The Logical Foundations of Bradley's Metaphysics

Judgment, Inference, and Truth

James W. Allard

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This book is a major contribution to the study of the philosopher F. H. Bradley, the most influential member of the nineteenth-century school of British Idealists. It offers a sustained interpretation of Bradley's *Principles of Logic*, explaining the problem of how it is possible for inferences to both be valid and have conclusions that contain new information. The author then describes how Bradley's solution provides a basis for his metaphysical view that reality is one interconnected experience and how this gives rise to a new problem about truth.

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For my father,
James Willard Allard, Sr.,
and in memory of my mother,
Mary Irene Dieterich Allard

Contents

Preface

Despite a recent revival of interest in F. H. Bradley within a small community of analytic philosophers, the feeling persists that Bradley's philosophy and the late-nineteenth-century British Idealism it represents was a weedy exotic – an import from Prussia that stimulated a revolution in philosophy by G. E. Moore and Bertrand Russell, but that has since been rooted out, leaving only faint traces of its passage. This feeling has been reinforced by vast differences between the issues engaging philosophers today and those that engaged nineteenth-century British Idealists, by the current use of mathematical logic in philosophy, and by the widely held belief that constructive work in philosophy consists in solving problems rather than in constructing systems. Less obviously, but perhaps more significantly, it has been further reinforced by concentrating on the metaphysics of the British Idealists at the expense of their logic. Their metaphysics certainly deserves attention. They saw metaphysics as the most significant part of philosophy as well as the only all-encompassing one. Nevertheless, they often found the materials for their metaphysics in logic. In fact, their use of logic as a basis for metaphysics was a new departure in British philosophy, one that has left a lasting mark.

The longest and most influential book on logic written by a British Idealist is Bradley's *The Principles of Logic*. It is a difficult book, more difficult than Bradley's better-known *Appearance and Reality*, because of both its greater length and its poorer organization. Bradley provided no explanation of its selection of topics, of the order in which he discussed them, or even of his purpose in writing it. As a result, *The Principles of Logic* has usually been read selectively as a source for Bradley's views rather than as a continuous argument. There is justification for doing so. The most

important part of the book, roughly its first third, is the most provocative part, and it does not presuppose the remainder of the book. It contains, among other things, Bradley's rejection of psychologism, a topic connecting his philosophy with that of his more analytic contemporaries, as well as his account of how judgments refer to reality. The latter emerges as a central topic, perhaps the central topic, in *Appearance and Reality*. But the remainder of the book is also important for *Appearance and Reality*. In fact, it creates the problem about the relation between thought and reality to which *Appearance and Reality* is the solution. Furthermore, placing the book in its historical context shows that it is not merely a collection of essays on related logical topics but a drawn-out, convoluted answer to the Kantian question "How is deductive inference possible?" Bradley's dual aim in the book uses his answer to this question to defend deductive logic against the criticisms of John Stuart Mill and to reject the Hegelian view that thought is identical to reality. In carrying out his aim, Bradley distinguished between the grammatical and logical forms of judgments and denied what had until then been a truism, that truth is correspondence with reality. These aspects of *The Principles of Logic* form part of Bradley's enduring legacy to analytic philosophy.

The eight chapters of this book lay out the main line of Bradley's argument in *The Principles of Logic* and connect it with the forms of idealism that preceded it and with the pragmatism and analytic philosophy that followed it. The first two chapters sketch the historical context in which the book was written. This context determines Bradley's concerns. Chapter 1 explains how British Idealism provided a response to the Victorian crisis of faith produced by the conflict between evangelical Christianity and the twin disciplines of evolutionary biology and the scholarly study of Scripture. It sketches the way British philosophers from J. H. Stirling to T. H. Green introduced and developed ideas they found in German philosophy, particularly the ideas of Kant and Hegel, as a way of resolving the conflict. The most important of these philosophers, T. H. Green, argued that nature is constituted by relations. By claiming that relations exist only for a knowing consciousness, he concluded that reality exists only for such a consciousness. Green thought this knowing consciousness was a universal self-consciousness in which individual human knowers participate. By identifying this universal self-consciousness with God, he concluded that God's existence is a necessary presupposition of human knowledge and so not something that can be threatened by any form of knowledge, whether scientific or scholarly. Green, in other words, met the crisis of his age by identifying God's thought with reality, an identification anticipated by

Hegel. But while this identification resolved the crisis, late in his career Green began to question it. One mark of this questioning was his interest in translating the works of Hermann Lotze, a German idealist who denied that thought is identical to reality. Prevented by his early death from alleviating his doubts, Green left the problem for his successors. Because for them logic was the study of thought, resolving it demanded a study of logic, a study that Bradley was the first British Idealist to provide.

