it is "the <race of> whites" that "might well have had the greatest similarity" with "the first *human lineal stem stock*."

166. Larrimore, in "Sublime Waste" (101–2), only briefly compares Kant's account of the division of humankind into four races following the original, monogenetic origin of a single "lineal stem species" to the way in which the Scottish philosopher Henry Home, Lord Kames (1696–1782), who defended polygenecism by attacking Buffon, describes his belief "in a single creation, followed however by a moment of irreparable division" (which, as Larrimore explains in a footnote [102n7], Kames surmises in his 1774 *Sketches of the History of Man* to have happened after the building of the Tower of Babel). This notion of a "rupture," "break," or "Fall," from an original condition of innocence and purity as a significant and persistent core element of Kant's theory of race is, however, emphasized much more in Larrimore's individual contribution to *German Invention of Race*, "Race, Freedom and the Fall in Steffens and Kant," 91–120; and in his more recent contribution to the literature, "Antinomies of Race: Diversity and Destiny in Kant," *Patterns of Prejudice* 42 (2008): 341–63, he even develops an argument—clearly, in part, in response to Kleingeld's

2007 article, "Kant's Second Thoughts on Race"—in defense of the view that Kant may have believed well into the 1790s that "Whites" are less "raced," i.e., less "fallen," than nonwhites, such that "The question whether Whites were 'raced' in the operative sense would persist until Kant's last references to race in [the *Anthropology* of] 1798" ("Antinomies of Race," 362).

167. The reader should be reminded that Kant did not contemplate the possibility in the *Reflexionen* that "[a]ll races . . . except for the white" would simply "die out" (*aussterben*), but instead that they "will be wiped out" (*werden ausgerottet werden*). As Larrimore, however, also emphasizes in his reflections on the passage, Kant does not leave us with any evidence in his notes as to the means by which this prediction might come to pass, and we can only speculate about what possibilities he might have had in mind: "Perhaps [Larrimore writes ("Sublime Waste," 115)] it is a prediction based on an extension of the widespread belief that the indigenous peoples of America, while able to survive on their own, were fatally weakened as a result of their contact with other races. If so, Kant seems to be anticipating a time when close contact with hardier races forces the collapse of the indigenes of Asia and Africa, too, [a view that] seems incompatible with the claim that human beings are to populate the whole earth, and that this could occur only through the founding of races. . . ."

168. Phillip R. Sloan, "Performing the Categories: Eighteenth-Century Generation Theory and the Biological Roots of Kant's *A Priori*," *Journal of the History of Philosophy* 40 (2002): 229–53.

169. The difference between these two views is further explained by Sloan as follows (*ibid.*, 235–36): "It is important for my argument that we do not confuse the Haller-Bonnet theory of preformed *germes* with the earlier theory of the complete preformation of the embryo in miniature. Neither Haller nor Bonnet endorsed 'individual preformation' in this sense. Their *germe*-preformation was a preformation only of the primordia of the embryo, pre-existing as *germes* that unfolded in time. The relation, proportionality, and structuring of these primordia [thus] required an ordering cause that was not a superadded vital power, but was nonetheless not identical with the *germes* themselves. . . ."

170. *Ibid.*, 232n13.

171. *Ibid.*, 237.

172. *Ibid.*, 237–38. This eighteenth-century sense of natural endowment is also employed by Horn when he summarizes Kant's argument in the *Groundwork* (AA 4:395, ll. 4–7) as follows: "Now, if happiness were the goal for humans we would have to find, according to this principle, some indications for the alleged destination within men's natural *endowment*. In truth, however, there is no sufficient ground to accept the idea that happiness is our natural goal. . . . [For] if the natural goal of men consisted in the pursuit of happiness, then the possession of reason would be a relatively dysfunctional means, since it would have been more appropriate to *endow* humans with stronger instincts . . ." ("Kant on Ends and Human Agency," 46, emphasis added). Horn, however, glosses the term *Anlage* with "natural disposition," and it is perhaps worth noting that the early German translations of the Declaration of Independence rendered the English phrase "endowed by their Creator" with the German words *von ihrem Schöpfer . . . begabt worden* (www.dhm.de/magazine/unabhaengig/doc/de_300d.htm).

173. "Performing the Categories," 240.

174. Ibid., 238. The emphasis that I have given to the notion of “structuring power” in Sloan’s account can also be found in Lenny Moss’s brief explanation of Kant’s use of the terms *Keime* and *Anlagen*—which also draws upon Sloan’s 2002 article, “Performing the Categories” (*What Genes Can’t Do*, 199–200n7): “*Keime* was routinely used as the German translation for the French ‘germs.’ Expressing the preformationist ideas of both Bonnet and Haller, i.e., as preformed parts, it should not be confused with the ‘emboiment’ model of preformed whole miniatures. *Anlagen*, which derives from the German word *legen* meaning ‘to lay out,’ is translated as ‘organizational layout’ or ‘disposition.’ Kant is the first to use the words *Keime* and *Anlagen* together in this technical usage, first in his 1775–1777 discussions of race and then in a passage of A66 of the First Critique of 1781 (Sloan, 200[2]). In these texts the meaning of Kant’s use of *Anlagen* is that of a native structuring capacity or aptitude which brings an epigeneticist sense to the more preformationist connotation of *Keime* (Sloan, 200[2]).”

175. This is, perhaps, also the sense in which the term is frequently used in contemporary scientific discourse when we refer to “genetic endowment” as the sum total of inherited factors that determine potential fitness—although in this context such endowment is also typically connected to the notion of a predisposition, namely, that a certain genetic endowment *predisposes* an individual toward a specific behavior, or, more strictly, with the notion of a *disposition*. See, e.g., Sober, *Philosophy of Biology*, 63: “a dispositional property has an *associated behavior* and a *physical basis*.” The core issue in this discussion, however, as suggested by Moss’s inclusion of the term *disposition* in the passage cited in the previous note, is not ultimately about the choice between the terms *endowment* and *predisposition* (or, in more technical contexts, *disposition*), but whether the term chosen is employed with *preformationist* or *epigenetic* implications.

176. As Sloan notes, “Kant uses *Anlage* in some form seventy-three times in the *Religion* . . . compared to nine uses of *Keim*, and there is a similar predominance of *Anlage* over *Keim* in the *Anthropologie*. Furthermore, the explicit conjunction of *Keim* and *Anlage* that was common in works before 1790 has disappeared from these discussions” (“Performing the Categories,” 251n88).

177. Immanuel Kant, *Religion within the Boundaries of Mere Reason*, trans. George di Giovanni, in *Religion and Rational Theology*, ed. Allen W. Wood and George di Giovanni (Cambridge: Cambridge University Press, 1996), 89.

178. Immanuel Kant, *Religion within the Bounds of Bare Reason*, trans. Werner S. Pluhar (Indianapolis, IN: Hackett, 2009), 50.

Notes to Kant 1775

1. We commonly take the designations *description of nature* and *natural history* <to have> one and the same meaning [*Bedeutung*]. However, it is clear that knowledge of the things of nature as they *now are* will always leave us wishing for knowledge of how they formerly *have been* and by what series of changes they went through to come in every place to their present condition. *Natural history*, which we are presently almost entirely lacking, would teach us about the changes in the earth’s condition [*Erdgestalt*], including the changes that the creations of the earth (plants and animals) have sustained as a result of natural migrations, and about the deviations from the

prototype of the lineal stem species [*Stammgattung*] that have arisen <in consequence of these changes>. <Natural history> would presumably lead us back from the great number of seemingly different kinds to races of just the same species and transform the very detailed scholastic system presently <in use> for the description of nature into a physical system for the understanding.

2. Diseases are, at times, heritable. <For this to occur>, however, no organization is needed. <There needs> instead only to be a ferment of harmful juices that proliferate through infection. <Diseases> are also not necessarily passed on.

3. The *plate formations* are called plains because <their> base, which <is to be found> in the mountains <lying in their> interior <region>, is frequently covered with horizontally lying sand, and they, consequently, have no declivity extending further beyond their bottom [*Bodens*]. Therefore, <these plains> also contain many rivers that dry up in the sand and do not reach the sea, a circumstance that we otherwise find nowhere in the world. A noteworthy statement about the construction of the earth <is> that all sand deserts are high plains (plate formations) and all high plains are sand deserts. They are to be regarded as dry basins, because they are isolated by altitude, and although they, by and large, hold passage for water, they take no river in and allow none out <because> their sand is elevated above the base of the neighboring <plain> or interior mountains. The belt <which stretches> from the Darien border across Mongolia, Lesser Bokhara, Persia, Arabia, Nubia, <and> the Sahara to Cape Blanco is the only <land formation of this kind> that we find on earth and looks rather connected.

Notes to Kant 1777

1. We commonly take the designations *description of nature* and *natural history* to have one and the same meaning [*Sinne*]. However, it is clear that knowledge of the things of nature as they *now are* will always leave us wishing for knowledge of how they formerly *have been* and by what series of changes they went through to come in every place to their present condition. *Natural history*, which we are presently almost entirely lacking, would teach us about the changes in the earth's condition [*Erdgestalt*], including the changes that the creations of the earth (plants and animals) have sustained as a result of natural migrations, and about the deviations from the prototype of the lineal stem species [*Stammgattung*] that have originated <in consequence of these changes>. <Natural history> would presumably lead us back from the great number of seemingly different kinds to races of just the same species and transform the very detailed scholastic system presently <in use> for the description of nature into a physical system for the understanding.

2. Diseases are, at times, heritable. <For this to occur>, however, no organization is needed. <There needs> only to be a ferment of harmful juices that proliferate through infection. <Diseases> are also not necessarily passed on.

3. To cite only one example, red slaves (Americans) are used in Surinam only for domestic work, because they are too weak for fieldwork—for which Negroes are needed. <The difficulty> here is, nevertheless, not due to a lack of coercive measures, but <that> the natives of this part of the world are generally wanting in ability and durability.

4. I had, to be sure, previously read that these <Asian->Indians have the peculiarity of having colder hands when the heat increases and that this could be a fruit of their sobriety and self-control. However, I once had the pleasure of talking with a certain Mr. *Eaton*, an attentive and reasonable, well-traveled man who had served for many years as the Dutch consul and head of their establishments in Basra, etc. He was passing through Königsberg and informed me that, as he was dancing in Surat with the wife of a European consul, he was taken aback when he felt her sweaty and cold hands (the habit of shaking hands is not yet accepted there). Since he expressed his surprise to others, he was told, in response, that this woman's mother had been an <Asian->Indian and that this attribute is heritable in them. <Eaton> also reported, that when the children of *Parsees* are seen together there with the children of <Asian->Indians, the difference in the races is immediately obvious in the white color of the first and the yellow-brown of the second. Similarly, <he said> that the build of <Asian->Indians still possesses the distinguishing feature of this race, <namely>, thighs of a length that exceed the proportion to which we are accustomed.

5. There is also a small line [*Stamm*] of Negroes in the hot southern part of the world that has spread out to neighboring islands, of whom we are almost supposed to believe—because of the mingling with individuals from the <Asian->Indian half-breed—that they are not native to these regions but were instead brought over little by little a long time ago by Malaysians who had close contact with Africa.

Notes to Zimmermann 1778

1. See Part Two [*M. s. den 2ten Theil*].

2. “Quis . . . germaniam peteret? informen terris, asperam coelo, tristem cultu aspecruque” [Who would seek out Germany . . . with its rough, difficult to cultivate land and harsh climat] (Tacitus, *Germania*, chap 2). “in universum . . . filius horrida aut paludibus foeda” [in general . . . gloomy forests or smelly swamps] (*ibid.*, chap. 5).

3. <Herrmann> Conring, *De Germanicorum corporum habitus antiqui ac novi causis <dissertatio* (Helmsted, 1652)>, vol. 5, 229: “Quodfi porro a coelo olim fuit istaec corporum fimilitudo; illa superesset hodie, cum utique non fit mutata a pristimo coeli conditio” [Furthermore, the resemblance of the bodies was at that time due to the climate; that resemblance survives today, since, at any rate, the state of the climate is not changed from the past].

4. Tacitus, <*Germania*>, chap. 23.

5. Pomp<onius> Mela, <“Germania,” in *De situ orbis* (Lugdini Batavorum, 1748)> [*de germ. antiq.*], vol. 3, chap. 3.

6. Tacitus, <*Germania*>, chap. 23.

7. *Ibid.*, chap. 20.

8. *Ibid.*, chaps. 12 and 19.

9. I admit that I will never be persuaded that chastity should be the cause of podagara, gout, and similar diseases, as Pietsch believes.

10. Mela, <“Germania,” in *De situ orbis*> [*de germ. antiq.*], vol. 3, chap. 3.

11. <Julius> Caes<ar>, <*Commentarii de bello gallico*, bk. 1, chap. 39.

12. Tacitus, <*Germania*>, chap 19.

13. Caes<ar>, <*Commentarii*>.

14. Conring, <De Germanicorum corporum habitus>, according to the account provided by Sidonius Apollinaris [*a. a. O. nach dem Sidonius Apollinaris*].

15. Pt. 4, 611 (German translation).

16. *Römische Alterthum*, vol. 2.

17. <As reported in a recent edition of the> *Almanach de Gotha* (<but> I do not know from where this proportion is taken).

18. The ancients give <the height of> their Hercules <as> seven ft. The Roman soldier must have been [*mußte halten*] 5 ft. 7 in. according to the Roman measure. See <Flavius> Veget<ius Renatus>, <Institutorum rei militaris libri, in *Veteres*> *de re militari* <scriptores quotquot extant, ed. Pieter Schrijver, 2 vols.> (Wesel, 1670), and <Godescalcus> Stewechi<us>, *Commentarius*, *ad <Flavi Vegeti Renati> libros, <De re militari>* (Wesel: <Andreas ab> Hoozenhuysen, 1670), 18.

19. Martin, a Swede, found that the partaking of brandy might considerably reduce <the size of> the body (“Über die ab- und zunehmende Weite und Breite des menschlichen Körpers,” *Abhandlungen der Schwedischen Akademie der Wissenschaften*, vol. 31, 75.

20. <Cornelius de Pauw>, *Philosophische Untersuchungen über die Amerikaner, oder wochtige Beyträge zur Geschichte des menschlichen Geschlechts* (Berlin, 1769), vol. 1, 233ff.

21. <Louis-Antoine de Bougainville>, *Voyage autour du monde, <par la frégate du roi la Boudeuse, et la flute l'Étoile, en 1766, 1767, 1768 & 1769* (Neuchatel, 1772), vol. 4, 126ff.

22. <Philbert> Commerson, “Lettre de M. de Commerson à M. de la Lande,” in *Journal Encyclopedia* (1772); <republished in Joseph Banks, *Supplément au voyage de M. de Bougainville, ou, Journal d'un voyage autour du monde, fait par MM. Banks & Solander, anglois, en 1768, 1769, 1770, 1771* (Paris, 1772), Appendix>.

23. <John> Hawkesworth, <An> *Account of the Voyages Undertaken by the Order of His Majesty for Making Discoveries in the Southern Hemisphere, and Successively Performed by Commodore Byron, Captain Wallis, Captain Carteret, and Captain Cook, in the Dolphin, the Swallow, and the Endeavour. Drawn up from the Journals which were Kept by the Several Commanders, and from the Papers of Joseph Banks* (London, 1773), pt. 1, 28: “I did not measure him, but if I may judge of his height by the proportion to my own, it could not be much less than seven feet—and few of the men were less than the chief.”

24. <Samuel> Wallis, *Voyage round the World*, in Hakesworth, pt. 1, 374.

25. <Philip Carteret>, “A Letter from Philip Carteret Esquire, Captain of the Swallow Sloop, to Mathew Maty, M. D. Sec. R. S. on the Inhabitants of the Coast of Patagonia,” <Philosophical Transactions of the Royal Society of London> 60 <(January 1770): 20–26>.

26. <John> Byron, *Reise um die Welt, in den Jahren 1764 und 1765* (Frankfurt and Leipzig, Germany, 1769), 8.

27. <Antoine-Joseph Pernety>, *Examen des Recherches philosophique sur l'Amérique et les Américains* (Berlin, 1771), pt. 2, 365.

28. <James> Cook, *Voyage round the World*, in Hawkesworth, pt. 2, 51ff.

29. Byron, <Voyage>, in Hakesworth, pt. 1, 12, and Wallis, <Voyage, in Hakesworth>, 400.

30. Pauw, *Philosophische Untersuchungen*, vol. 1, 105.
31. <“Nachricht von der Reise des Studenten Sujefs längst dem Ob bis ans Eismeer,” in Peter Simon Pallas, *Reise durch verschiedene Provinzen des Russischen Reiches* (Frankfurt and Leipzig, 1778), vol. 3, 14–23.
32. <David> Cranz, *Historie von Grönland* (Barbey and Leipzig, 1765); translated as *History of Greenland* (London, 1767).
33. <See> Cranz’s report in *Allgemeine Historie der Reisen zu Wasser und Lande*, ed. Johann Joachim Schwabe (Leipzig, 1747–1774), vol. 20, 38 and 39.
34. <Johann Friedrich> Blumenbach, *De generis humani varietata nativa* (<Göttingen>, 1776), 46.
35. I. Sainovic, *Demonstratio idioma Ungarorum et Lapponum idem esse* (Copenhagen, 1770).
36. <Henry Home, Lord> Kames, *Sketches of the History of Man* (Edinburgh and London), 1774, vol. 4, pt 1, 12n.
37. Ibid.
38. <Jean-Francois> Regnard, “Voyage de Laponie,” in *Oeuvres de Regnard* (Paris, 1751), vol. 1.
39. “Ehrenmalms Reise nach der Lappmark Asele,” *Allgemeine Historie der Reisen*, ed. Schwabe, vol. 20, 607.
40. Cranz, *Allgemeine Historie der Reisen*, vol. 20, 134.
41. <Cranz>, *Historie von Grönland*, 169.
42. Ibid. [a. a. O.].
43. <Immanuel Kant, in the> article on the different human races in *Der Philosoph für die Welt* 2 (1777): <146–47>.
44. Blumenbach, *De generis*, p.64.
45. <Pauw>, *Philosophische Untersuchungen*, vol. 1, 29f.
46. <Kames>, *Sketches*, pt. 1, 12.
47. <Cranz>, *Historie von Grönland*.
48. <Pierre-François-Xavier> Charlevoix, *Histoire et description generale de la Nouvelle France* (<Paris, 1744>), vol. 3, 179.
49. “The native populations of the Carribean are of average size, well-formed [wohlgebildet] and strong, and brownish-yellow. They have brown eyes, stiff, brown hair, but no beard, because they—as other indigenous peoples of America [amerikanische Nationen] also do—pull them out by the roots.” <Christian Georg Andreas> Oldendorp, *Geschichte der Mission der evangelischen Brüder auf den caraischen Inseln* (<S. Thomas, S. Croix und S. Jan> (Barbey and Leipzig, 1777), 22.
50. <Lionel> Wafer, *A New Voyage and Description of the Isthmus of America*, 2nd ed. (London, 1704), 106.
51. Bougainville, *Voyage autour du monde*.
52. <Sydney> Parkinson, *A Journal of a Voyage to the South Seas, in his Majesty’s Ship, the Endeavour* (London, 1773), pt. 1.
53. <Peter Simon> Pallas, *Sammlung historischer Nachrichten über die mongolischen Völkerschaft* (St. Petersburg, 1776), pt. 1, 98.
54. <Regnard, “Voyage de Laponie,” in> *Oeuvres*, vol. 1, 129.
55. Bougainville, *Voyage autour du monde*, <vol. 4>, 154.
56. Pauw, *Philosophische Untersuchungen*, vol. 1, 232.