Chapter 2 sketches the three principal developments in logic that formed the context for Bradley's book. These were innovations in formal logic, the elaboration of logic as the theory of scientific method, and the development of transcendental logic. The third was of particular importance for Bradley. By modeling the functions of the knowing mind on the different forms of judgments recognized in Aristotelian logic, Kant created a new form of logic, transcendental logic. For Kant, transcendental logic was concerned with the logical categories inherent in the mind by means of which thought constructs objects of knowledge from sensory materials and with the forms of inference by means of which thought organizes the systematic interrelationships between the judgments constituting knowledge. As Kant conceived it, thought imposes these categories on reality as it is known but not as it is in itself. In this limited respect, as a constituent of knowable reality, thought for Kant is reality. Subsequent philosophers, principally Hegel, rejected Kant's identification of the categories of thought with reality as it is known and identified it instead with reality as it is in itself. Transcendental logic thus provided two incompatible ways of understanding the relation between thought and reality. Chapter 2 discusses the disagreement over this issue among German philosophers, including Hermann Lotze and Christoph Sigwart, philosophers to whom Bradley expresses indebtedness. It reinforces Chapter 1 by showing that the relation between thought and reality was a central issue for anyone working within the framework of transcendental logic.

Chapters 3, 4, and 5 are concerned with Bradley's analysis of the truth-conditions of judgments: Chapter 3 covers Bradley's definition of judgment. "Judgment proper is the mental act which refers an ideal content to a reality (recognized as such) beyond the act" (PL 10). There are two important elements in this definition. First, Bradley treats ideas as meanings that have been abstracted from the presentational continuum given to the senses. Abstracting for Bradley always removes qualities. As abstract, meanings are always general or, as Bradley prefers to say, universal. Second, Bradley insists that judgments contain a reference to reality as it is given in immediate experience and that this reference is independent

of the ideas in the judgment. The ideas in a judgment, in other words, do not enable the judgment to refer to reality. An additional element is required, and this is analogous to a demonstrative reference to reality.

Chapter 4 covers Bradley's analyses of categorical and conditional judgments with its consequent commitment to holism. The results of these analyses are summarized by the following simple argument:

> All conditional judgments are abbreviated inferences.
> All judgments are conditionals.
> Therefore, all judgments are abbreviated inferences.

Bradley supports the first premise by taking counterfactual conditionals as his model for conditional judgments. Counterfactual judgments, he claims, are thought experiments. They suppose the truth of the antecedent and they assert that when it is conjoined with the relevant laws of nature combined with a description of the circumstances in which the experiment is imagined to take place, it entails the consequent. Conditional judgments are thus true if and only if the inference they abbreviate is sound. Bradley then argues that all judgments are conditionals. This conclusion rests on his analysis of judgments that are grammatically categorical. This analysis is relatively straightforward for universal categorical judgments but quite intricate for singular categorical judgments. From this analysis Bradley concludes that all judgments are conditional. When taken with his premise that all conditional judgments are abbreviated inferences, this analysis entails his conclusion that all judgments are abbreviated inferences. This conclusion, in turn, is also a statement of his holism. For if all judgments are abbreviated inferences, then evaluating a judgment involves determining the soundness of the inference it represents. But this requires determining the truth of the premises of that inference. But because they too are condensed inferences, this requires determining their truth and so on. Judgments for Bradley thus become true of reality only in the context of other judgments.