57. <James> Cook, *A Voyage Towards the South Pole, and Round the World* (London, 1777), 183: “They (th<e> Pecharies) are a little, ugly, half-starved beardless race. I saw no tall person amongst [them]—they and everything they had, smelt intolerably of train-oil.” Just like the Eskimo.

58. <Le> *Journal encyclop<edia>* <17> (1772).

59. The man from Cluny now says that Commerson’s Quimos are a fairy tale; the naturalist might have been deceived [*habe . . . hintergehen lassen*] by the fellow he saw on Madagascar (<François> Rozier, <Introduction aux> *observat<ions> sur la physique* [November 1777]). The same might also well be the case with the Matimba [Matimbaer] dwarfs.

60. *Quomodo assa se accomodant vasis* [How the bones of the body adjust themselves].

61. <Alexander> Monro, *Lectures on Anatomy* [Praellection] (<Edinburgh, 1777>): “A skillful anatomist, could distinguish nations from observing the shape of the skull when there is less communication among the different kingdoms, and they were more attached to particular customs.”

62. <George-Louis Leclerc Buffon>, *Allg<emeine> Hist<orie> der Nat<ur>*, <trans. Louis-Jean-Marie Daubeton (Hamburg and Leipzig, 1752)>, vol. 2, pt. 1.

63. <Jean-Baptiste> Demanet, “Diss<ertation> sur les Negres,” in <Nouvelle> *histoire de l’Afrique françoise, <enrichie de cartes & d’observations astronomiques & geographiques* (Paris, 1767), pt. 2, 203ff.

64. *Ibid.*, 123.

65. <Jean Phillippe> Baratier, *Voyage de Rabbi Benjamin Fils de Jona de Tudele* (Amsterdam, 1734), vol. 1207: “Dans tout ce pays il y a environ cent Iuifs; ces Iuifs sont aussi noirs que les autres habitans.” [Throughout this country there are about one hundred Jews; these Jews are as black as the other inhabitants.]

66. *Ibid.*, vol. 2, § 6 [Dissertation sur B. Tudele par Baratier Tom 2. § 6.]

67. <Leopold Marco Antonio> Caldan<i>, *Instit<utiones> Physiolog<icae>* (Padua, 1778), 194. I will hereafter introduce something similar from Demanet.

68. *Zweiundzwanzigste Continuation des Berichts derer königlichen dänischen Missionarien in Ost-Indien* [Tranqueb. Miss. Nachr. 22te Continuat], 896.

69. Commerson, “Lettre à M. de la Lande.”

70. Pauw, *Philos<ophische> Untersuch<ungen>*, pt. 1, 151.

71. Denamet claims, based on experience, that European families displaced [*versezt*] to Africa might have degenerated [*ausgeartet wären*] into Negroes. Against this, Voltaire says <the following> in the article “Ignorance” (in *Questions sur l’Encyclopedie* <[Geneva, 1777]>, vol. 3): “Mr. l’Abbé, c’est le contraire qui est constant. Vous ignorés que le Negres ont le reticulum mucosum noir, quoique que je l’aye dit vingt fois. [Mr Abbot, it is the opposite that remains constant. You do not realize that the Negroes have a black reticulum mucosum, although I’ve said it twenty times.] (As if he were the discoverer <of this>!) Sachés que vous auriés beau faire des enfans en Guinée, vous ne feriez que des Welches, qui n’auroient ni cette belle peau noire huileufe, ni ces levres noirs et lippues, ni ces yeux ronds, ni cette laine frisée sur la tête, qui font la difference specifique des Negres.” [You must know that even if you produced children in Guinea, they would still be Welsh, they would not have that beautiful oily black skin, nor those full black lips, nor those round eyes, nor that

curly wool on the head, that make up the specific difference in Negroes.] But no one has ever claimed what V<oltaire> requires, namely, that <whites> [*ein Weisser*] should immediately produce black children in Africa. But it is a fact [*Thatsache*] that in consequence of a <certain> length of time the progeny of whites degenerate [*ausarten*] into blacks; <and> no noble spirit can refute <this fact> with <nothing more than> a witty idea.

72. <Kames>, *Sketches*, 12 and 17 (German translation); <Thomas> Shaw, *Reisen, <oder Anmerkungen verschiedene Theile der Barbarey und der Levante betreffend* (Leipzig, 1765)>, 55: “The possibility of a white, blond-haired people [*Nation*] in southern Africa could be explained in precisely this way. Bougainville says in his *Voyage autour du monde* that the Dutch had encountered such a people [*Nation*] in 1763 in a journey from the Cape toward the tropics. I confess, however, that I still see doubt in the truth of this legend [*Sage*] (because Bougainville passes it off for nothing further [*denn für nichts weiter gieb es Bougainville aus*]). Perhaps the Dutch saw an albino and made out of this a people [*Nation*].”

73. That is, compared to that of their neighbors.

74. Shaw, <*Reisen*>, 55.

75. <Luis del Marmol Carvajal>, *LAfrique de Marmol* <(Paris, 1667)>, Vol. 2, 125, and vol. 3, 6.

76. <Kames>, *Sketches*, 13.

77. <Cranz, *Historie von Grönland*>.

78. <Henry Ellis>, *Reise nach Hudsons Meer<busen>* (Götting<en, 1750); first published as *A Voyage to Hudson's-Bay* (London, 1748)>.

79. <Joseph> Gumilla, *Histoire <naturelle, civile et géographique> de l' Orenque* <(Avignon and Marseille, 1758), vol. 1, 107.

80. <Charles-Marie de la> Condam<ine>, “Reise durch Südamerika,” <in Pierre Barrère, M. (Pierre) Bouguer, and Charles-Marie de la Condamine, *Neue Reisen nach Guiana, Peru und durch das südliche America* (Göttingen, 1751), pt. 2, 226.

81. <Pierre> Bouguer, “Relation abrégée du voyage fait au Pérou par MM. de l'Académie royale des Sciences, pour mesurer les degrés du méridien aux environs de l'équateur et en conclure la figure de la Terre,” *Mémoires de l'Académie des Sciences le 14 novembre 1744* (Paris, 1748): 249–98;> 378 (Dutch edition).

82. <Buffon>, *Allg<emeine> Hist<orie> der Nat<ur>*, vol. 2, pt. 1, 305ff.

83. <Cornelius de Pauw>, *Defense des Recherches Philosophiques sur les Américains* (Berlin, 1770), chap. 14.

84. <William> Robertson, *Geschichte von Amerika* (Leipzig, 1777), pt. 1, 298. Robertson proceeds [*thut*] as if he was not familiar with Pauw's *Défense*. In general, he produces the inquiry of Pauw with greater carelessness, since <Pauw> has certainly paved the way for him so that he is often in a position to say absolutely nothing <any> better.

85. “Lettera prima,” in <Ludovico Antonio> Muratori, *El <cristianismo felice <en las misiones de los padres de la Compañía de Jesús en Paraguay* (Venice, 1743)>, as cited by Robertson.

86. <Thomas> Jeffreys, *The American Atlas* (London, 1775), tab. 5 (Map of North America).

87. <Jean Baptiste Bourguignon d'Anville>, *Amerique meridionale* (Paris, 1748), *trois feuilles*, or, also, Jeffreys, *Atlas*, T<able> 28.

88. *Lettres édifiantes <et curieuses, écrites des missions étrangères par quelques missionnaires de la Compagnie de Jesus (Paris, 1702–1776)>*, vol. 10, 187; and <Gregorio> García, *Origen de los Indios <de el Nuevo mundo, e Indias Occidentales (Madrid, 1729)>*, 2. c. 5. § 4. 5.

89. <Bouguer, “Relation abrégée du voy<age fait> au Pérou, 16.

90. <Gonzalo Fernández de> Oviedo y <Valdés>, <Relacion sumaria de la> *hist<oria natural de la Indias (Madrid, 1749)>*, vol. 9, 144.

91. <Louis> Cotte, *Traité de meteorologie <(Paris, 1774)>*, 607.

92. Anville, *Am<erique> meridionale*, or Jeffreys, Map 3.

93. See <any> reputable maps [*M. s. die anges. Charten*].

94. <Louis> Cotte, *Traité de meteorologie*, 386 and 607. I intend [*denke*] to complete in a short time a more exact comparative chart for the temperature of <these> countries.

95. Pauw gives this degree as the one by which the Negro is the blackest. However, the interior of Guinea and the Congo may still be hotter, although I am not familiar with any meteorological observations <confirming this>; for the reports from Projart in Loango are not cited by any naturalists.

96. <Kames>, *Sketches*, 19: “There have been four complete generations of negroes in Pennsylvania, without any visible change of colour; they continue jet black as originally.”

97. <Johann Friedrich Meckel>, “Recherches anatom<iques> II. Sur la <diversité de> couleur <dans la substance médullaire du cerveau> des Nègres,” *Acad<émie royale> d<es> sc<iences et belles lettres> de Berlin* 9 <(1753): 97–102>.

98. *Ibid.*, 100: “Peutêtre que cette liqueur, (qui teint la moelle du Cerveau) contribue à la couleur noirâtre de la membrane muqueuse sous cuticulaire des Negres, en s'exhalant par les nerfs cutanés, et qu'en se melant aux autres humeurs, qui sortent par excretion des vaisseaux exhalans, placés sous la cuticule, puis devenant rance avec la graiffe, qui transfuse par les pores de la peau, elle forme cette viscosité noirâtre, à laquelle l'épiderme des Negres doit son origine. Cette opinion est confirmée par la couleur noirâtre de la moëlle du cerveau, qui se trouve surtout à la base des corps striés, vù que c'est de là que les peduncules du Cerveau tirent leur origine, et qu'ils fournissent à leur tour à celle de la moëlle allongée, d'où naissent s'namment la plupart des nerfs an cerveau.” [Perhaps that liquid substance, which colors the brain, contributes to the blackish color of the cuticular membrane lining of Negroes, which is given off by the cutaneous nerves, and which in combination with other humors, which are excreted by exhalant vessels, set under the cuticle, becoming rancid with <the> *graiffe* (sic) that transfuses through the pores of the skin (and) forms this blackish mucous from which the Negroes' epidermis originates. This opinion is confirmed by the blackish color of the brain that can be found at the base of the striata, given that it is from here that the peduncles of the brain originate, and which provide, in turn, that of the medulla oblongata, from whence begin the majority of the nerves of the brain.]

99. <Claude-Nicolas> le Cat, *Traité de la <couleur de la> peau <humaine, (Amsterdam, 1765)>*.

100. <Pierre> Barrère, *Diss<ertation> sur la cause physique de la couleur de Negres (Paris, 1741)*.

101. <Thomas Jean Pichon>, <La> *physique de l'histoire, <ou, Considérations générales sur les principes élémentaires du temperament & du caractère naturel des*

peuples (La Haye, 1765); German trans. by <Johann Christoph Erich> Springer under the title, *Naturliche Geschichte des Menschengeschlechts* (Lemgo, 1768).

102. <Springer>, “Betrachtungen über die Quellen der alten Geschichte in der Nature,” in the first pieces by the historian [*in dem ersten Stücke des Geschichtforschers*], 37.

103. Pichon, *Naturliche Geschichte*, trans. Springer, 18.

104. *Ibid.*, 24.

105. Springer, “Betrachtungen” [*Geschichtsforsch. a. a. O.*].

106. Pauw, *Philosophische Untersuchungen*, pt. 1, 148.

107. Demanet, “Diss<ertation>,” in <*Nouvelle*> *histoire*, 321.

108. Moore, <*Allgemeine Historie der Reisen*> [*in allg. Reis.*], vol. 3, 163.

109. <Filippo Pigafetta>, *Relazione del reame di Congo* (Rome, 1591)>, 12.

110. <William> Dampier, <*Nouveau*> *voy<age* autour du monde (Rouen, 1723)>, vol. 2, 393: “avec un nex bien proportionné les dents blanches et une mine agreable” [with a well-proportioned nose, white teeth, and a pleasant look].

111. Pauw, *Philosophische Untersuchungen*, <pt. 1>, 143.

112. To Kant, the red-brown color of the <native peoples of> America seems to be deducible from the acidity of the air [*Luftsäure*]; <this color> [*sie*] might be just as characteristic to the cold climate as the olive-brown (which he regards as an effect of the alkaloid juices of the gall bladder [*der laugenhaft gallischen Säfte*]) might be to the hot climatic region [*Himmelstrich*]. See <his> article on the different human races <“(Of the Different Human Races)”>.

113. “Qui ex elephantico parente nati sunt, elephantici siunt, quia in femine impuro vitia parentum remanent, quae transferuntur in filios” [Those who are born of a parent with elephantiasis have elephantiasis because the faults of the parent remain in the impure seed, which they have transferred into the children] (Hippoc<rates>, *De morb<is>*, bk. 1). It is very curious that the semen plays such an important part in the diseases and color of the skin; and I use this place to introduce a valuable comment that the physician Wagler most graciously shared with me. “The semen,” he says, “probably contains a certain pigment which in human, animals and plants determines through procreation [*Seugung*] the <skin> color of the offspring, each according to the specific [*gewisses*] degree to which it is present or missing; and <it> is soon thereafter—soon after it mixes with another kind—altered by means of a variety of causes, played out [*erschöpft*] or again repaired [*ersez*]. Although particles [*Theile*] (the like of which have been discovered principally in the iron particles in our juices) that hold in themselves the basis and quality of a color, and they are able to inform [*mitteilen*] other bodies (as the color of the blood and intestines proves), it is certainly not improbable that there still exists as well a primal [*ursprüngliches*] pigmentum in spermate utriusque fexus which chiefly determines especially the color of the skin, hair, eyes (*iris*), and, in the eyes, the *tunicae chorioideae*. This supposition obtains so much more probability <from the following considerations>: (a) we sometimes find corrupted [*verdorbne*] *ovula* in *ovariis* that are through and through black colored and are, as it were, thoroughly soaked [*durchsogen*] with a pigment; (b) the *corpus luteum in ovario*, which originates after every conception, is colored in the beginning red, thereafter orange-yellow, later pale yellow, and, finally, <it> usually leaves behind blackish patches; (c) many black-tinted patches which

contain a true pigment are found in male testicles that are corrupted [*verdorben*] by diseases, e.g., in *Sarcocele*; (d) those glands in which the *fluidium nutricium nobilissimum*—which stands in a precise relationship with the *fluidum spermaticum* and *nerveo*—is prepared, are often through and through thoroughly soaked [*durchsogen*] with a coal black pigment in enfeebled, consumptive or old people [*Menschen*] (we most commonly discover this pigment in the *glandulis conglobatis* of the entire body, more rarely in the *thymo*, in the *thyreoidea*, and in the *renibus fucenturiatis*); <and> (e) the *substantia corticalis cerebri et cerebelli* is blackish in Ethiopians, as is their semen; in us both are only ash gray.”

114. <George Edwards>, *Gleanings of Nat<ural> Hist<ory>* (London: Royal College of Physicians, 1758–1764), vol. 1, plate 212; see also [*und*] <Henr Baker, “A supplement to the account of a distempered skin, published in the 424th number of the Philosophical Transactions,” *Philos<sophical> Trans<actions> of the Royal Society of London>* 49 (1755), 21.

115. <Johann Michael> Seligmann, <*Sammlung verschiedener ausländischer und seltener*> *Vögel* <(Nuremberg, 1749–1776)> pt. 7, tab. 4.

116. <Johann Christian Daniel Schreber>, <*Die*> *Säugethiere* <*in Abbildungen nach der Natur* (Erlangen, 1744)>, vol. 1, 10.

117. Shadings of color in the human lineage [*menschliche Geschlechter*] also originate in consequence of the interbreeding of Negroes and whites, possibly in conformity with the following stages [*Stufen*], <as presented in> Pauw, *Philosophische Untersuchungen*, vol. 1, 142. A male Negro with a white woman produces the mulatto. (Another kind of mulatto would be the one that is given birth by a Moor and a female Negro. <Marmol y Carvajal, *L’>Afrique de Marmol*, vol. 3, 29.) <The mulatto> is half black, half white, and has no wool, but rather long hair. A mulatto male and a white female yield a brownish human being; and this <brownish male> with a white woman <yield> a white child. On the other hand, a white male and a Negro female also yield a mulatto. This <mulatto male> with a black woman <yields> the so-called Terceron, <which has> [*von*] approximately three parts white and one part black color. From the <Terceron> and a black woman <there> arises the Quarteron, then the Oktavon, after which the blackness is more and more lost, and eventually the white. The Creole is, however, to be distinguished from all this; for <Creole is the name given> in America to the first generation [*Geschlechts*] European born there. The mestizo then <originate> through the interbreeding of the <Creole> and <the indigenous peoples of> America [*Amerikaners*], and from this again the Kastiz, etc. However, the names of the final <derivations> is often also common in East India. (<See> *Allgem<eine Historie der> Reis<en>*, vol. 9; *Dreiundreißigste Continuation des Berichts derer königlichen dänischen Missionarien in Ost-Indien* [*Tranqueb. Mißtionsber. 33te Fortsetzung*, 919; or Blumenbach, *De generis*, 56.)