Although Bradley repeatedly claims that all judgments are conditionals, his argument for this rests on his treatment of categorical judgments. He provides quite different treatments of the other forms of judgments he considers. Negative judgments, disjunctive judgments, modal judgments, and judgments of probability, he claims, are also abbreviated inferences, but he reaches this conclusion by separately analyzing these forms of judgment. Chapter 5 covers these analyses. Of particular importance are the interrelated analyses of negative and disjunctive judgments. Negative judgments, Bradley claims, presuppose a positive basis. That is, if the

negative judgment "A is not *b*" is true, then it is because the affirmative judgment "A is *c*" is true where A's being *c* is incompatible with its being *b*. In other words, A is *b* or *c*; because it is *c*, it is not *b*. In this way negative judgments are implicitly inferences with disjunctive premises. Disjunctive judgments likewise involve inferences. Their disjuncts are mutually exclusive, and exclusiveness is to be understood by means of conditional judgments. For example, if "A is *b* or *c*" is true, then if A is *b* it is not *c* and conversely. Because conditionals are abbreviated inferences, it follows that disjunctive judgments are as well. When taken with Chapter 4, Bradley's analyses of these other forms of judgments support his conclusion that all judgments are abbreviated inferences the premises of which contain conditional judgments. Or to put it his way, they are components of a system of judgments. It is the system rather than the individual judgment that is true or false of reality. This analysis of the truth-conditions of judgments is the basis for Bradley's treatment of inference.

Chapter 6 explains the problem that Bradley's theory is meant to solve, a problem he describes as "the essential puzzle of inference." It was popularized by John Stuart Mill, who claimed that all arguments can be reduced to syllogisms and that valid syllogisms are circular. Consider his example of a "syllogism":

> All humans are mortal.
> Socrates is human.
> Therefore, Socrates is mortal.

Mill argued that the general proposition "All humans are mortal" is a conjunction of singular propositions about all individual humans. If Socrates is human, then one of these singular propositions is "Socrates is mortal." But if this is true, then the conclusion of the argument is already asserted in the first premise, in which case the argument is circular. After discussing Mill's version of this problem and his solution, that syllogisms are useful only as a way of registering the conclusions of ampliative, nondeductive inferences, I consider two Idealistic versions of the problem – one by Hegel, the other by Bradley's contemporary and fellow British Idealist Bernard Bosanquet. Both Hegel and Bosanquet defend deductive logic, but in quite different ways. Hegel argues that deductive inferences can be legitimate even though their conclusions contain information not asserted in their premises. Bosanquet, by contrast, claims that inferences need not be circular even though they appear to be when analyzed as syllogisms.

Chapter 7 covers Bradley's solution to this problem and his consequent rejection of the identity between thought and reality. His solution rests on his theory of inference, a specification of the principles that enable inferences to be both legitimate and informative. Bradley treats inferences as thought experiments that synthesize their premises and then derive a conclusion from this synthesis by analysis. Analysis and synthesis thus become two of his principles of inference. Bradley calls his third principle "The Axiom of Identity"; it is presupposed by analysis and synthesis because it justifies treating terms in different judgments as semantically equivalent. These principles, taken with Bradley's claim that all judgments are abbreviated inferences, allow him to offer his own solution to the problem of inference. He maintains that the conclusions of inferences can be both legitimate and informative because judgments always abbreviate inferences having conditional premises. Their conclusions can be legitimate and informative because they assert information that is present in their premises only in conditional, unasserted form. On this basis Bradley addresses the problem of the relation between thought and reality. He argues that in order for thought to be identical to reality, systems of judgments, including the inferential relations contained in them, must be identical to reality. But because these relations are ideal rather than real, he concludes that thought is not identical to reality and that because even valid inferences do not correspond with reality, truth must not be understood as correspondence. Bradley's conclusion thus challenges what had until then been regarded as a truism, that truth is by nature correspondence with reality.

Chapter 8 describes how the argument of *The Principles of Logic* shaped the development of Bradley's later work as well as his confrontations with the pragmatists and with Bertrand Russell. Denying that thought is identical with reality left Bradley the problem of clarifying the relation between thought and reality, and this is the main problem in *Appearance and Reality*. Thought, he argued there, contains a criterion of success that it is unable to satisfy. To the extent that it does not satisfy it, thought is not identical with reality. But were it able to satisfy its own criterion, then it would be identical to reality. The criterion of success that Bradley proposes functions as a criterion of truth, and this allows Bradley simultaneously to insist that no thought is completely true, yet all thoughts contain a degree of truth. Bradley's admission that thought is unable to satisfy its own criterion exposed him to criticisms from pragmatists, who asked why thought should assume a preeminent position in philosophy, given its admitted failings. Bradley responded to these criticisms by setting forth

his account of the relation between thought and reality as a theory of truth. This, in turn, brought him into conflict with Bertrand Russell, who forcefully criticized what he called "the monistic theory of truth." These criticisms, by the pragmatists and by Russell, together with Bradley's insistence on a robust alternative to the correspondence theory of truth generated a debate about the nature of truth and thereby created a new problem of philosophy, the problem of the nature of truth. By developing his metaphysics from his theory of judgment, Bradley showed that logic, with its accompanying concepts of truth and reference, provides a basis for metaphysics.