118. <Carl Linnaeus, *Entomologische Beyträge zu des Ritter Linné zwölfter Ausgabe des Natursystems*, trans. Johann August Ephraim Goetze (Leipzig, 1777) [*Systema Nat. Ed. XII*], pp. 28–30.

119. <Blumenbach, *De generis*>, 41.

120. See Pauw, <*Philosophische Untersuchungen*>, 107.

121. Seligmann, *Vögel*, vol. 4, last table.

122. <Linnaeus, *Natursystems*, trans. Goetze>, vol. 1, 1 and 2.

123. Kant, <“Of the Different Human Races,” *Der Philosoph für die Welt* 2 <(1777)>.

124. See the map in <Jean-Nicolas Buache>, *Mémoire sur les pays l'Asie et de l'Amerique* (Paris, 1775).

125. By means of the barometer, Father Verdries found the vast elevated regions of Asia [*großen Buckel Asiens*] to be very high.

126. See <the> new masterpiece from this exceptional man, <Peter Simon Pallas>, *Observations sur la formation des Montagnes et <les changemens arrivés au globe, particulièrement a> l'égard de l'empire Russie* (St. Petersburg and Göttingen, 1777).

127. <Jean Sylvain Bailly>, *Lettres sur l'origine des sciences, <et sur celle des peuples de l'Asie, adressées à M. de Voltaire* (London, 1777)>.

128. See, concerning this, Part Four.

129. See some <additional materials> pertaining to this in the fourth part [*Im vierten Theile etwas hieher gehöriges*].

130. <James Burnett Monboddo>, *Of the Origin and Progress of Language* <(Edinburgh, 1773)>, vol. 1, 175.

131. <Jean-Jacques Rousseau>, <*Discours*> sur <l'origine et les fondemens de> *l'inegalité parmi les hommes* <(Amsterdam, 1755)>, n8.

132. We must not think very badly of those philosophers like Rousseau and Monboddo who have already argued for a wild condition of human beings [*Menschen*] if they have believed to find in the orang the original human beings. The orang truly comes close to the human figure, if we only perfunctorily [*obenhin*] judged <them to be> very rather nearly the same [*ziemlich gleich*]. According to Tyson's investigations, <the orang> stands closer to human beings than the apes. <The orang's> fibula <and> its fleshier posterior, along with its greater capacity to walk upright, distinguish it clearly [*sehr*] from the rest of the apes. The heart, lungs, breast, intestines and brain are also very similar to <those of> human beings; and it has an appendix [*Blinddarm*], just like human beings, a worm-shaped extension, which is lacking in the rest of the apes. <The orang's> instincts [*Triebe*] are also not so animal-like; it is not so impetuous and hurried [*hastig*] as the rest of the apes are used to be. <Orangs> are often dejected and well-behaved [*sittsam*], and their superior ability to imitate human behavior is certainly evidence for its higher mental powers. We can convince ourselves of this <by referring to> [*in*] the works of Schreber and Buffon. For this reason, it is not entirely improbable that an orang with a human being could produce an intermediary species [*Mittelgattung*]. I have learned that someone has recently arranged such an experiment [*Versuch*] in London. A male orang was offered a prostitute [*öffentlich Weibperson*] who had been paid for this. So far as I know, however, the experiment ended entirely without bearing fruit [*ganz fruchtlos*]. The experiment was not only morally, but also physiologically suspect [*verwerflich*]. For an equally bad result would probably also have come to pass with such a woman [*Weibperson*] through the assistance of a human male. Besides, we surely [*ja*] know how immoderately passionate apes are in copulation, which of itself allows <us> to suppose a too early squandering <of the semen> [*eine zu frühzeitige Verschwendung*]. To arrange for anything decisive <in this matter>, this experiment must be undertaken with a man and a young female orang who have known each other for some time—in the event that it is permitted and can

be <done> (for I leave it to the ethicists [*Moralisten*] to look into the matter). De la Brosse says that he has known a female Negro in Loango who had lived in the wild for some years with this half-human being and had been quite comfortable with this <arrangement>. <But> it is surprising [*zu bewundern*], as Pauw justifiably comments, that these travelers did not inquire if this female Negro had given birth to Negro children or orangs. For this would be the easiest way to settle the <question posed by the> experiment previously noted.

133. <Edward Tyson>, *The Anatomy of a Pygmy*, <2nd ed. (London, 1751)>.

134. <Buffon>, *Allg<emeine> Hist<orie> der Nat<ur>*, vol. 7, pt. 2, 45.

135. <Blumenbach, *De generis*>.

136. Schreber, *Säugethiere*, tab. 1.

137. <Bartolemeo Eustachi>, "Albini," in *Tabul<ae> <anatomicae>* <(Venice, 1769)>, tab. 46, fig. 2.

138. Pauw, "Ueber den Ourang Outang," in *Philosophische Untersuchungen*, vol. 2.

139. <Buffon>, *Allg<emeine> Hist<orie> der N<atur>*, vol. 7, pt. 2.

140. See *Allg<emeine Historie der> Reis<en zu Wasser und Lande>*, vol. 12. Begert introduces a similar example from a Californian.

141. Pauw, "Ueber den Ourang Outang."

142. <Bartolemeo Eustachi>, "De capitis motus," in *Opuscula anatomica* <(Delphis, 1726)>.

143. <Pietro> Moscati, *Von dem körperlichen wesentlichen Unterschiede zwischen der Structur der Thiere und der Menschen*, <trans. Johann Beckmann (Göttingen, 1771)>, 0n.

144. <Linnaeus, *Natursystems*, trans. Goetze>, 48.

145. <Blumenbach, *De generis*>, 24.

146. See the engraving in *Mémoire de l'Académie royale des sciences*, vol. 1, 69.

Notes to Kant 1785

1. See Engels's *Der Philosoph für die Welt 2* (Leipzig: Druckischen Buchandung, 1777), 125f.

2. Initially, when we have merely the character of the comparison (according to similarity or dissimilarity) before us, we obtain *classes* of creatures under a species. But if we are to examine more closely their descent, it must become obvious if these classes might be so many different *kinds* or only *races*. The wolf, fox, jackal, hyena, and domestic dog are so many classes of four-footed animals. If we were to assume that each of these stands in need of a special descent, then they are so many kinds. But if we concede that they could have originated from a single lineal stem stock, then they are only races of this <line of descent>. *Kind* and *species* are in themselves not distinguished in natural history (<which concerns itself> only <with> generative origination [*Erzeugung*] and the descent). The distinction has a place only in the *description of nature*, since <this type of investigation> is concerned merely with the comparison of characteristic features. What is called *kind* <in the description of nature> would more often be called only *race* <in natural history>.

Notes to Forster 1786

1. The founder of Vilnius (*Wilna*), Koialowicz, *Historiae Lituanæ*, 4 vols. (<Danzig>, 1650).
2. I am not able here to consult the English original text. However, the words that I have used <can be found> in the Oktav edition of the translation, vol. 2, 123 (Berlin: Haude und Spener, 1775).
3. Buffon, *Historie naturelle* (Paris, 1750), vol. 3, 522.
4. See his *Critica botanica*, § 266.
5. Frankfurt and Leipzig, 1785.
6. Zimmermann, in his admirable *Geographische Geschichte des Menschen und der allgemein verbreiteten vier-füßigen Thiere* (Leipzig, 1778), <vol.> 1, 5.
7. *Ideen zur Philos<ophie> der Gesch<ichte der Menschheit>* (Riga and Leipzig, 1784), <vol.> 1, 88.
8. See *Geographische Geschichte des Menschen*, etc., pt. 3, 203.

Notes to Kant 1788

1. I would suggest the word *physiography* for the description of nature but *physiogy* for natural history.
2. The designations of classes and orders express completely and without any ambiguity a purely *logical* distinction that *reason* makes among its concepts for the purpose of simple *comparison*; but genera [*genera*] and species [*species*] can also signify the *physical* separation that *nature* herself makes among her creatures with respect to their *generative origin* [Erzeugung]. The character of a race can, therefore, thereafter suffice in order to classify them, but not to construct a distinct *species* [Species], since this could also signify a separate descent. <This, however>, is something we do not wish to be conveyed by the name of a race. It is obvious that we do not here take the word *class* in the extended meaning that it is given in the *Linnaean* system; we do, however, also need it for division with a view to doing something entirely different.
3. *Sömmerring*, <in <his monograph> concerning the bodily differences of the Negro and the European, <writes>, 79: “We find attributes in the build of the Negro that make him most perfect [*vollkommensten*] for his climate, perhaps the more perfect creature than the European.” This admirable man also doubts (in the same publication, 44) *D. Schott’s* view that the skin of the Negro is more skillfully organized for better release of harmful matter. When, however, we combine <Schott’s view> with *Lind’s* reports (on the diseases of the Europeans, etc.) about the harmfulness of the air phlogitized by swampy wooded areas around the Gambia River, which was so swiftly, <so> deadly to English sailors, <Schott’s> view surely obtains much probability, <since> Negroes in this region live all the same as in their element.
4. The last remark is not cited here as conclusive, but it is surely not insignificant. In *Sprengel’s* Contributions, Fifth Part, 287–92, a knowledgeable man states—in opposition to Ramsay’s desire to make use of all Negro slaves as *free* workers—that, among the many thousand freed Negroes we find in America and England, he is acquainted with no instance in which any one of them has ever pursued an

occupation that we can properly call *work*. <They> rather, <he says>, when they come into freedom, immediately give up the easy trade they had previously been forced to carry on as slaves in order to become hawkers, *wretched* innkeepers, <or> livery stable workers, <and they are always> going out fishing or hunting. <They become>, in one word, petty hustlers. We also find exactly the same <behavior> in the gypsies among us. The same author notes that it is not that the northern climate might make them disinclined to work; for when they must wait behind the wagons of their masters or, on the worst winter nights in the cold entrances to the theatre (in England), they really do hold up much better than when threshing, ditch digging, or carrying cargo, etc. Should we not conclude from this that there still exists, apart from the *capacity* to work, an immediate drive for activity independent of all enticement (presumably for persevering, which we call diligence) that is especially intertwined with certain natural endowments, that <Asian->Indians as well as Negroes bring along with them and transmit [*vererben*] no more of this impulse when living in other climates than what they had needed and received from nature for their preservation in their old motherland, and that this inner endowment might be extinguished just so little as the externally visible? However, the far smaller needs in those lands—and the little trouble required to procure only them—demands no great endowments for activity. — I want here to quote something else from *Marsden's* thorough description of Sumatra (see Sprengel's *Contributions*, Sixth Part, 198–199): “The color of their (the *Rejangs*) skin is usually *yellow* without the admixture of red, which the copper color brings out. They are almost universally somewhat lighter in color than the mestizoes in other regions of India. — The white color of the inhabitants of Sumatra, *in comparison with other people of exactly the same climate*, is to my way of thinking a stronger proof that the color of the skin depends in no way directly upon the climate. [He says precisely the same about the children of Europeans and Negroes born there in the second generation and supposes that the darker color of the Europeans, who have stayed here a long time, might be a consequence of the many diseases of the gall bladder to which everyone there is exposed.] — I must also note here that the hands of the native born and the mestizoes are unusually cold in spite of the hot climate” (an important detail, which indicates that the peculiar texture of the skin must not come from superficial external causes).

5. To belong to one and the same line of descent does not immediately signify generation from a single original *pair*; it only says that the manifold diversity that we now find in a certain animal species may not—by reason of that <diversity>—be regarded as arising from so many original differences. If, then, the first human lineal stem stock was comprised of just so many individuals [*Personen*] (of both sexes), but who were all of the same kind, I can derive existing human beings equally well from one single pair as from many pairs. Forster suspects me of wanting to claim the latter—to be sure, according to an expert—as a fact [*Faktum*]. This, however, is only an idea that follows quite naturally from the theory. As for the difficulty that humankind would have been poorly secured from flesh-eating animals had it begun from a single pair, I can make for him no special trouble. For his all-begetting earth allowed these <animals> to have been produced only later than human beings.

6. Concerning this idea, which has become very popular primarily through *Bonnet*, the recollection of Professor *Blumenbach* (*Handbuch der Naturgeschichte*, 1779,

Prefatory Remark § 7) deserves to be read. This observant, reasonable man ascribes the *formative drive* [Bildungstrieb], by means of which he has cleared up so many issues in the theory [Lehre] of generation, only to the ranks [Gliedern] of organized beings and not to inorganic matter.

7. For example, *imagination* is an operation [Wirkung] in human beings that we do not recognize as one and the same as other operations of the mind [des Gemüts]. For this reason, the power to which it corresponds can be called nothing other than the power of imagination [Einbildungskraft] (as a fundamental power). In exactly the same way, the powers of repulsion and attraction are, among those <falling> under the heading of motive powers, *fundamental powers*. Many different <researchers> have believed that it was necessary to assume a single fundamental power to the unity of substance. <Many of them> have even believed that they had identified <this power> in so far as they merely gave a *common name* to different fundamental powers, e.g., the sole fundamental power of the soul might be called <the> power of representing the world [Vorstellungskraft der Welt]. <This would be the> same as if I were to say that the only fundamental power of matter is the motive power, because repulsion and attraction both fall under the common concept of motion. We demand to know, however, if repulsion and attraction can be *derived* from this common concept, which is not possible. For *lower<-order>* concepts can never be derived from *higher<-order>* <concepts> according to what is different in them. As for the unity of substance, from which it seems that the concept of the unity of fundamental powers is already contained in the concept <of such a unity>, this delusion rests upon an erroneous definition of *power*. For this <power> is not that *which* contains the ground of the reality [Wirklichkeit] of the accidents (that is the substance); it is rather merely the *relation* of the substance to the accidents *in so far as* it contains the ground of their reality. Different relations can, however, very well be attributed to the substance (without doing harm to its unity).

Notes to Meiners 1790

1. See, for reports <of this>, my *Grundriß der Geschichte der Menschheit*, 29 note a.

2. Ibid. and Desmarchais, vol. 2, 103, 219. and 221; Snelgrave 7: 93–111, 252; Cavazzi, vol. 2, 91.

3. Loc. cit.

4. See, in addition to the authors cited on p. 29 of my *Geschichte der Menschheit*, Rooks, 23, and Paterson, 85–90.

5. See—in addition to the authors cited in my *Geschichte der Menschheit*, 30 note d—the most recent *Description de la Nigritie*, 37–45.

6. Ibid. and Oldendorp, 274.

7. <Long>, vol. 2, 404; Oldendorp, loc. cit.

8. Labat, vol. 3, 170 and 215; *Description de la Nigritie*, 54.

9. Desmarchais, vol. 1, 53, 87, 138, and 279; Labat, vol. 5, 185.

10. Oldendorp, 281.

11. Desmarchais, vol. 1, 279–81.

12. <Long>, vol. 2, 404, 445, and 472–75.

13. Desmarchais, vol. 1, 281: “Ils ne lachent jamais en presence les uns des autres des vents par la bouche, et autre part, et quand ils se trouvent en compagnie de quelques blancs, à qui cela arrive, ils se teirent en donnant toutes sortes de marqués d’horreur d’une telle incivilité.” [They never belch in the presence of others, and, moreover, when in the company of whites, to whomever it happens, they show signs of horror at such uncivil behavior.]

14. Römer, 18; Lobo, 26.

15. Römer, loc. cit., and Oldendorp, 285.

16. Römer, ii; Demanet, vol. 2, 157; Estwick, vol. 2, 404.

17. Oldendorp, 288.

18. <Long>, vol. 2, 404 and 472ff.; Oldendorp, 270; Desmarchais, vol. 2, 102 and 103.

19. Ibid. and Snelgrave, 99.

20. Loc. cit.

21. <Long>, loc. cit.

22. The various authors are not in complete agreement concerning the worth and worthlessness of the individual Negro peoples. Dobrizhofer says that in South America the Negroes of the low foothills of the Congo and Angola are most preferred because of their durability and diligence and that the Aminas are looked down upon as weak and lazy (vol. 2, 45). Snelgrave, on the other hand (loc. cit.), Desmarchais (loc. cit.), and others assert that the Negroes from the Congo and Angola are much weaker, lazier, and stupider than those from the Gold Coast, and that an Amina merits the worth of three <Negroes from the> Congo. <They> also <say that> only half as much is paid for slaves from Angola as for those from the Gold Coast.

23. <Long>, vol. 2, 403 and 404; Oldendorp, 415; Moseley, 66 and 67; Ramsay, 69; Gily, vol. 4, 302, 306, and 309; *Voyage d’un suisse*, 210.

24. Loc. cit.

25. <Long>, loc. cit., and Oldendorp, 270ff., <but> especially Moseley, 67: “That wild chaos of instinctive notions, which <N>egroes bring from Africa, seldom can be modulated, unless they come from Africa very young, to bear any durable, rational impression. When this happens, they look back with horror on their savage state; and <they> do not easily forgive, unless some compliment is added on their improvements, the reproach of having been born in Africa, and of ever having lived in a state that nature intended for them.”

26. <Long>, 410; Moseley, loc. cit. (“The reverse of what is supposed to happen to the European [namely, degeneration] attends to the African race. Every generation here is an improvement on the former.”)

27. 411–503.

28. Loc. cit. and Ludewig, 124.

29. <Long>, vol. 2, 335; Ludewig, 128; Gily, vol. 4, 318.

30. <Long>, loc. cit., 329.

31. <Long>, vol. 2, 335.

32. See the cited authors and Twiss, *Travels through Portugal and Spain*, 332–33.

33. <Long>, vol. 2, 332.

34. <Long>, vol. 2, 331; Ludewig, 129.

35. Ibid.
36. Twiss, loc. cit.; Gily, loc.cit., 320.
37. Moseley, 79–80; Estwick, vol. 1, 316.

Notes to Girtanner 1796

1. Blumenbach, *De generis humani varietate nativa*, 3rd ed. (Göttingen, 1795), 70: “Adeo ut fere desperem, posse aliunde, quam ex analogia et verisimilitudine, notionem speciei in Zoologiae studio deponomi” [At this point I almost hope to derive the idea of species in the study of zoology from any place other than semblance and actual likeness].

2. Pechlin, *De colore Aethiopum*, 157: “Sunt in Italia et Gallia, imo etiam Germania, familiae notis gentilitiis insignes, sed neque in omnes perinde, nec eodem modo transuentibus, imo tandem mora defecturis” [There are in Italy and in France, and indeed even in Germany, eminent families with national markings, but not equally in all, nor changing in the same way, <and> indeed <which> with time have been lost].

3. Lord Kames’s *Sketches <of the History of Man>* (Edinburgh, 1774)>, Part I, 4: “To prevent flax from degenerating in Scotland, great quantities of foreign seed are annually imported.”

4. Newton, [*Rules of Reasoning in Philosophy*, Rule I]: “Causae rerum naturalium non plures admitti debent, quam quae earum phaenomenis explicandis sufficiunt” [We are to admit no more causes of natural things than such as are both true and sufficient to explain their appearance].

5. <M. Carl Christian Erhard> Schmid, *Empirische Psychologie* (<Jena, 1791>), 427.

6. The formative power is the *vis plastica* of the ancients, which operates purely mechanistically; the formative drive (*nisis formativus*) operates organically, and was first introduced by Blumenbach as a specific power. He was also the first to make known the laws of this power.

7. Schmid, 426.

8. Kant, *Kritik der Urteilskraft*, 293 [AA 5:374, § 65].

9. Ibid., 370 [AA 5:419, § 80].

10. Ibid., 381 [AA 5:425, § 82].

11. Ibid., 371 [AA 5:420, § 80].

12. Blumenbach, *Über den Bildungstrieb*, 15.

13. Kant, *Kritik der Urteilskraft*, 378 [AA 5:424, § 81].

14. See, concerning this point, Sömmerring’s *Beschreibung einiger Mißgeburten* [Descriptions of some monstrosities <formerly found in the Cassel Anatomical Museum] (Mainz, 1791)>, and Blumenbach, *Über den Bildungstrieb*, 112.

15. Kant, *Kritik der Urteilskraft*, 334 [AA 5:398, § 75].

16. Ibid.

17. Ibid., 308 [AA 5:383, § 65].

18. As, e.g., <Erasmus> Darwin, in his *Zoonomia*; <or, The Laws of Organic Life, 3 vols. (London, 1794–1796)>.

19. Hippocrates, *De Aribus, Aquis et Locis*, ed. Charter, pt. VI, 206.
20. *Ibid.*, 208.
21. Aristotle, *De generat<ione> animal<ium>*.
22. Oliv<er> Goldsmith, <A> *History of the Earth, <and Animated Nature>*, vol. 2 <(Philadelphia, PA, 1795)>, 238.
23. <Pliny>, “Quarto partu Dacorum originis nota in brachio redditur” [In a fourth part of the Dacians the mark of origin is expressed on the arm].
24. Jul<ius> Caesar Scaliger, *Comment<arii et animadversiones in 6 libros> de causis plantarum <Theophrasti>* [Commentary and observation in six books concerning the causes of plants of Theophrastus], vol. 5, 287: “Genuenses, cum a Mauris progenitoribus accepissent olim morem, ut infantibus recens natis tempora comprimerentur, nunc, absque ullo compressu, Thersiteo et capite et animo nascuntur” [The Geese, since long ago when they received the custom from their Moorish progenitors that they <be> squeezed as newly-born infants, they are now, without any compression, born with a contemptible head and spirit].
25. <Girolamo> Cardan, *Opera omnia*, ed. <Charles> Spon<i> <(Lyon, 1663)>, vol. 3, 162.
26. Thillaye, in the *Journal d’histoire naturelle* 12: 92 [Heft 12, s. 92].
27. Blumenbach, <Über Künsteleyen oder zufällige Verstümmelungen am thierischen Körper, die mit der Zeit zum erblichen Schlag ausgeartet> [Concerning artificialities or accidental deformities in the bodies of animals that in time degenerated into a heritable stock], *Magazin für das Neueste aus der Physik und Naturgeschichte* 6 <(1789)>: 222.
28. *Ibid.*, 24.
29. Nath<aniel> Highmore, *The History of Generation* <(London, 1651)>, 31; Schulz, *Bemerkungen über einen monstrosen Kanarievogel*, 17; Buffon, *Historie naturelle*, Part. XIV. Masch, in *Naturforscher* XV.
30. Sir Kenelm Digby, <Two Treatises: In the One of which> the Nature of Bodies, <in the Other the Nature of Man’s Soule is Looked Into: In Way of Discovery of the Immortality of Reasonable Soules> (London, 1645)>, 214.
31. Forster, *Beiträgen zur Landes- und Völkerkunde*, Part I.
32. In his admirable writing on the formative drive.
33. Blumenbach, “Über Künsteleyen oder zufällige Verstümmelungen am thierischen Körper,” 13–14.
34. Blumenbach, *De generis humani varietate nativa* (1795), p. 108: “Neutram quidem harum sententiarum, neque affirmantem, neque negantem, hactenus meam facio” [Thus far I maintain my neutrality, neither affirming nor denying certain of these opinions].
35. *Berlinische Monatsschrift* (1785), <400>.
36. *Teutscher Merkur* (October 1786), 74.
37. *Teutscher Merkur* (February 1788), 113.
38. *Handbuch der Naturgeschichte*, 7.
39. *Ibid.*, p. 22.
40. Götting<ische> gel<ehrte> Anz<eigen> (1785, no. 45).

Selected Bibliography

- Aksu, Eşref. "‘Perpetual Peace’: A Project of Europeans for Europeans?" *Peace & Change* 33 (2008): 368–87.
- Ameriks, Karl. *Interpreting Kant’s Critiques*. Oxford: Clarendon Press, 2003.
- Amodeo, Christian. "Late Great Geographers #53: Immanuel Kant." *Geographical* 77 (March 2005): 9.
- Appiah, Anthony. "The Uncompleted Argument: DuBois and the Illusion of Race." In *The Idea of Race*, edited by Robert Bernasconi and Tommy L. Lott, 118–35. Indianapolis, IN: Hackett, 2000.
- Appiah, Kwame Anthony, and Amy Gutmann. *Color Consciousness*. Princeton, NJ: Princeton University Press, 1996.
- Armstrong, A. C. "Kant’s Philosophy of Peace and War." *Journal of Philosophy* 28 (1931): 197–204.
- Back, Les, and John Solomos, eds. *Theories of Race and Racism: A Reader*. London: Routledge, 2000.
- Bartelson, Jens. "The Trial of Judgment: A Note on Kant and the Paradoxes of Internationalism." *International Studies Quarterly* 39 (1995): 255–79.
- Barsh, Gregory S. "What Controls Variation in Human Skin Color?" *PloS Biol* 1(1): e27.doi.1371/journal.pbio.0000027.
- Bartuschat, Wolfgang. *Zum systematischen Ort von Kants Kritik der Urteils kraft*. Frankfurt am Main: Vittorio Klostermann, 1972.
- Baum, Bruce David. *The Rise and Fall of the Caucasian Race: A Political History of Racial Identity*. New York: NYU Press, 2006.
- Berlin, Isaiah. "Kant as an Unfamiliar Source of Nationalism." In *The Sense of Reality*, edited by Henry Hardy, 232–48. New York: Farrar, Straus and Giroux, 1997.
- Bernasconi, Robert, ed. *Concepts of Race in the Eighteenth Century*, 8 vols. Bristol, UK: Thoemmes Press, 2001.
- Bernasconi, Robert, and Tommy L. Lott, eds. *The Idea of Race*. Indianapolis, IN: Hackett, 2000.
- Bernasconi, Robert. "Kant and Blumenbach’s Polyyps: A Neglected Chapter in the History of the Concept of Race." In *The German Invention of Race*, edited by Sara Eigen and Mark Larrimore, 73–90. Albany, NY: SUNY Press, 2006.
- . "Kant as an Unfamiliar Source of Racism." In *Philosophers on Race: Critical Essays*, edited by Julie K. Ward and Tommy L. Lott, 145–66. Malden, MA: Blackwell, 2002.
- , ed. *Race*. Malden, MA: Blackwell, 2001.
- . "Who Invented the Concept of Race? Kant’s Role in the Enlightenment Construction of Race." In *Race*, edited by Robert Bernasconi, 11–36.

- . “Will the Real Kant Please Stand Up? The Challenge of Enlightenment Racism to the Study of the History of Philosophy.” *Radical Philosophy* 117 (January/February 2003): 13–22.
- Blackburn, Daniel G. “Why Race Is Not a Biological Concept.” In *Race and Racism in Theory and Practice*, edited by Berel Lang, 3–26. Lanham, MD: Rowman & Littlefield, 2000.
- Blumenbach, Johann Friedrich. *Über den Bildungstrieb*. 2nd ed. Translated by Alexander Crichton as *An Essay on Generation*. London: printed for T. Cadell; Faulder; Murray; and Creech, Edinburgh, 1792.
- . *Über den Bildungstrieb*, 3rd ed. Göttingen: Johann Christian Dieterich, 1791.
- Bohman, James, and Matthias Lutz-Bachmann, eds. *Perpetual Peace: Essays on Kant’s Cosmopolitan Ideal*. Cambridge, MA: MIT Press, 1997.
- Bösch, Michael. “Globale Venunft: Zum Kosmopolitismus des Kantischen Vernunftkritik.” *Kant-Studien* 98 (2007): 473–86.
- Bourke, John. “Kant’s Doctrine of ‘Perpetual Peace.’” *Philosophy* 17 (1942): 324–33.
- Carus, Paul. “Kant on Evolution.” *The Open Court*, no. 158 (n.d.). Reprinted in “Appendix. Kant and Spencer. Reprinted Articles Relative to Mr. Spencer’s Estimate of Kant,” 33–53. *The Monist* 2 (1892): Appendix 1–53.
- Cassirer, Ernst. *Das Erkenntnisproblem in der Philosophie und Wissenschaft*, vol. 4: *Von Hegels Tod bis zur Gegenwart, 1832–1932*. Berlin: Bruno Cassirer, 1957. Translated by William H. Woglom and Charles Hendel as *The Problem of Knowledge: Philosophy, Science and History since Hegel*. New Haven, CT: Yale University Press, 1950.
- . *Kants Leben und Lehre*. Berlin: Bruno Cassirer, 1918. Translated by James Haden as *Kant’s Life and Thought*. New Haven, CT: Yale University Press, 1981.
- Cederman, Lars-Erik. “Back to Kant: Reinterpreting the Democratic Peace as a Macrohistorical Learning Process.” *American Political Science Review* 95 (2001): 15–31.
- Chamberlain, Houston Stewart. *Grundlagen des Neunzehnten Jahrhunderts*. 2 vols. Munich: F. Bruckmann, 1901. Translated by John Lees as *Foundations of the Nineteenth Century*. New York: Howard Fertig, 1968.
- Cheung, Tobias. “From the Organism of the Body to the Body of an Organism: Occurrences and Meaning of the Word ‘Organism’ from the Seventeenth to the Nineteenth Centuries.” *British Journal for the History of Science* 39 (2006): 319–39.
- Cohen, Herman. *Ästhetik des reinen Gefühls*. Berlin: Bruno Cassirer, 1912.
- . *Ethik der reinen Willens*. Berlin: Bruno Cassirer, 1904.
- . *Kants Begründung des Ästhetik*. Berlin: Ferd. Dümmlers Verlagsbuchhandlung, 1889.
- . *Kants Begründung der Ethik*. Berlin: Ferd. Dümmlers Verlagsbuchhandlung, 1877.
- . *Kants Theorie der Erfahrung*. Berlin: Ferd. Dümmlers Verlagsbuchhandlung, 1871.
- . *Logik der reinen Erkenntnis*. Berlin: Bruno Cassirer, 1902.
- Count, Earl W. *This is Race: An Anthology Selected from the International Literature on the Races of Man*. New York: Schuman, 1950.

- Craig, Gordon A. "Engagement and Neutrality in Germany: The Case of Georg Forster, 1754–94." *Journal of Modern History* 41 (1969): 2–16.
- Deleuze, Giles. *Le philosophie critique de Kant: doctrine des facultés*. Paris: Presses Universitaires de France, 1963. Translated by Hugh Tomlinson and Barbara Habberjam as *Kant's Critical Philosophy: The Doctrine of the Faculties*. Minneapolis: University of Minnesota Press, 1984.
- de Queiroz, Kevin, and Michael J. Donoghue, "Phylogenetic Systematics and the Species Problem." In *Philosophy of Biology*, edited by David L. Hull and Michael Ruse, 319–47. Oxford: Oxford University Press, 1998.
- Dikshit, Ramesh Dutta. *Geographical Thought: A Contextual History*. 6th ed. New Delhi, India: PHI Learning Pvt. Ltd., 2006.
- Docherty, Thomas, ed. *Postmodernism: A Reader*. New York: Columbia University Press, 1993.
- Dougherty, Frank. "Christoph Meiners und Johann Friedrich Blumenbach im Streit um den Begriff der Menschenrasse." In *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde, 1750–1850*, edited by Gunter Mann and Franz Dumont, 89–111. Soemmerring-Forschungen 6. Stuttgart: G. Fischer Verlag, 1990.
- Dougherty, Frank William Peter. *Gesammelte Aufsätze zu Themen der klassischen Periode der Naturgeschichte / Collected Essays on Themes from the Classical Period of Natural History*. Göttingen: Norbert Klatt Verlag, 1996.
- Doyle, Michael W. "Liberalism and World Politics." *American Political Science Review* 80 (1986): 1151–69.
- Dunning, Wm. A. "The Political Theories of the German Idealists." Pts. 1 and 2. *Political Science Quarterly* 28 (1913): 193–206 and 480–95.
- Dupré, Louis. "Kant's Theory of History and Progress." *Review of Metaphysics* 51 (1998): 813–28.
- Edmundson, William A. *An Introduction to Rights*. New York: Cambridge University Press, 2004.
- Eigen, Sara, and Mark Larrimore, eds. *The German Invention of Race*. Albany, NY: SUNY Press, 2006.
- Elden, Stuart, and Eduardo Mendieta, eds. *Reading Kant's Geography*. Albany, NY: SUNY Press, 2011.
- Elsenhans, Theodor. *Kants Rassentheorie und ihre bleibende Bedeutung*. Leipzig, Germany: Wilhelm Engelmann, 1904.
- Eze, Emmanuel Chukwudi. *Achieving Our Humanity: The Idea of the Postracial Future*. London: Routledge, 2001.
- . "The Color of Reason: The Idea of 'Race' in Kant's Anthropology." *Bucknell Review* 38 (1994): 201–41. Reprinted in *Postcolonial African Philosophy: A Critical Reader*, edited by Emmanuel Chukwudi Eze, 103–40. Cambridge, MA: Blackwell, 1997.
- . *On Reason: Rationality in a World of Cultural Conflict and Racism*. Durham, NC: Duke University Press, 2008.
- , ed. *Postcolonial African Philosophy: A Critical Reader*. Cambridge, MA: Blackwell, 1997.
- , ed. *Race and the Enlightenment: A Reader*. Malden, MA: Blackwell, 1997.

- Farber, Paul. "Changes in Scientific Opinion on Race Mixing: The Impact of the Modern Synthesis." In *Race and Science: Scientific Challenges to Racism in Modern America*, edited by Paul Farber and Hamilton Cravens, 130–51. Corvallis: Oregon State University Press, 2009.
- . *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E. O. Wilson*. Baltimore: The Johns Hopkins University Press, 2000.
- . "Natural History." In *New Dictionary of the History of Ideas*, vol. 4, edited by M. C. Horowitz, 1598–1601. Detroit: Charles Scribner's Sons, 2005.
- Feuerstein-Herz, Petra. "Eberhard August Wilhelm von Zimmermann (1743–1815) und die Tiergeographie." PhD diss., Technische Universität Carolo-Wilhelmina zu Braunschweig, 2004. www.digibib.tu-bs.de/?docid=00001647.
- Firla-Forkl, Monika. "Philosophie und Ethnographie: Kants Verhältnis zu Kultur und Geschichte Afrikas." In *Zeitschrift der deutschen morgenländischen Gesellschaft*. Suppl. X: XXV. *Deutscher Orientalistentag: vom 8. bis 13.4.1991 in München: Vorträge*, edited by Cornelia Wunsch, 432–42. Stuttgart: Franz Steiner, 1994.
- Fischer, Klaus P. "John Locke in the German Enlightenment: An Interpretation." *Journal of the History of Ideas* 36 (1975): 431–46.
- Forster, Georg. *Georg Forsters Werke: Sämtliche Schriften, Tagebücher, Briefe*, 18 vols. to date. Berlin: Akademie Verlag, 1958–.
- . "Noch etwas über die Menschenraßen." *Der Teutsche Merkur*, Oktober and November 1786, 57–86 and 150–166. Reproduced with original pagination in *Concepts of Race in the Eighteenth Century*, vol. 3, edited by Robert Bernasconi, and available online at www.ub.uni-bielefeld.de/diglib/aufklaerung/.
- . *A Voyage Round the World*, 2 vols. Edited by Nicholas Thomas and Oliver Berghof. Honolulu: University of Hawaii Press, 2000.
- Franceschet, Antonio. *Kant and Liberal Internationalism: Sovereignty, Justice, and Global Reform*. New York: Palgrave Macmillan, 2002.
- Friedrich, Carl J. "The Ideology of the United Nations Charter and the Philosophy of Peace of Immanuel Kant 1795–1945." *Journal of Politics* 9 (1947): 10–30.
- Gallie, W. B. "Kant's View of Reason in Politics." *Philosophy* 54 (1979): 19–33.
- Genova, A. C. "Kant's Three Critiques: A Suggested Analytical Framework." *Kant-Studien* 60 (1969): 136–46.
- Gerhardt, Volker, and Friedrich Kaulbach. *Kant*. Erträge der Forschung, vol. 105. Darmstadt: Wissenschaftliche Buchgesellschaft, 1979.
- Girtanner, Christoph. *Ueber das kantische Prinzip für die Naturgeschichte: Ein Versuch diese Wissenschaft philosophisch zu behandeln*. Göttingen: Vandenhoeck und Ruprecht, 1796. Reproduced with original pagination in *Concepts of Race*, vol. 7, edited by Robert Bernasconi, and available online at www.ub.uni-bielefeld.de/diglib/aufklaerung.
- Gobineau, Joseph-Arthur. *Essai sur l'inégalité des races humaines*. Paris: Librairie de Firmin Didot, 1853–1855. Translated by A. Collins as *The Inequality of Human Races*. New York: G. P. Putnam's Sons, 1915. Reprint, New York: H. Fertig, 1999.
- Goodnow, Frank J. "Former Plans for a League of Nations." *Columbia Law Review* 20 (1920): 51–67.