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This book has been a long time in gestation. I first seriously studied Bradley as a graduate student at Princeton in Richard Rorty's seminar "Idealism from Bradley to Quine." I greatly appreciate the support, friendly criticism, and advice he gave me while I was writing my dissertation and all that I have learned from him since. The year after completing my doctorate I was fortunate to be able to attend the late Maurice Mandelbaum's National Endowment of the Humanities summer seminar "Philosophy and the Social Sciences" at Johns Hopkins University. This gave me the opportunity to explore broad themes in nineteenth-century philosophy with a discriminating and amazingly knowledgeable guide.

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Two books on Bradley's logic that I have only occasionally mentioned have been important in my thinking. The first, *Bradley and the Structure of Knowledge*, was written by Phillip Ferreira, a friend and fellow member of The Bradley Society whom I would like to thank not only for what I have learned from his work but also for a number of constructive discussions. His book covers Bradley's theory of judgment and uses it as a basis for understanding Bradley's coherence theories of truth and knowledge and his use of immediate experience as a criterion of reality. In part because of Phillip's good work on these latter topics, I have mostly shied away from them and focused on inference instead. The second book, *Bradley's Logic*, was written by Anthony Manser, a philosopher I never had the privilege of meeting. His book showed me that the revolution in philosophy that made problems of meaning central to the discipline began with Bradley rather than with G. E. Moore or Bertrand Russell. This in turn persuaded me that reconstructing the main argument of *The Principles of Logic*, something *Bradley's Logic* does not attempt, was worthwhile.

I have had the good fortune of spending my professional career in the Department of History and Philosophy at Montana State University in the heart of the northern Rocky Mountains. Montana State has supported my work with a sabbatical leave that enabled me to write my first draft, a College of Letters and Science Research and Creativity Award that allowed me extra research time in the fall of 1998, and a Scholarship and Creativity Award that provided me with a reduced teaching load in

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Several chapters in this book contain reworked versions of some of my earlier papers. I am grateful for permission to reprint portions of the

following articles: "Bradley's Argument against Correspondence," *Idealistic Studies* 1980 (included in Chapter 3); "Bradley's Intensional Judgments," *History of Philosophy Quarterly* 1985 (also included in Chapter 3); "Degrees of Truth in F. H. Bradley," in W. J. Mander, ed., *Perspectives on the Logic and Metaphysics of F. H. Bradley*, Thoemmes Press, 1996 (included in Chapter 8); "The Essential Puzzle of Inference," *Bradley Studies* 1998 (included in Chapter 7); my review of *Refinement and Revision, 1903–1924. The Collected Works of F. H. Bradley*, Vol. 3, Carol Keene, ed., *Bradley Studies* 2001 (included in Chapter 8); and "Bradley's Chain Argument," in W. J. Mander, ed., *Anglo-American Idealism, 1865–1927*, Greenwood Press, 2000 (included in Chapter 3). I am also grateful to Oxford University Press for allowing me to reprint "Bradley's Principle of Sufficient Reason," in *The Philosophy of F. H. Bradley*, Manser, A. and Stock, G. ed., Oxford University Press, 1984, by permission of Oxford University Press (included in Chapter 4).

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Abbreviations

AR	*Appearance and Reality.* [1897] 1930. 2d ed., ninth impression corrected. Oxford: Clarendon Press.
CE	*Collected Essays.* 1935. Oxford: Clarendon Press.
CW1	*Collected Works of F. H. Bradley.* 1999. Vol. 1. Ed. Carol A. Keene. Bristol: Thoemmes
CW2	*Collected Works of F. H. Bradley.* 1999. Vol. 2. Ed. Carol A. Keene. Bristol: Thoemmes
CW3	*Collected Works of F. H. Bradley.* 1999. Vol. 3. Ed. Carol A. Keene. Bristol: Thoemmes
CW4	*Collected Works of F. H. Bradley.* 1999. Vol. 4. Ed. Carol A. Keene. Bristol: Thoemmes
CW5	*Collected Works of F. H. Bradley.* 1999. Vol. 5. Ed. Carol A. Keene. Bristol: Thoemmes
ES	*Ethical Studies.* 1927. 2d ed. Oxford: Clarendon Press.
ETR	*Essays on Truth and Reality.* 1914. Oxford: Clarendon Press.
PL	*The Principles of Logic.* [1922] 1928. 2d ed., corrected impression. Oxford: Clarendon Press.