- Gould, Stephen Jay. *Ontogeny and Phylogeny*. Cambridge, MA: Harvard University Press, 1977.
- Graves, Joseph L., Jr. *The Emperor's New Clothes: Biological Theories of Race at the Millennium*. New Brunswick, NJ: Rutgers University Press, 2001.
- Grene, Marjorie, and David Depew. *The Philosophy of Biology: An Episodic History*. Cambridge: Cambridge University Press, 2004.
- Gurian, Waldemar, et al. "Editorial: Some Reflections on the War." *Review of Politics* 1 (1939): 369–81.
- Guyer, Paul. *Kant's System of Nature and Freedom*. Oxford: Oxford University Press, 2005.
- Habermas, Jürgen, and Seyla Benhabib. "Modernity versus Postmodernity." *New German Critique* 22 (1981): 3–14.
- Hanna, Robert. "Kant in the Twentieth Century." In *Routledge Companion to Twentieth Century Philosophy*, edited by Dermot Moran, 149–203. London: Routledge, 2008.
- Hartshorne, Richard. *The Nature of Geography*. Lancaster, PA: The Association of American Geographers, 1939.
- Harvey, David. "Cosmopolitanism and the Banality of Geographical Evils." *Public Culture* 12 (2000): 529–64.
- Hedrick, Todd. "Race, Difference, and Anthropology in Kant's Cosmopolitanism." *Journal of the History of Philosophy* 46 (2008): 245–68.
- Henscheid, Eckard. *Der Neger (Negerl)*. Munich: Verlag Klaus G. Renner, 1982. Republished, Frankfurt am Main: Fischer, 1985.
- Herder, Johann Gottfried. *Ideen zur Philosophie der Geschichte des Menschheit*. 4 vols. Translated by Frank Edward Manuel as *Reflections on the Philosophy of History of Mankind*. Chicago: University of Chicago Press, 1968.
- . *On World History*. A "variety of selections from Herder's works on world history," edited by Hans Adler and Ernest A. Menze and translated by Ernest A. Menze with Michael Palma. Armonk, NY: Sharpe, 1997.
- Hertz, Friedrich Otto. *Race and Civilization*. Translated by A. S. Levetus and W. Entz. New York: Macmillian, 1928. Reprint, New York: Katv Publishing House, 1970.
- Hill, Thomas E., Jr., and Bernard Boxill. "Kant and Race." In *Race and Racism*, edited by Bernard Boxill, 448–71. Oxford: Oxford University Press, 2000.
- Hoeres, Peter. "Kants Friedensidee in der deutschen Kriegsphilosophie des Ersten Weltkrieges." *Kant-Studien* 93 (2002): 84–112.
- Höffe, Otfried. *Immanuel Kant*. Translated by Marshall Farrier. Albany, NY: SUNY Press, 1994.
- , ed. *Immanuel Kant: Zum ewigen Frieden*. Berlin: Akademie Verlag, 1995.
- Hoffmann, Stanley. "The Crisis of Liberal Internationalism." *Foreign Policy* 98 (1995): 159–77.
- Horn, Christoph. "Kant on Ends in Nature and in Human Agency: The Teleological Argument (GMS 394–396)." In *Groundwork of the Metaphysics of Morals*, edited by Christoph Horn and Dieter Schönecker with Corinna Mieth, 45–71. Berlin: Walter de Gruyter, 2006.
- Hull, David L., and Michael Ruse, eds. *Philosophy of Biology*. Oxford: Oxford University Press, 1998.

- Huneman, Phillipe, ed., *Understanding Purpose: Kant and the Philosophy of Biology*. Rochester, NY: University of Rochester Press, 2007.
- Ingram, David. "The Postmodern Kantianism of Arendt and Lyotard." *Review of Metaphysics* 42 (1988): 51–77.
- Jackson, Robert H. "Quasi-States, Dual Regimes, and Neoclassical Theory: International Jurisprudence and the Third World." *International Organization* 41 (1987): 519–49.
- Jacques, T. Carlos. "From Savages and Barbarians to Primitives: Africa, Social Typologies, and History in Eighteenth-Century French Philosophy." *History and Theory* 36 (1997): 190–215.
- Jahoda, Gustav. *Images of Savages: Ancient Roots of Modern Prejudice in Western Culture*. London: Routledge, 1999.
- James, Michael. "Race." *Stanford Encyclopedia of Philosophy (Fall 2011 Edition)*, edited by Edward N. Zalta, <http://plato.stanford.edu/archives/win2011/entries/race/>.
- Kames, Henry Home. *Sketches of the History of Man*, 3 vols. Edited with an introduction by James A Harris. Indianapolis, IN: Liberty Fund, 2007. Reprint of 1778 edition; first published 1774.
- Kant, Immanuel. *Anthropology from a Pragmatic Point of View*. Translated by Victor Lyle Dowdell. Revised and edited by Hans H. Rucnick, with an Introduction by Frederick P. Van De Pitte. Carbondale: Southern Illinois University Press, 1978.
- . *Anthropology from a Pragmatic Point of View*. Translated and edited by Roubert B. Loudon, with an Introduction by Manfred Kuehn. Cambridge: Cambridge University Press, 2006.
- . *Anthropology, History, and Education*. Edited with translations by Robert B. Loudon and Günter Zöller. Cambridge: Cambridge University Press, 2007.
- . *Critique of Judgment*. Translated by Werner S. Pluhar. Indianapolis, IN: Hackett, 1987.
- . *Critique of Practical Reason*. Translated by Lewis White Beck. Indianapolis, IN: Bobbs-Merrill, 1956.
- . *Critique of Pure Reason*. Translated by Norman Kemp Smith. London: Macmillan, 1929.
- . *Critique of the Power of Judgment*. Translated by Paul Guyer and Eric Matthews. Cambridge: Cambridge University of Press, 2000.
- . *Foundations of the Metaphysics of Morals*, 2nd ed. Translated by Lewis White Beck. New York: Macmillan, 1990.
- . *Kants gesammelte Schriften*. Edited by the Königlich-preußischen Akademie der Wissenschaften, 29 vols. to date. Berlin: Walter de Gruyter, 1900–.
- . *Metaphysical Foundations of Natural Science*. Translated by James Ellington. Indianapolis, IN: Bobbs-Merrill, 1970.
- . *Observations on the Feeling of the Beautiful and Sublime*. Translated by John Goldthwait. Berkeley: University of California Press, 1960.
- . *On History*. Edited by Lewis White Beck. Indianapolis, IN: Bobbs-Merrill, 1963.
- . *Religion within the Boundaries of Mere Reason*. Translated by George di Giovanni. In *Religion and Rational Theology*, edited by Allen W. Wood and George di Giovanni, 39–215. Cambridge: Cambridge University Press, 1996.

- . *Religion within the Bounds of Bare Reason*. Translated by Werner S. Pluhar. Indianapolis, IN: Hackett, 2009.
- . *Religion within the Limits of Reason Alone*. Translated by Theodore M. Greene and Hoyt H. Hudson. New York: Harper & Row, 1960.
- . *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*. Edited by Pauline Kleingeld. Translated by David L. Colclasure. New Haven, CT: Yale University Press, 2006.
- . *Universal Natural History and Theory of the Heavens*. Translated by W. Hastie. Ann Arbor: University of Michigan Press, 1969.
- . *Werke*, vol. 6: *Schriften zur Anthropologie, Geschichtsphilosophie, Politik und Pädagogik*. Edited by Wilhelm Weischedel. Frankfurt am Main: Insel Verlag, 1964.
- . *Werke*, vol. 3: *Schriften zur Ästhetik und Naturphilosophie*. Edited by Manfred Frank and Véronique Zanetti. Frankfurt am Main: Deutscher Klassiker Verlag, 1996.
- Kaplan, Jonathan. "When Socially Determined Categories Make Biological Realities: Understanding Black/White Health Disparities in the U.S." *The Monist* 93 (2010): 281–97.
- Kehoe, Patricia. "Race and Medicine: The Black Experience." In *Race and Racism in Theory and Practice*, edited by Berel Lang, 229–241. Lanham, MD: Rowman & Littlefield, 2000.
- Kellner, Douglas. "Ernst Bloch, Utopia and Ideology Critique." www.uta.edu/english/dab/illuminations/kell1.html.
- Kendig, Catherine. "Biology and Ontology: An Organism-centered View." PhD diss., University of Exeter, 2008.
- . "Race as a Physiosocial Phenomenon." *History and Philosophy of the Life Sciences* 33 (2011): 191–222.
- Kiellmeyer, Carl Friedrich. *Über die Verhältnisse der organischen Kräfte unter einander in der Reihe der verschiedenen Organisationen, die Geseze und Folgen dieser Verhältnisse*. Stuttgart: Mit akademischen Schriften, 1793. Reprint, Marburg an der Lahn: Bassilischen-Presse, 1993.
- Kleingeld, Pauline, and Eric Brown. "Cosmopolitanism." *Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, edited by Edward N. Zalta, <http://plato.stanford.edu/archives/fall2008/entries/cosmopolitanism/>.
- Kleingeld, Pauline. *Fortschritt und Vernunft: Zur Geschichtsphilosophie Kants*. Würzburg: Königshausen und Neumann, 1995.
- . "Kant, History, and the Idea of Moral Development." *History of Philosophy Quarterly* 16 (1999): 59–80.
- . "Kant's Cosmopolitan Law: World Citizenship in a Global Order." *Kantian Review* 2 (1998): 72–90.
- . "Kant's Cosmopolitan Patriotism." *Kant-Studien* 94 (2003): 299–316.
- . "Kant's Second Thoughts on Race." *Philosophical Quarterly* 57 (2007): 573–92.
- . "Kant's Theory of Peace." In *Cambridge Companion to Kant and Modern Philosophy*, edited by Paul Guyer, 477–504. New York: Cambridge University Press, 2006.

- . “Nature or Providence? On the Theoretical and Moral Importance of Kant’s Philosophy of History.” *American Catholic Philosophical Quarterly* 75 (2001): 201–219.
- Klemperer, Victor. *The Language of the Third Reich*. Translated by Martin Brady. London: Continuum International Publishing Group, 2006.
- Kuehn, Manfred. *Kant: A Biography*. Cambridge: Cambridge University Press, 2001.
- . “Kant’s Teachers in the Exact Sciences.” In *Kant and the Sciences*, edited by Eric Watkins, 11–30. New York: Oxford University Press, 2001.
- Laberge, Pierre. “Von der Garantie des ewigen Friedens.” In *Immanuel Kant: Zum ewigen Frieden*, edited by Otfried Höffe, 149–70. Berlin: Akademie Verlag, 1995.
- Lang, Berel, ed. *Race and Racism in Theory and Practice*. Lanham, MD: Rowman & Littlefield, 2000.
- Lamason, Rebecca L., et al. “SLC24A5, a Putative Cation Exchanger, Affects Pigmentation in Zebrafish and Humans.” *Science* 310:5755 (2005): 1782–86.
- Larrimore, Mark. “Antinomies of Race: Diversity and Destiny in Kant.” *Patterns of Prejudice* 42 (2008): 341–63.
- . “Race, Freedom and the Fall in Steffens and Kant.” In *The German Invention of Race*, edited by Sara Eigen and Mark Larrimore, 91–120. Albany, NY: SUNY Press, 2006.
- . “Sublime Waste: Kant on the Destiny of Races.” In *Civilization and Oppression*, edited by Catherine Wilson, 93–137. Calgary: University of Calgary Press, 1999.
- . “Substitutes for Wisdom: Kant’s Practical Thought and the Tradition of the Temperaments.” *Journal of the History of Philosophy* 39 (2001), 259–88.
- Lenoir, Timothy. *The Strategy of Life: Teleology and Mechanics in Nineteenth-Century German Biology*. Dordrecht: D. Reidel, 1982.
- Liddell, Brendan E. A. *Kant on the Foundations of Morality: A Modern Version of the Grundlegung*. Bloomington, IN: Indiana University Press, 1970.
- Long, David A. “Kant’s Pragmatic Horizon.” *American Philosophical Quarterly* 19 (1982): 299–313.
- Louden, Robert. “Comments on Emmanuel Chukwudi Eze, *Achieving Our Humanity*.” Paper presented at an Author Meets Critics session at the Central Division Meeting of the American Philosophical Association, Chicago, IL, 27 April 2002.
- . *Kant’s Impure Ethics: From Rational Beings to Human Beings*. New York: Oxford University Press, 2000.
- Lovejoy, Arthur O. “Kant and Evolution I.” *Popular Science Monthly* 77 (1910): 538–53.
- . “Kant and Evolution II.” *Popular Science Monthly* 78 (1911): 36–51. Reprinted “in part” and “extensively revised” in *Forerunners of Darwin 1745–1859*, edited by Bentley Glass, Owesi Temkin, and William L. Strauss, Jr., 173–206. Baltimore: The Johns Hopkins Press, 1959.
- Liotard, Jean-François. “The Sign of History.” Translated by Geoff Bennigton. In *The Lyotard Reader*, edited by Andrew Benjamin, 393–411. Oxford: Basil Blackwell, 1989.
- Magner, Lois N. *A History of the Life Sciences*, 3rd ed. New York: Marcel Dekker, 2002.

- Malter, Rudolf. "Der Rassenbegriff in Kants Anthropologie." In *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde, 1750–1850*, edited by Gunter Mann and Franz Dumont, 113–22. Soemmerring-Forschungen 6. Stuttgart: G. Fischer Verlag, 1990.
- Maienschein, Jane. "Epigenesis and Preformationism." *Stanford Encyclopedia of Philosophy (Fall 2006 Edition)*, edited by Edward N. Zalta, <http://plato.stanford.edu/archives/fall2006/entries/epigenesis/>.
- Mann, Gunter, and Franz Dumont, eds. *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde, 1750–1850*. Soemmerring-Forschungen 6. Stuttgart: G. Fischer Verlag, 1990.
- May, J. A. *Kant's Concept of Geography and Its Relation to Recent Geographical Thought*. Toronto: University of Toronto Press, 1970.
- Mayr, Ernst. *The Growth of Biological Thought*. Cambridge, MA: Harvard University Press, 1982.
- McFarland, J. D. *Kant's Concept of Teleology*. Edinburgh: Edinburgh University Press, 1970.
- McCarthy, Thomas. "On Reconciling Cosmopolitan Unity and National Diversity," *Public Culture* 11 (1999): 175–208.
- . *Race, Empire, and the Idea of Human Development*. Cambridge: Cambridge University Press, 2009.
- McLaughlin, Peter. *Kant's Critique of Teleology in Biological Explanation*. Lewiston, NY: Edward Mellen Press, 1990.
- Meiners, Christoph. *Grundriß der Geschichte der Menschheit*. Lemgo: Meyerschen Buchhandlung, 1785; 2nd ed., 1793.
- . *History of the Female Sex; Comprising a View of the Habits, Manners, and Influence of Women, among All Nations, from the Earliest Ages to the Present*, 4 vols. Translated by Frederic Shoberl. London: printed for Henry Colburn, 1808.
- . "Von den Varietäten und Abarten der Neger," *Göttingisches historisches Magazin* 6 (1790): 625–45, available online at www.ub.uni-bielefeld.de/diglib/aufklaerung/.
- Mikkelsen, Jon Mark. "The Dialectic of System and Critique in Recent Interpretations of Kant's Critical Philosophy." *Ultimate Reality and Meaning* 17 (1994): 136–149.
- Mills, Charles W. "Comments on Emmanuel Chukwudi Eze, *Achieving Our Humanity*." Paper presented at an Author Meets Critics session at the Central Division Meeting of the American Philosophical Association, Chicago, IL, 27 April 2002.
- . "Kant's *Untermenschen*." In *Race and Racism in Modern Philosophy*, edited by Andrew Valls, 169–93. Ithaca, NY: Cornell University Press, 2005.
- Mishler, Brent D., and Robert Brandon. "Individuality, Pluralism, and the Phylogenetic Species Concept." In *Philosophy of Biology*, edited by David Hull and Michael Ruse, 300–318. Oxford: Oxford University Press, 1998.
- Modelski, George. "Is World Politics Evolutionary Learning?" *International Organization* 44 (1990): 1–24.
- Montagu, Ashley. "The Concept of Race in the Human Species in the Light of Genetics." In *The Idea of Race*, edited by Robert Bernasconi and Tommy L. Lott, 100–107. Presented originally as a lecture, "The Meaninglessness of the