1

Faith, Idealism, and Logic

Lord Macaulay, man of letters, member of Parliament, the only historian ever raised to the peerage on the strength of his work, recorded in his diary in 1852 his first and only attempt to read Kant's *Critique of Pure Reason.*

> I received today a translation of Kant. . . . I tried to read it, but found it utterly unintelligible, just as if it had been written in Sanscrit. Not one word of it gave me anything like an idea except a Latin quotation from Persius. It seems to me that it ought to be possible to explain a true theory of metaphysics in words that I can understand. I can understand Locke, and Berkeley, and Hume, and Reid, and Stewart. I can understand Cicero's Academics, and most of Plato; and it seems odd that in a book on the elements of metaphysics . . . I should not be able to comprehend a word. (Blanshard 1954, 1, quoting Trevelyan 1923, 515)

Despite this reaction from one of Britain's leading intellectuals, in twenty-five years the philosophy of Kant and, more amazing still, Hegel had progressed from being unintelligible to providing much of the metaphysical backbone of the dominant philosophy. It supplanted both empiricism and the Scottish philosophy of common sense, while claiming possession of articulate bands of followers at Glasgow and Oxford. This change in the philosophical climate was certainly not the result of the attractive style in which German philosophy was written. It was not the result of the fact that in the 1840s many Balliol men began to converse and correspond (among themselves, of course) in German, although this speeded the process (Faber 1957, 179). Despite the common concerns of British romantic poets and German philosophers, it was not the activities of poets that domesticated the alien philosophy, although some of them, particularly Wordsworth and Coleridge, provided essential aid (A. C. Bradley

1969). More than anything else it was a result of the fact that German philosophy provided a contribution to the leading intellectual concern of thinking inhabitants of Britain: evangelical Christianity. In this chapter I explain how Idealism provided a defense of the faith and how the need for such a defense was the force behind the rise of British Idealism. To do this I will begin by briefly describing the Victorian crisis of faith. I will then explain the stages by which German idealism, particularly in its Hegelian form, developed in Britain as a response to it: how the elements for this defense were introduced by James Hutchinson Stirling, elaborated by William Wallace and Edward and John Caird, and systematized by T. H. Green. I will conclude by explaining how internal problems in the Hegelian defense of religion engendered the need for an idealistic examination of the principles of logic, a need that F. H. Bradley attempted to satisfy.

I

Nineteenth-century Britain was the scene of an evangelical revival. It began much earlier, in 1739, with the preaching of John Wesley and George Whitefield, and by the mid-Victorian years it had affected the whole of Victorian society. Its physical presence in the form of sermons and religious pamphlets, the most common Victorian publications, was enormous. By the time of his death in 1892, the most popular Victorian preacher, Charles Spurgeon, had sold 50,000,000 copies of his sermons. A young Victorian from a good family might hear as many as 1,000 sermons before reaching majority (Young 1960, 14). Those less exposed to sermons would still encounter Christianity as a central concern in almost every serious piece of Victorian literary culture. Its effects extended from the printed word to language itself. Biblical categories were commonly used to categorize people; prostitutes, for example, were Magdalenes. It was politically important as well. Evangelical propaganda led to the suppression of duels and blood sports, evangelical drives to protect children in factories enjoyed some success, evangelicals played an important role in prison reform, and in their most impressive accomplishment by 1807 they had succeeded in abolishing the slave trade (Halévy 1961, 453–7). They played a dominant role in education: 55 percent of children between 5 and 15 were enrolled in church-run Sunday schools. Every major figure in British political life from 1830 to 1870 with the exception of Palmerston was touched by evangelicalism (Ensor 1936, 137). It has even been claimed that evangelicalism was responsible for the stability

of the institutions of British society in a revolutionary century (Halévy 1961, 387). As R. C. K. Ensor has said, "No one will ever understand Victorian England who does not appreciate that among highly civilized, in contradistinction to more primitive, countries, it was one of the most religious that the world has ever known" (Ensor 1936, 137).[1] The intellectual, moral, and political cultures of Victorian Britain were based on evangelical Christian foundations.