- Anthropological Conception of Race," before the American Association of Physical Anthropologists, Chicago, IL, April 1941, and originally published in *Journal of Heredity* 23 (1941): 243–47.
- . *Man's Most Dangerous Myth: The Fallacy of Race*, 5th ed. New York: Oxford University Press, 1974.
- Moss, Lenny. *What Genes Can't Do*. Cambridge, MA: MIT Press, 2003.
- Neugebauer, Christian M. "The Racism of Kant and Hegel." In *Sage Philosophy: Indigenous Thinkers and Modern Debate on African Philosophy*, edited by H. Odera Oruka, 259–71. Leiden: Brill, 1990.
- Nino, Carlos S. "The Communitarian Challenge to Liberal Rights." *Law and Philosophy* (1989): 37–52.
- Ollig, Hans-Ludwig. *Der Neukantianismus*. Stuttgart: Metzler, 1979.
- Omi, Michael, and Howard Winant. *Racial Formation in the United States*, 2nd ed. London: Routledge, 1994.
- . "Racial Formation in the United States." In *The Idea of Race*, edited by Robert Bernasconi and Tommy Lott, 181–212. Indianapolis, IN: Hackett, 2000.
- Paton, H. J. *The Moral Law: Kant's Groundwork of the Metaphysics of Morals*. New York: Barnes & Noble, 1967.
- Pigliucci, Massimo, and Jonathan Kaplan. "On the Concept of Biological Race and Its Applicability to Humans." *Philosophy of Science* 70 (2003): 1161–72.
- Rawls, John. "Kantian Constructivism in Moral Theory." *Journal of Philosophy* 77 (1980): 515–72.
- Riedel, Manfred. "Historizismus und Kritizismus. Kants Streit mit G. Forster und J. G. Herder." *Kant-Studien* 72 (1981): 41–57.
- Richards, David A. J. "Rights and Autonomy." *Ethics* 92 (1981): 3–20.
- Richards, Robert J. *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*. Chicago: University of Chicago Press, 2002.
- Richmond, Marsha L. "T. H. Huxley's Criticism of German Cell Theory: An Epigenetic and Physiological Interpretation of Cell Structure." *Journal of the History of Biology* 33 (2000): 247–89.
- Rockmore, Tom. *On Foundationalism*. Lanham, MD: Rowman & Littlefield, 2004.
- Rosenberg, Alex, and Daniel W. McShea. *Philosophy of Biology: A Contemporary Introduction*. London: Routledge, 2007.
- Ruse, Michael. "Kant and Evolution." In *The Problem of Animal Generation in Early Modern Philosophy*, edited by Justin E. H. Smith, 402–15. New York: Cambridge University Press, 2006.
- Sarkar, Sohotra, and Anya Plutynski, eds. *A Companion to the Philosophy of Biology*. Malden, MA: Blackwell, 2008.
- Schmidt, Jörg. "Wurzeln des Wahnes." *Die Zeit* 18/1999, www.zeit.de/1999/18/199918.meiner.neu.xml.
- Schultze, Fritz. *Kant und Darwin: Ein Beitrag zur Geschichte der Entwicklungslehre*. Jena, Germany: H. Dufft, 1875.
- Serequeberhan, Tsenay. *Contested Memory: The Icons of the Occidental Tradition*. Trenton, NJ: Africa World Press, 2007.
- . "Eurocentrism in Philosophy: The Case of Immanuel Kant." *Philosophical Forum* 27 (1996): 333–56. Reprinted in *Postcolonial African Philosophy*, edited by Emmanuel Chukwudi Eze, 140–61. Cambridge, MA: Blackwell, 1997.

- Shell, Susan Meld. *The Embodiment of Reason: Kant on Spirit, Generation, and Community*. Chicago: University of Chicago Press, 1996.
- Shipman, Pat. *The Evolution of Racism: Human Differences and the Use and Abuse of Science*. Cambridge, MA: Harvard University Press, 2002.
- Sloan, Phillip. "Evolution." *Stanford Encyclopedia of Philosophy (Fall 2010 Edition)*, edited by Edward N. Zalta, <http://plato.stanford.edu/archives/fall2010/entries/evolution/>.
- Sloan, Phillip R. "Buffon, German Biology, and the Historical Interpretation of Biological Species." *British Journal for the History of Science* 12 (1979): 109–53.
- . "Kant on the History of Nature: The Ambiguous Heritage of the Critical Philosophy for Natural History," *Studies in History and Philosophy of Biological and Biomedical Sciences* 37C:4 (2006): 627–48.
- . "Preforming the Categories: Eighteenth-Century Generation Theory and the Biological Roots of Kant's *A Priori*." *Journal of the History of Philosophy* 40 (2002): 229–53.
- Smith, Justin E. H., ed. *The Problem of Animal Generation in Early Modern Philosophy*. New York: Cambridge University Press, 2006.
- Smith, M. Campbell. "Translator's Introduction." In *Perpetual Peace: A Philosophical Essay*, by Immanuel Kant, translated with an introduction and notes by M. Campbell Smith, 1–105. New York: Macmillan; London: George Allen & Unwin, 1903. Reprint, 1915.
- Smocivitis, Vassiliki Betty. "Biology." In *New Dictionary of the History of Ideas*, vol. 1, edited by M. C. Horowitz, 220–26. Detroit: Charles Scribner's Sons, 2005.
- Sober, Elliott. *Philosophy of Biology*, 2nd ed. Boulder, CO: Westview Press, 2000.
- Sömmerring, Samuel Thomas. *Über die körperliche Verschiedenheiten des Negers von Europäer*, 2nd ed. Frankfurt and Mainz: Barrentrapp Sohn und Wenner, 1785. Reproduced in *Concepts of Race in the Eighteenth Century*, vol. 7, edited by Robert Bernasconi. Bristol, UK: Thoemmes Press, 2001.
- Stern, Alfred. "Kant and Our Time." *Philosophy and Phenomenological Research* 16 (1956): 531–39.
- Sutter, Alex. "Kant und die 'Wilden': Zum impliziten Rassismus in der Kantischen Geschichtsphilosophie." *Prima Philosophie* 2 (1989): 241–65.
- Thomas, Hugh. *The Slave Trade: The Story of the Atlantic Slave Trade, 1440–1870*. New York: Simon and Schuster, 1997.
- Unwin, Tim. *The Place of Geography*. Essex, Harlow, England: Addison Wesley Longman, Ltd., 1992.
- Valls, Andrew, ed. *Race and Racism in Modern Philosophy*. Ithaca, NY: Cornell University Press, 2005.
- Voltaire, François-Marie. "Of the Different Races of Men." In *The Idea of Race*, edited by Robert Bernasconi and Tommy L. Lott, 5–7. Indianapolis, IN: Hackett, 2000.
- Waltz, Kenneth N. "Kant, Liberalism, and War." *American Political Science Review* 56 (1962): 331–40.
- Ward, Julie K., and Tommy L. Lott, eds. *Philosophers on Race: Critical Essays*. Malden, MA: Blackwell, 2002.

- Watkins, Eric. "Kant's Philosophy of Science." *Stanford Encyclopedia of Philosophy* (Spring 2009 Edition), edited by Edward N. Zalta, <http://plato.stanford.edu/archives/spr2009/entries/kant-science/>.
- Weiss, Rick. "Scientists Find a DNA Change that Accounts for White Skin." *Washington Post*, 16 December 2005, www.washingtonpost.com/wp-dyn/content/article/2005/12/15/AR2005121501728.html.
- Wells, William Charles. "An Account of a Female of the White Race of Mankind, Part of Whose Skin Resembles that of a Negro, with Some Observations on the Cause of the Differences in Color and Form Between the White and Negro Races of Man." In *Two Essays: One Upon a Single Vision with Two Eyes, the Other on Dew*, 425–39. London: printed for Archibald Constable and Co. Edinburgh, 1818, and available online at http://spot.colorado.edu/~friedmaw/Early_Evolution/Wells_files/wells-1818.pdf.
- Williams, Michael C. "Reason and Realpolitik: Kant's 'Critique of International Politics.'" *Canadian Journal of Political Science* 25 (1992): 99–110.
- Zammito, John H. *The Genesis of Kant's Critique of Judgment*. Chicago: University of Chicago Press, 1992.
- . *Kant, Herder, and the Birth of Anthropology*. Chicago: University of Chicago Press, 2002.
- . "Policing Polygenesis in Germany 1775: (Kames,) Kant, and Blumenbach." In *The German Invention of Race*, edited by Sara Eigen and Mark Larrimore, 35–54. Albany, NY: SUNY Press, 2006.
- Zimmermann, Eberhard August Wilhelm. *Geographische Geschichte des Menschen und der allgemein verbreiteten vier-füßigen Thiere*. 3 vols. Leipzig: Weygand, 1778–1783.

Index

- Abolitionist movement, 233, 251, 264;
among Quakers, 241, 244, 258, 262;
American, 256, 264; British, 250,
258, 264, 271-72; French, 264, 268;
Swedish, 78
- Abyssinia, 130, 152, 199; black Jews in,
96; cooling winds in, 98
- Adolphus, John, 78
- Africa: heat distinctions effect on skin
shades in, 95-99; peculiarity of
Negroes to, 48, 58, 62
- African Association, 263
- An Essay on the Inequality of the
Human Race* (Gobineau), 196
- "An Answer to the Question: What is
Enlightenment?" (Kant), 125
- Anthropology from a Pragmatic Point of
View* (Kant), 198, 210
- Arabs, 62, 199, 200
- Aristotle, 223
- Arouet, François-Marie. *See* Voltaire
- Atomism, 237
- Augustine, 238
- Baer, Karl Ernst, 284
- Bailly, Jean Sylvain, 113
- Barrere, Pierre, 102, 103
- Bartolozzi, Francesco, 272
- Barton, Benjamin Smith, 78
- Bartram, William, 78
- Baum, Bruce David, 196
- Beckmann, Johann, 250
- Being. *See also* Bodies, organized:
capacity for effect of, 191; divine, 79;
material, 189, 191; organic, 18, 27, 31,
74, 181, 189, 190; organized, 20, 171,
189, 191, 217, 218, 219; as system of
final causes, 189
- Berghoff, Oliver, 143
- Bergmann, Karl, 290
- Bering, Vitus, 268
- Berlin, Isaiah, 10, 11
- Bernard, Claude, 294
- Bernasconi, Robert, 4, 6, 59, 145, 172;
assessment of Kant's race theory, 7,
10-17; "Kant as an Unfamiliar Source
of Racism," 10, 14; "Who Invented
the Concept of Race? Kant's Role in
the Enlightenment Construction of
Race," 10, 12
- Bernier, François, 15
- Berzelius, Jöns Jacob, 284
- Bichat, Marie François, 274
- Biester, D., 146
- Bile, 102-104
- Biology: first use of term, 4; historical
development of, 23; Kant and
development of, 17, 18; mechanistic,
236
- Black, Joseph, 252
- Blacks. *See* Negroes
- Blackstone, William, 252
- Blake, William, 272
- Blome, Hermann, 197
- Blood: climate and, 90; fixed air and,
140; movement through capillaries,
237; phlogiston in, 139
- Blumenbach, Johann Friedrich, 15, 209,
224, 228, 229, 253, 255, 256, 257,
261, 262, 263, 264, 265, 270, 273;
commentary on upright position of
humans, 121; *Concerning the*

- Blumenbach, Johann Friedrich
(continued)
Formative Drive, 220; on differences in build between humans and orangutans, 116; ethical theories of, 9; formative drive theory, 27; interest in epigenesis, 15, 16; on physical features, 90; plant comparisons by, 88; reference to four distinct races by, 111; scientific concept of race and, 12
- Bodies, organized: classes, orders, genera, and kinds of, 212; classes of reproduction in, 229; colors of, 226, 227, 228; composition of, 216; deviate forms of, 221, 222; divided into lines of descent according to relationships of regeneration, 213, 216; emergence of new kinds through migration and displacement of, 216; encapsulation and, 220; heritable differences of, 213; occasionalism and, 219; origin of, 216, 217; panspermism and, 220; prestabilism and, 219, 220; unnaturally disfigured, 221
- Boerhaave, Hermann, 245
- Bolyai, János, 282
- Bonnet, Charles, 79, 220, 246
- Bougainville, Louis-Antoine, 85, 87, 91, 92, 149
- Bouger, Pierre, 99, 100
- Bouillard, Jean Baptiste, 283
- Boxill, Bernard, 5, 6
- Boyle, Robert, 237
- Boyle's Law, 237
- Brown, John, 209, 271
- Brown, Robert, 284
- Buffon, Georges-Louis Leclerc, 6, 15, 42, 43, 95, 98, 152, 159, 197, 247, 251, 254, 269; Buffon's rule, 31, 35, 36; challenge to Linnaeus by, 42; on differences in build between humans and orangutans, 116, 117, 118; epigenetic theories of, 38; *Epochs of Nature*, 22; *Natural History: General and Particular*, 42, 80; natural history of, 76; phylogenetic system of, 23; precedence of historical lineage over form by, 23; on racial species, 22; scientific concept of race and, 12; theory of generation, 37; theory of race by, 42, 43; on why North America does not produce Negroes, 99
- Buffon's rule, 31, 35, 36, 45, 59, 127
- Burdach, Karl Friedrich, 274
- Burnett, James, 251
- Camerarius, Rudolph Jakob, 242
- Camper, Peter, 144, 255, 257, 265, 266, 267
- Cannon, Walter Bradford, 294
- Cardan, Girolamo, 224
- Carlisle, Anthony, 274
- Carlos I (King of Spain), 235
- Carlos V (Holy Roman Emperor), 235
- Carteret, Philip, 85, 86, 149, 150, 188
- Cavendish, Henry, 252, 260
- Cavolini, Filippo, 78
- Chambers, Robert, 290
- Character: distinction between physical and moral uses of term, 25
- Charles, Jacques Alexander, 262
- Charles II (King of England), 238
- Charles I (King of England), 235
- Chemistry: to account for differing skin colors, 58
- Clarkson, Thomas, 261, 264
- Classification: Linnaeus' system, 5, 12, 33; need for in natural history, 23; racial, 12
- Clauss, Ludwig Ferdinand, 43
- Climate. *See also* Physical features affected by climate: changes in, 82; cooler air accounting for lighter skin color in, 96, 97, 110; drainage systems and, 67; dry heat, 68; effect of cold, 65, 66, 68, 69, 82, 87, 88, 89, 90, 100, 101, 102; effect on blood, 90; effect on skin color, 53, 54, 94–115, 151; fitness for, 185; gradual influence of, 151; human size and, 88, 89, 92, 93; humidity's effects on human characteristics, 67, 69, 70; influence on power of generation, 216; Kant's explanation of, 49–54, 58, 64–71;

- Meiners' comparison of with internal factors, 30; procreation and, 83; role in determining race, 25, 30, 49–54, 64–71; skin color and, 90; unlikelihood of generative causes of, 188; Zimmermann's view on, 25, 81–123
- Colonialism: Kant's views on, 7, 11, 126
- “The Color of Reason: The Idea of ‘Race’ in Kant's Anthropology” (Eze), 4, 12, 21
- Commerson, Philibert, 85, 92, 93
- “Concerning Radical Evil in Human Nature” (Kant), 125
- Concerning the Formative Drive* (Blumenbach), 220
- Condamine, Charles-Marie de la, 99, 100
- Condorcet, Nicolas de, 262, 273
- “Conjectural Beginning of Human History” (Kant), 125, 146
- Cook, Captain James, 55, 149, 249, 254
- Coon, Carleton, 43
- Corpuscularism, 237
- Count, Earl, 5
- Cranz, David, 88, 90, 91, 99
- Critique, ideology, 6
- Critique of Practical Reason* (Kant), 18, 20, 41, 126
- Critique of Pure Reason* (Kant), 18, 20, 34, 41, 126, 147, 193
- Critique of the Power of Judgment* (Kant), 11, 16, 18, 20, 29, 35, 41, 79, 126, 210
- “Critique of the Teleological Power of Judgment” (Kant), 19, 28, 169–172
- Cuvier, Georges, 279, 285
- Dalton, John, 275, 277, 278
- Dampier, William, 106, 149
- Darwin, Charles, 233, 270, 280, 283, 285, 286, 289, 290, 293
- Darwin, Erasmus, 269
- Davy, Humphrey, 273
- Degenerations, 46, 60, 81, 213; distinguished from race, 177
- Denmark, 105, 152; physical features of population, 87, 90, 109
- Descartes, René, 74, 235
- “Determination of the Concept of a Human Race” (Kant), 19, 21, 25, 29, 125–141, 146–167
- Development: of biology, 17, 18, 23; of critical philosophy, 16, 21; in geography, 75; germs-and-endowments theory and, 50; hereditary lines of, 23; of mental/moral characteristics, 58; of modern philosophy, 57; moral, 57; of new science to help understand races, 58; occasional, 64; of physical geography and anthropology, 45; preformed, 50, 64
- Deviations: diversity of, 70–71; forms of, 213, 214, 215; heritable over generations, 60; need of lineal stem species for, 68, 69; preserved over generations, 46; progression of, 69; racial, 50, 52; in species, 46, 60; which die out through transplantation, 60
- Diet: changes in, 82; effect on power of generation, 216; effect on procreation, 83
- Divergences: heritable, 60, 213
- Diversity, manifold, 34, 35, 55, 59, 68, 70, 71, 170; derivation of, 188; diminished to bring about a certain uniformity, 179, 180; in human lineages, 81–123, 177; of races, 45–47, 59–61; sufficient to obviate need for interbreeding with other races, 210; united with unity of descent, 177, 184, 185
- Döllinger, Johann, 284
- Dougherty, Frank William Peter, 29, 233
- Dreams of a Spirit-Seer* (Kant), 42
- Dzierzon, Jan, 287
- Edwards, Bryan, 268
- Edwards, George, 108
- Edwards, William, 293
- Ellis, Henry, 99
- Emerson, Ralph Waldo, 279
- Encapsulation, 220
- “The End of All Things” (Kant), 125

- Endowments. *See* Germs-and-endowments theory
- Engel, Johann Jacob, 26, 254
- Epigenesis, 15, 16, 219, 236
- Epochs of Nature* (Buffon), 22
- Eskimos, 88, 90, 92, 99
- Essays on the generation of animals* (Harvey), 34
- Essentialism: species, 24
- Euler, Leonhard, 245
- Eustachi, Bartolomeo, 120
- Experience: learning from, 190; within self, 191
- Eze, Emmanuel Chukwudi, 16, 172; claims concept of race elevated to transcendental category, 5, 6; "The Color of Reason: The Idea of "Race" in Kant's Anthropology," 4, 12, 21; criticism of work of, 5, 6; on development of critical philosophy, 21; examines Kant's views on race, 5, 8, 9
- Fabricius, Johann Christian, 257
- Feder, Johann Georg, 195
- Feurerstein-Herz, Petra, 80
- Fichte, Johann Gottlieb, 272
- Finland: physical features of population, 89
- Fischer, Johann Eberhard, 258
- Flourens, Marie-Jean-Pierre, 283
- Forster, Georg, 1, 143–167, 174, 180, 254, 256, 258, 261, 263; assuming several original human lines of descent, 165–167; chastizes Europeans for misuse of power over Negroes, 166, 167; commentary on Kant's "Determination of the Concept of a Human Race," 146–167; on Cook's voyage to Pacific, 143; criticized by Kant, 15; ethical theories of, 9; founds Friends of Freedom and Equality, 144; identifies Zimmermann as opponent of Kant, 25; involvement in French Revolution, 144; letter to D. Biester, 146–167; propagandistic use of defamatory comments of, 145; views on Kant's theory of race, 26, 27, 146–167; *A Voyage Round the World in His Britannic Majesty's Sloop Resolution*, 143; works in travel literature, 143
- Forster, Johann Reinhold, 255
- Frank, Martin, 172
- Freedom: concept of nature and, 42; consequences of, 42
- Friedrich, Karl Wilhelm, 79
- Gall, Franz Joseph, 144, 154, 155, 257, 259, 261, 266
- Gauß, Carl Friedrich, 78
- Gay-Lussac, Joseph Louis, 262
- Generatio: aequivoca*, 217, 218; *heteronyma*, 219; *homonyma*, 218, 219; *univoca*, 218
- Generation(s): historical sequence of, 36; theory of, 37
- Genetics: inheritance and, 31; population, 31
- Geographical History of Humankind and the Universally Dispersed Quadrupeds* (Zimmermann), 25, 73, 79, 81–123
- Geography: mainstream developments in, 75
- Geography, physical: development of anthropology and, 45; Kant's summer course in, 41–54; topic of race in, 19
- Germany, 152; climate changes in, 82; comparisons of climate effect on plants in, 88, 89; dietary changes in, 82, 87; physical features of population, 83, 86, 109; procreation history, 82–83
- Germs-and-endowments theory, 24, 25, 27, 44, 63, 64, 127, 216; creative germs in, 139; defense of, 170; development in differing manners, 50; fit for particular places in the world, 50; laid out germs in, 137, 138; natural, 64; in original lineal stem stock, 141, 189; in origins of differences in, 49; preformed development and, 50; provisions for future circumstances and,

- 49, 50; role of air and sun in, 50; special organization of skin and, 140
- Girtanner, Christoph, 209–232, 271; anti-phlogistic chemistry and, 1; attempts to synthesize Blumenbach's notion of "formative drive" with Kant's account of race, 210–232; *On the Kantian Principle for Natural History*, 31, 210–232
- Gliddon, George Robbins, 293
- Gobineau, Joseph-Arthur, 43, 196, 197, 292
- Godwin, William, 272
- Goethe, Johann Wolfgang, 144, 259, 265, 266, 269
- Goldsmith, Oliver, 223
- Goss, John, 282
- Grant, Madison, 43
- Grant, Robert Edmond, 283
- Greenland, 88, 105; physical features of population, 90, 91
- Grew, Nehemiah, 239, 242
- Grohmann, Johann Christian, 144, 265, 266
- Groundwork for the Metaphysics of Morals* (Kant), 20, 29, 56, 57, 126
- Gruber, Johann Gottfried, 273
- Guinea, 97, 98
- Günther, Hans F.K., 43
- Habermas, Jürgen, 2
- Haeckel, Ernst, 43, 279
- Haller, Albrecht, 16, 37, 79, 220, 245, 247, 248, 249
- Ham, Johan, 239
- Hartley, David, 253
- Hartsoeker, Nicolas, 242
- Harvey, William, 34, 236, 237
- Hegel, G.W.F., 7, 272; notion of the "slaughterhouse of history," 6
- Helmholtz, Hermann, 275
- Henderson, Lawrence, 294
- Herder, Johann Gottfried, 144, 155, 259, 262, 265, 268, 272; criticisms of Kant, 26; criticized by Kant, 15; *Reflections on the Philosophy of the History of Humankind*, 16, 22, 126; skepticism on race designations, 26
- Herodotus, 66
- Herschel, Frederick William, 274
- Hertwig, Wilhelm August, 288
- Heyne, Christian Gottlob, 267
- Hill, Thomas Jr., 5, 6
- Hippocrates, 223
- "Historical Reports Concerning the True Circumstances of the Slave Trade" (Meiners), 195
- History, geographical: of human beings, 73–123
- History, natural, 31, 76, 156; Buffon's rule and, 33; defining, 212; differentiated from description of nature, 175; division of organized bodies according to relationships with respect to regeneration, 212, 213; explanation of original creation of species through, 212; focus on skin color, 23; generative origin and descent in, 156; investigation of connection between present things in nature and their causes in earlier times, 175; natural laws of, 213; need for system of classification in, 23; race theory and, 4; relations among manifold diversity of creatures and, 35; use of laws of efficient causality, 175
- Home, Henry (Lord Kames), 96, 98, 251; theory of race by, 43, 89
- Homology, 281
- Hooke, Robert, 237
- Hottentots, 111, 152, 159, 182, 183
- Hotz, Henry, 43
- Human beings. *See also* Species, human: ability to disperse widely, 118; ability to endure all climates, 93; affected by migration and interbreeding, 109, 110, 114, 140, 141, 149, 185, 186; assumption of several original lines of descent, 165–167; aversion to interbreeding of relatives, 179; capability of establishing a race, 64, 65; changes in due to climate, 65, 66;

- Human beings (*continued*)
 class differences in species justifies designation, 136, 137; comparison to anatomy of orangutans, 116–123; description of anatomy, 115–123; distinctiveness of language in, 118; diversity in lineages of, 81–123; first lineal system in expanse of elevated land, 114, 115; geographical history of, 73–123; local modifications to, 69; nighttime, 109; no differing kinds of, 136; in one family or as similar but not related, 60; origin of degenerate forms of, 84–123; principal causes of altered forms of, 110; rational daytime, 109; in single lineal stem stock, 60, 106, 107, 127, 137–141, 181, 182; size distinctions, 93–94; skin color distinctions, 94–102; two or four footed originally, 115–123; uniformity of build in, 155; uniformity of purpose in, 180
- Humboldt, Alexander von, 144, 145, 269
- Humboldt, Wilhelm, 269
- Hume, David: assigns subhuman status to blacks, 5; negative views on Negroes, 126; proposes subhuman status of Negroes, 16
- Hungary, 89; physical features of population, 89, 91
- Hutton, James, 270
- Huxley, Thomas Henry, 293
- Huygens, Christian, 277
- “Idea for a Universal History from a Cosmopolitan Perspective” (Kant), 7, 56, 57, 125
- Imlay, Gilbert, 78
- Ingenhousz, Jan, 255
- Internationalism, liberal, 2, 3, 10, 14, 29, 30, 32
- Jackson, John Jr., 234
- James II (King of England), 242
- Jameson, Robert, 283
- Jefferson, Thomas, 277
- Joblot, Louis, 243
- Judgment: aesthetical and teleological uses of power of, 42
- Jussieu, Antoine Laurent de, 263
- Kalmucks, 62, 85, 87, 90, 91, 106, 111, 137
- Kant, Immanuel: accounting for racial differences by, 57, 58; addresses “purposiveness” of nature, 27; agrees with views of Hume, 126; alteration to classificatory race system, 57; “An Answer to the Question: What is Enlightenment?,” 125; *Anthropology from a Pragmatic Point of View*, 198, 210; calls for development of new science to help understand races, 58; changes content of summer course in physical geography, 55–59; claims Forster misunderstood principles of Kant’s inquiry into race, 174; coming to terms with interest in race theory as “core” of critical philosophy or as “peripheral,” 170–194; commitment to methodological naturalism, 171; compares theories to those of Forster, 180–194; comparison of anthropology and ethics of, 8, 9; conceptual framework for species division into identifiable groups with hereditary lines of development, 23; “Concerning Radical Evil in Human Nature,” 125; condemnation of colonialism by, 7, 11, 126; “Conjectural Beginning of Human History,” 125, 146; counters theory of polygenesis, 12; critical philosophy and, 41; criticism of Herder and Forster by, 15, 16, 27; criticism of polygenism, 43; *Critique of Practical Reason*, 18, 20, 41, 126; *Critique of Pure Reason*, 18, 20, 34, 41, 126, 147, 193; *Critique of the Power of Judgment*, 11, 16, 18, 20, 29, 35, 41, 126, 210; “Critique of the Teleological Power of Judgment,” 19, 28, 169–172;

- defender of Newtonian physics, 3; defense of Buffon's idea of natural history by, 15; defining concept of race, 127–141, 136, 137; derivation of climatic factors needed to account for racial features, 57–58; “Determination of the Concept of a Human Race,” 19, 21, 25, 29, 125–141, 146–167; development of biology and, 17; development of critical philosophy and, 125; distanced from personal racist viewpoints as consequence of his moral philosophy, 198; *Dreams of a Spirit-Seer*, 42; “The End of All Things,” 125; epigenetic view, 15, 16, 80; explanation for why similar regions/climate zones do not include same races, 58; feels that laws of nature and/or freedom do not have metaphysical priority, 171; fixation on skin color, 24; four class differences in humans with respect to skin color, 57, 113, 130–131; germs-and-endowments theory, 24, 25, 27, 44, 63, 64, 127, 137–141, 170; *Groundwork for the Metaphysics of Morals*, 20, 29, 56, 57, 126; hierarchical ordering of races by, 8, 14; “Idea for a Universal History from a Cosmopolitan Perspective,” 7, 56, 57; identifies principles for construction of science of nature, 41–42; importance of skin color to, 21, 36, 44, 46, 54, 57; interest in formulating explanation for diversity in human forms, 55–71; interest in natural history, physical geography and anthropology, 5, 19, 22, 31, 42, 56, 127; known as “systematic” philosopher, 1; liberal internationalism of, 3, 10, 14, 29, 30; *Metaphysical Foundations of Natural Science*, 41, 126, 193, 194; *Metaphysics of Morals*, 42, 126, 197, 198; moral theory of, 7, 11; nationalism and, 10; *Observations on the Feeling of the Beautiful and the Sublime*, 12, 42, 126; “Of the Different Human Races,” 33, 55–71; *The Only Possible Proof of the Existence of God*, 38; “On the Determination of the Concept of Race,” 145–167, 169; “On the Miscarriage of all Philosophical Trials in Theodicy,” 125; “On the Proverb: That May be True in Theory But is of No Practical Use,” 125; “On the Use of Teleological Principles in Philosophy,” 8, 19, 27, 80, 145, 169–194; opposition to mixing of races, 8, 11, 12, 13, 198, 210; on origination of different races from single lineal stem species, 24, 36, 44, 46, 58, 127, 137–141, 181, 182; *The Philosopher for the World*, 18; philosophy of biology, 1; portrayed as having racist agenda, 9; presents purposiveness of nature as transcendental principle of judgment, 16; presupposition of skin color as racial marker, 170; *Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as a Science*, 126; on “purposive” significance of skin color, 28; race theory, 1, 10–18; recent work on, 3–18; *Reflexionen*, 8, 9; *Religion within the Limits of Reason Alone*, 125; second thoughts as to view of non-white races, 198; summer semester course in physical geography, 41–54; teleology of being discontinuous with his philosophy of history, 8; *Towards Perpetual Peace*, 172; tries to resolve domains of cognitive capacity for understanding and that of reason, 79; use of racist examples and comments, 170; use of teleological principles, 169–172; views on “genuine” science, 3, 4; “What Does it Mean to Orient Oneself in Thinking?,” 125
- “Kant as an Unfamiliar Source of Racism” (Bernasconi), 10, 14
- Kellner, Douglas, 6
- Kepler, Johannes, 241
- Kielmeyer, Carl Friedrich, 268

- Kleingeld, Pauline, 26, 198
 Klemperer, Victor, 197
 Knight, Thomas Andrew, 282
 Knowledge, pure, 193
 Kölliker, Rudolf Albrecht, 288, 295
- Lamarck, Jean-Baptiste, 274, 278, 279, 282, 283
 Language: common, 149; origins of, 251; relatedness, 89
 Laplace, Peter-Simon, 256, 271, 273
 Lapps, 88, 89, 90, 91, 112
 Larrimore, Mark, 4, 6, 30, 37, 198; assessment of Kant's race theory, 7, 8, 9, 10; criticism of Kant for "quietism," 9, 11; on Kant's two-stage view of riaciation insulated from history and ethics, 9; "Sublime Waste: Kant on the Destiny of the 'Races,'" 8; sympathetic evaluation of Kant by, 8–10
 Lavater, Caspar, 252, 254
 Lavaysse, Jean-Joseph, 78
 Lavoisier, Antoine Laurent, 252, 256, 258, 261, 263, 273
 Le Blanc, Memmie, 118
 Leblond, Jean-Baptiste, 78
 Le Cat, Claude-Nicolas, 102
 Leeuwenhoek, Anton van, 239, 240, 243
 Leibniz, Gottfried Wilhelm, 74, 243
 Lessing, Gotthold Ephraim, 144
 Lichtenberg, Georg Christoph, 144, 255
 Linnaeus, Carolus, 15, 76, 147, 244, 247, 248, 257; challenged by Buffon, 42; classification system of, 5, 12; division of humans into four races, 109; establishes binomial system of biological classification, 76; morphological system of, 23; reference to different kinds of human beings, 109; system of classification by, 33; *System of Nature*, 5, 76; use of color as variable property in differentiation of species, 153
 Lobachevsky, Nikolai, 283
 Locke, John, 238, 242
 Long, Edward, 43, 251
 Long, John, 78
 Lyell, Charles, 270, 285
 Lyotard, Jean-Francois, 6
- Madagascar: cooler air accounting for lighter skin color in, 96, 97
 Malebranche, Nicolas, 237, 238
 Malpighi, Marcello, 237
 Malte-Brun, Conrad, 78
 Malthus, Thomas, 272
 Marx, Karl, 7
 Maupertuis, Pierre-Louis, 56, 58, 61, 246, 247; epigenetic theories of, 38
 Mauritania, 47, 129, 199, 200, 201, 202
 Mawe, John, 78
 Mayr, Ernst, 80
 Meares, John, 267
 Meckel, Johann Friedrich, 102
 Meiners, Christoph, 1, 29, 195–207, 252, 260, 264, 265, 267; characterizes Negroes as ugly, stupid, and lazy, 198–207; claims Negroes to be cannibals, 201; defense of slavery, 30, 195, 196, 204–207; "Historical Reports Concerning the True Circumstances of the Slave Trade," 195; on interbreeding with Negroes, 198, 199, 204–207; introduction of term "Caucasian" into scientific racist literature, 196; "Of the Varieties and Deviate Forms of Negroes," 29, 195–207; "On the Nature of the African Negro and the Liberation or Restriction of Blacks Dependent on that Nature," 195; *Outline of the History of Humankind*, 22, 196; perforative commentary on non-whites, 198–207; primitive ethnographic research by, 196; racist philosophy of, 195–207; as spokesman for popular philosophy, 196; support for elimination of races, 31; unscientific concept of race by, 29; view that internal factors play greater role than climate in determining race, 30
 Mestizos, 63

- Metaphysical Foundations of Natural Science* (Kant), 41, 126, 193, 194
- Metaphysics: explaining where organization came from originally through, 189; investigation of nature through, 172; limits of human reason and, 190; pure reason and, 174; recognition of reason's hereditary defect, 190; reduction of fundamental powers in, 190; teleological path in, 173
- Metaphysics of Morals* (Kant), 42, 126, 197, 198
- "Modernity vs. Postmodernity" (Habermas), 2
- Mohl, Hugo, 291
- Monboddo, James Burnett, 116
- Mongols, 62
- Mongogenesis, 27, 251
- Montagu, Ashley, 26
- Moors, 62, 129
- Moral: reasoning, 21; theory, 7, 56
- Morality of actions, 7
- Morocco, 95
- Morton, Samuel George, 293
- Moscatti, Peter, 116, 117, 119, 120, 121, 122, 250, 251
- Moss, Lenny, 234
- Müller, Gerhard Friedrich, 258
- Müller, Johannes Peter, 290
- Nägeli, Karl Wilhelm, 288
- Nationalism, 10
- Natural History: General and Particular* (Buffon), 42, 80
- Nature: capacity to adapt to differing environments by, 44; comprised of organized beings, 21; connection of with concept of freedom, 42; contributions to moral development, 57; descriptions of, 175, 189; determinate laws of, 212; and development of mental/moral characteristics, 58; effect through generations, 61; expectations for improving moral condition of humanity, 57; as formative drive, 217; giving lines of descent special organization in relation to climate, 163; healing powers of, 218; history of, 70–71; investigation through *physics* and *metaphysics*, 172, 174, 212; laws of, 177; "living," 74; mechanistic view of, 74; moral reasoning and, 21; as natural mechanism, 217; as "organized system," 127, 218; permits fusing together of characters, 179; power of imagination in generative work of, 133, 134; presentation of challenges by, 7; principle of formal purposiveness of, 16, 42; production of recognizable race by, 57; science of, 41–42; substances removed from blood by, 140; as sum-total of everything existing according to laws, 172; varieties and, 179
- Negroes, 47, 57, 60, 62, 70, 94, 95, 187; autochthonal to Africa, 48, 62; cause of skin color, 53, 54; characteristic physiognomy of, 159, 182, 199–202; color at birth, 151; Coromantee, 203; Creole, 204; determination of how much color is due to heredity or climate, 153; diversity in shadings of skin color, 109; do not become lighter in cold climates, 102–105, 152; ennobled by European blood, 198, 199, 204–207; given subhuman status by Hume, 16; improvement in through removal from Africa to Americas, 203, 204; inability to govern selves, 8; Meiners' commentary on, 198–207; Mulattoes, 205, 206; in North America, 203–207; occupation of lowest rung of racial ladder, 8; offspring said to be born white, 115; opposition to enslavement of on grounds that they are not fully human, 15; peculiarity to Africa, 58; phlogiston in blood of, 139; physical features of, 105, 106; said to be part of human line despite resemblance to the ape, 155; self-perpetuation of, 46; sharing original line of descent

- Negroes (*continued*)
 with Whites, 165–167; similarity to degenerated Portuguese, 95, 96, 110; skin color as characteristic feature of generative origination, 21; skin shade proportionate to amount of heat, 95
- Newton, Isaac, 74, 241, 243, 244, 273, 277
- Nicholson, William, 274
- North America: effects of winds on skin color, 99; non-production of Negroes in, 98, 99, 100, 101, 102, 186, 187, 188; physical features of population, 87, 91; skin color distinctions in, 99
- Norway: climate effect in, 87; physical features of population, 87, 89
- Nott, Josiah Clark, 43, 293, 295
- Observations on the Feeling of the Beautiful and the Sublime* (Kant), 12, 42, 44, 126
- Occasionalism, 219
- “Of the Different Human Races” (Kant), 33, 55–71
- “Of the Varieties and Deviate Forms of Negroes” (Meiners), 29, 195–207
- Oken, Lorenz, 278
- Olbers, Heinrich Wilhelm, 276
- Oliuti, 62
- The Only Possible Proof of the Existence of God* (Kant), 38
- “On the Bodily Difference of Negroes from Europeans” (Sömmerring), 154
- “On the Determination of the Concept of Race” (Kant), 145–167, 169
- On the Kantian Principle for Natural History* (Girtanner), 31, 210–232
- “On the Miscarriage of all Philosophical Trials in Theodicy” (Kant), 125
- “On the Nature of the African Negro and the Liberation or Restriction of Blacks Dependent on that Nature” (Meiners), 195
- “On the Proverb: That May be True in Theory But is of No Practical Use” (Kant), 125
- “On the Use of Teleological Principles in Philosophy” (Kant), 8, 19, 27, 80, 145, 169–194
- Orangutans, 116–123, 251
- Outline of the History of Humankind* (Meiners), 22, 196
- Ovism, 79
- Owen, Richard, 289
- Paley, William, 276
- Pallas, Peter Simon, 113, 137, 250, 254
- Pander, Christian Heinrich, 280
- Pangenesism, 246
- Panspermism, 220
- Parthenogenesis, 246, 287
- Pasteur, Louis, 295
- Patagonia, 86, 100, 150; physical features of population, 85, 86, 87, 93
- The Pattern of Geographical Zoology* (Zimmermann), 76
- Pauw, Cornelius de, 91, 96, 99, 105, 106, 109, 113, 116, 117, 118
- Pennant, Thomas, 78
- Pernetti, Abbot, 86
- Persians, 62
- The Philosopher for the World* (Engel), 18, 55
- Philosophy: Aristotelian tradition in, 236; moral, 11, 14; natural, 74, 241; political, 14; popular, 19, 42, 55, 196; speculative, 147; systematic, 41; transcendental, 29, 192; understanding of scientific revolution and, 74
- Philosophy, critical, 6; connection between race theory and core beliefs of, 13; *Critique of Pure Reason* and, 41; development of, 20, 125; in development of modern philosophy, 41; disseminated in *Berlinische Monatsschrift*, 125, 127; need to consider principles of post-critical systematic philosophy and, 41; oversimplification of, 6; physical geography and, 45; role of race in development of, 16; suggestions of a racist agenda at the core of, 127

- Physical features affected by climate:
 beard, 90, 91; blood, 90; facial features, 90, 91; hair texture/color, 106, 131; height, 83, 85, 86, 91, 92, 93, 112; robustness, 82, 83; skin color, 23, 24, 87, 90, 115, 131, 151; stature, 88, 89, 92, 93, 112; strength, 83, 86, 87, 88
- Physics, 74; Newtonian, 3, 79
- Piazzzi, Giuseppe, 276
- Pichon, Thomas Jean, 93, 102
- Pigafetta, Filippo, 106
- Polygenesis, 15, 19, 27, 43, 293
- Pope, Alexander, 243
- Poststructuralism, 6
- Preformationism, 16, 37, 79, 238;
 encapsulation and, 220; generic, 219; individual, 219; ovist, 237, 239, 246, 249, 269; spermist, 242, 243, 246, 269; variability in diversity of human forms and, 80
- Prestabilism, 219
- Priestly, Joseph, 252
- Pringle, John, 255
- Procreation: climate and, 83; delayed, 83; effect of diet on, 83; fertile offspring and, 21, 35, 36, 45, 59, 60, 157, 158, 177, 213; vices and, 83
- Prokesch-Osten, Anton, 292
- Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as a Science* (Kant), 126
- Purkinje, Johannes Evangelista, 287
- Purpose(s): of freedom, 192; of nature, 192; pure doctrine of, 192; reference to reason, 192
- Race(s), 95–115; Africans, 109, 110, 112; American, 48, 52, 53, 57, 58, 62, 63, 66, 69, 98, 109, 110, 111, 112, 113, 130; Asians, 109, 110, 111; base, 63; causes of differences in, 49–54, 63–71; characteristic features of, 61, 62, 63–71; characteristics passed on invariably, 132, 136, 137–141, 160; climate and, 25, 30, 49–54, 64–71; concepts of, 3, 10, 12, 13, 15; continuation of even with prevention of interbreeding among, 141; defining concept of, 136, 137, 176, 177; deviations in, 50, 52, 214; as deviations preserved invariably over generations, 46, 60; differences in similar regions and climates, 70–71; distinctiveness as result of heritable suitability, 44; diversity of, 45–47, 59–61; division of species into, 47–49; elimination of all except whites, 9; epigenesis and, 15, 16; European, 109, 110, 111, 112, 113, 115; focus on differences in skin color, 21, 36, 44, 46, 54, 57; “German invention of,” 17; germs-and-endowments theory, 24, 25, 27, 63, 64, 127; half, 48, 62; heritable characters in, 48; hierarchical accounts of, 14; Hinduish, 43, 47, 48, 53, 57, 62, 63, 67, 70, 187; Hunnish, 43, 47, 57, 62; incipient, 62; Indian, 113, 130, 150; interbreeding, 62, 132, 141; as invariable, heritable peculiarity, 178; isolation with respect to places of residence, 130; Kalmuckish, 43, 47, 48, 51, 57, 63, 66, 90, 91, 106, 111, 137; law of necessary half-breed generation and, 46, 132–136; local modifications to, 69; mixed, 48, 62; Mongolish, 43, 47; “myth” of, 26; Negro, 43, 46, 47, 48, 53, 57, 58, 60, 62, 70, 94, 95, 112, 113, 130, 187; origination from single lineal stem species, 24, 36, 44, 46, 54, 57, 58, 106, 107, 127, 134, 135, 136, 137–141, 181, 182; perpetuating in all regions, 60, 61; physical and mental characteristics of, 48, 49–54, 59, 62, 63–71; principles of organization, movement, and preservation, 50, 51; production of fertile offspring and, 21, 35, 36, 45, 59, 60, 129–130, 157, 158, 177, 213; as radical peculiarity indicating common descent and transmission of characters to same line of descent,

- Race(s) (*continued*)
 177; resemblances in, 132; role of air and sun in establishing, 50, 51; second transplanting and, 162, 184, 185; sharing of ancestral progenitor and, 21; as transcendental category, 16; variations in, 46; White, 43, 44, 47, 57, 60, 62, 69, 94, 130, 131, 150
- Race theory. *See also* Kant, Immanuel: hereditary aspects of, 28; natural history and, 4; recent work on, 3–18
- Racism: of Nazi ideology, 197; scientific, 10, 12; theoretically based, 10
- Ramsay, James, 259
- Ray, John, 240, 241, 242
- Reason: determining, 192; human, 189; imaginative fancy and, 190; in investigations of nature, 173; misuse of, 175; practical, 173, 192; pure, 172, 174; purposes having reference to, 192; relationship to totality of all purposes, 192; trust in, 174
- Reflections on the Philosophy of the History of Humankind* (Herder), 16, 22, 126
- Reflexionen* (Kant), 8, 9
- Regeneration, 218; types of, 229
- Reich Institute for the History of the New Germany, 197
- Reinhold, Karl Leonard, 259
- Religion within the Limits of Reason Alone* (Kant), 125
- Reproduction: difficulty in determining common descent from original pair in offspring, 157; explanations for transmission of heritable characteristics, 133, 134, 135; of half-breed offspring, 46, 132–136; identifying lines of descent in, 59; natural division into species and, 59; power of imagination in, 133, 134; preservation of organized being in, 219; propensity toward like and aversion to other in, 157; relationships in, 59; types of, 229; varieties and, 46
- Rink, Friederich, 276
- Rink, Theodor, 198
- Robertson, William, 99
- Rosenberg, Alfred, 43
- Rousseau, Jean-Jacques, 5, 116, 118
- Royal Adventurers into Africa, 236, 238
- Royal Africa Company, 238
- Royal Society of London, 237, 239, 240, 246, 249, 250, 255, 280
- Saint-Hilaire, Étienne Geoffroy, 281
- Scaliger, Julius, 223
- Scheele, Carl Wilhelm, 252
- Schelling, Frederick, 272
- Schemann, Ludwig, 197
- Schleiden, Mattias Jakob, 279, 287
- Schoelcher, Victor, 291
- Schopenhauer, Arthur, 281
- Schreber, Johann, 108
- Schütz, Christian Gottfried, 262
- Schwann, Theodor, 279, 288
- Science: natural, 156, 176; of nature, 41–42; need for precise borders in, 176
- Selechov, Gregor, 268
- Seligmann, Johann Michael, 108
- Selkirk, Alexander, 118
- Senegal, 95, 105, 130
- Serequeberhan, Tsenay, 4, 172; assessment of Kant's historico-political writing by, 6, 7, 8, 9; exposes failure of philosophers to address eurocentrism, 11; misunderstanding of Kant's moral theory by, 7; portrays Kant with racist agenda, 9
- Seton, Alexander, 282
- Sharp, Granville, 250, 256
- Shaw, Thomas, 97
- Skin color: affect of migration on, 109, 110, 114, 140, 141, 149, 183, 184, 185, 186; alterability to a certain extent, 161; ascribed to iron in body, 68; attributed to purposive suitability found in nature, 127; bile and, 102–104; changing, 105; color of brain liquid and, 102; competing scientific views on differences in, 23–26;

- darker by degrees closer to equator, 152; as determinate in differences in race, 21, 36, 44, 46, 54, 57; distinctions due to amount of climatic heat, 95–99; effect of climate on, 23, 24, 53, 54, 90, 94–115, 160; focus on in natural history studies, 23; gradations of, 182, 183; heritability of, 129–130; mucous bodies and, 102; in offspring of differing lines of descent, 160; as only feature of invariable transmission, 137, 160; as only true marker of descent from one of the original “fixed” races, 127; original lineal stem stock of human species and, 134, 135, 136; phlogiston theory of, 127; preservation undiminished in all generations vs. capability of climatic modification, 153; as primary marker of racial difference, 27; as purposive adaptation of nature, 21, 139, 140; as reliable marker of race, 170; scientific credibility of theories of, 25; second transplanting and, 162, 184, 185; shades of, 149, 150, 151; significance as defining racial feature, 24; suitability for division into classes, 130; suppression by mild climate, 153; use of chemistry to account for differences in, 58
- Slavery, 233; abolishment of, 291; acceptability of, 238; in America, 235; chattel, 11; defenses of, 251; economic opposition to, 253; emancipation laws, 259; first reference to in Carolina, 238; illegality of, 251; impediments to freedom, 244; Kant’s position on, 11; manumission, 244; Meiners’ defense of, 30, 195, 196, 204–207; polygenesis and, 15; prohibitions on, 254, 256, 259, 262; rebellions and, 144, 154, 155, 246, 249, 257, 259, 261, 266; restoration of, 276
- Slave trade, 243, 265, 277; beginnings of, 235; condemned, 280; as European enterprise, 235; monopoly in, 236; opposition to, 241, 253; peak years of, 242; prohibitions on, 277
- Sloan, Phillip, 22, 37, 38
- Smellie, William, 78
- Smith, Adam, 253
- Smith, John Gabriel, 271
- Smith, Norman Kemp, 33
- Solander, Daniel Carlsson, 249
- Somerset, James, 251
- Sömmerring, Samuel, 144, 154, 155, 181, 182, 254, 257, 259, 261, 266, 267; “On the Bodily Difference of Negroes from Europeans,” 154
- South America: cooling winds in, 101; physical features of population, 92; skin color distinctions in, 99, 100, 101, 102
- Spallanzani, Lazzaro, 220, 256
- Sparrmann, Anders, 261
- Species: common law of reproduction and, 59; degeneration in, 46, 60, 81; deviations in, 46, 60; difficulty in determining common descent from original pair, 157; diversity within, 128; division into races, 47–49, 177; heritable characteristics as justification for class distinction in, 21, 45, 59, 60, 129–130; heritable divergences in, 60; human, 46; immutability of, 79; likelihood of interbreeding among, 157; lineal stem stock, 24, 36, 44, 46, 54, 57, 58, 106, 107, 134, 135, 136, 137–141; local modifications to, 69; modifications in growth, 50; morphological concept of, 241; natural division, 35, 36, 45, 59, 60, 188, 213; nominal, 138; original line of descent, 216; origin of degenerate forms of, 84–123; preformationism and, 79; preservation of, 44, 177; principles of organization, movement, and preservation, 50, 51; production of fertile young and, 21, 35, 36, 45, 59, 60, 157, 158, 177, 213; reproductive conception of, 241; scholastic

- Species (*continued*)
 division, 59, 188; single human, 45;
 unalterable distinguishing features of,
 156; unity of, 46, 59, 138, 184, 185;
 unity of generative power and, 45;
 variations in, 46, 178, 179
- Spencer, Herbert, 291
- Spinoza, Baruch, 74
- Spittler, Johann, 195
- Stahl, Georg Ernst, 127
- Steenstrup, Johann, 289
- Steller, Georg Wilhelm, 268
- Stock: coming into existence, 189; dis-
 tinctiveness of, 64, 65; distribution of
 races developed from, 187, 188; effect
 of earth conditions on, 61; endur-
 ing, 61, 215; family, 47, 61; original
 endowments in, 189; special, 60, 214,
 215; varieties in, 177
- Strong, Jonathan, 250
- “Sublime Waste: Kant on the Destiny of
 the ‘Races’” (Larrimore), 8
- Swammerdam, Jan, 237
- Sweden, 152; effect of climate in, 88;
 physical features of population, 87,
 88, 89, 109
- Swedenborg, Emanuel, 248
- System of Nature* (Linnaeus), 5, 42, 43,
 76
- Talbot, Charles, 244
- Tatars, 62, 89, 111, 112
- Thomas, Hugh, 235
- Thomas, Nicholas, 143
- Tiedemann, Friedrich, 287
- Towards Perpetual Peace* (Kant), 172
- Trembley, Abraham, 248
- Treviranus, Gottfried Reinhold, 274
- Tyson, Edward, 116, 117
- Universalism: moral, 14
- Ussher, James, 236
- Varieties: changeability of, 156;
 deviations in, 214; does not invari-
 ably reproduce itself, 178; as explana-
 tion of differences between Negroes
 and Whites, 156; hereditary, 178;
 inconstant, 164; preservation over
 generations, 60; purposely secured
 in original lineal stock to establish
 diversity, 179; in races, 46; of skin
 color, 182, 183, 184; in species, 46
- Virey, Julien-Joseph, 293
- Volta, Alessandro, 267
- Voltaire, 12, 43, 54, 81, 96, 153, 245
- A Voyage Round the World in His
 Britannic Majesty’s Sloop Resolution*
 (Forster), 143
- Wadström, Carl Bernhard, 78
- Wallace, Alfred Russel, 294
- Wallis, Samuel, 86, 87, 150
- Weidman, Nadine, 234
- Weisschedel, Wilhelm, 45, 59
- Wells, William Charles, 280
- Wesley, John, 252
- “What Does it Mean to Orient Oneself
 in Thinking?” (Kant), 125
- Whewell, William, 285, 286
- Whites, 62, 94, 150; distinctions in skin
 color among, 95, 96, 97, 109, 152; as
 favored race, 54; generations required
 to change skin color, 105; gradual
 acquisition of darker skin in warm
 climates, 152; intelligence noted, 115;
 as lineal stem species, 21, 36, 44, 46,
 54, 57, 127; physical features of, 131;
 resemblances in, 61; self-perpetuation
 of, 46
- Whitney, Eli, 269
- “Who Invented the Concept of Race?
 Kant’s Role in the Enlightenment
 Construction of Race” (Bernasconi),
 10, 12
- Wieland, Christoph Martin, 144
- Wilberforce, William, 144, 154, 155,
 256, 257, 259, 261, 264, 266, 274, 277
- Wilson, Edmund Beecher, 288
- Wöhler, Friedrich, 284
- Wolff, Caspar, 249
- Wolff, Christian, 75, 243

Yorke, Sir Philip, 244
Young, Arthur, 78
Young, Thomas, 275, 277

Zammito, John, 12

Zanetti, Véronique, 172

Zimmermann, E.A.W., 1, 73–123, 144, 162, 254; belief in creation by divine being, 79; categories of publications by, 77–78; defense of view that skin color depends on climate, 25; early years, 74, 75; feels climatic influences alone account for all changes in features of living organisms, 79, 81–123;

Geographical History of Humankind and the Universally Dispersed Quadrupeds, 25, 73, 79, 81–123; influenced by Linnaeus rather than Buffon, 80; interest in taxonomic classification unresolved by Linnaeus, 76; investigates dispersion and deviate forms of human lineage, 77; mechanistic explanation of climatic influences by, 81–123; *The Pattern of Geographical Zoology*, 76; points of difference with Kant, 73, 74, 79, 80; tendency towards preformationism, 79; works distinguished from those of Kant, 81–123

Kant and the Concept of Race features translations of four texts by Immanuel Kant frequently designated his *Racenschriften* (race essays), in which he develops and defends an early theory of race. Also included are translations of essays by four of Kant's contemporaries—E. A. W. Zimmermann, Georg Forster, Christoph Meiners, and Christoph Girtanner—which illustrate that Kant's interest in the subject of race was part of a larger discussion about human "differences," one that impacted the development of scientific fields ranging from natural history to physical anthropology to biology.

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