Yet its success created problems. There were two essential elements in evangelicalism. First, evangelicalism was marked by its concern with individuals, not only in this life but in the next. Earthly life was important only as a preparation for eternity, when individuals would be judged for their actions during their earthly lives and punished or rewarded accordingly. Even more important was a second belief which grounded the first, that the Bible was literally true. This included belief in a transcendent God who created the world in time (Webb 1933, 9). Yet despite the centrality of these beliefs in Victorian life, by the mid-Victorian years the second belief was being seriously challenged by the natural sciences and by scholarly studies of Scripture.

The challenge came initially from geology and then from biology. As geology established itself as a science in the early nineteenth century, it became apparent that geological processes operated on a larger time scale than allowed for by the number of generations, as recorded in Scripture, since the creation. The age and variety of fossils presented additional problems. If God had created the animals for Adam and his children to have dominion over and preserved them with the aid of Noah, why were there fossils of extinct species? The active involvement of gentleman scientists, including a large number of clergy, in geology exacerbated the conflict. Numerous attempts were made in early Victorian Britain to reconcile the Biblical account of creation and Noah's flood with the presence of fossils, but none of these attempts met general acceptance.[2] As Ruskin remarked, "If only the geologists would let me alone, I could do quite well, but those dreadful hammers! I hear the clink of them at the end of every cadence of the Bible verses" (Himmelfarb 1968, 239). The conflict became more extreme when Charles Darwin proposed his theory of evolution. This theory not only eliminated the need for divine creation, but it also suggested that the moral of the Garden of Eden story, that human beings have *fallen*, is incorrect. From an evolutionary perspective, human beings have *risen* from lower animals (Webb 1933, 76–7).

Likewise, the scholarly study of Scripture challenged the evangelical belief in the literal truth of the Bible. This attack, too, was a result of the

success of the natural sciences. Because of the outstanding achievements of natural philosophy, efforts were made to define scientific method and apply it to the moral sciences as well. The most familiar of these attempts is embodied in John Stuart Mill's *A System of Logic* (Webb 1933, 63–4). Yet as textual principles were applied to Scripture it became apparent that the Biblical narratives could not be construed to be the divinely dictated stories that evangelicals claimed they were. Thoughtful Victorians were thus caught in a conflict between their religious beliefs and their intellectual commitments. They were unwilling to abandon evangelical Christianity, but the intellectual basis for it was rapidly eroding.

Victorian literature provides a record of this conflict, not only between different individuals but even within the same individual. A well-known statement of it was given by the extremely popular poet laureate Alfred, Lord Tennyson, in *In Memoriam*. Published in 1850, before the publication of *The Origin of Species*, the poem testifies to the tension already present before the Darwinian controversy. The occasion for the poem was the death of the poet's friend Arthur Hallam. Taken as a whole the poem provides a record of Tennyson's attempt to reconcile himself with Hallam's death. Because part of Tennyson's difficulty in reaching such a reconciliation lay in his skepticism about immortality, the religious doubt most strongly expressed in the poem is doubt about personal immortality. Yet Tennyson's doubt is not confined to immortality. The climax of despair in the poem occurs in Sections 55 and 56 when Tennyson extends this doubt to all spiritual values. Here he represents nature as caring nothing for either individuals or whole species and so crying out against human moral and religious values and burying them along with humanity. In his words

> . . . . And he, shall he,
> Man, her last work, who seem'd so fair,
> Such splendid purpose in his eyes,
> Who roll'd the psalm to wintry skies,
> Who built him fanes of fruitless prayer,
>
> Who trusted God was love indeed
> And love Creation's final law –
> Tho' Nature, red in tooth and claw
> With ravine, shriek'd against his creed –
>
> Who loved, who suffer'd countless ills,
> Who battled for the True, the Just,
> Be blown about the desert dust,
> Or seal'd within the iron hills? (1906, sec. 56)

Tennyson's question is whether a loving God controls the world or whether the world is subject to random violence that will eventually wipe out the only being who ever believed in a loving God. The implication of such an event would be that human values are merely human and not built into the structure of the world by an omnipotent but loving Creator.

As the poem continues, Tennyson gradually becomes reconciled to the death of his friend and, as a consequence, is able to resolve his doubts.[3] He does not, however, find this resolution easily. Part of the power of *In Memoriam* is that it so successfully blends Tennyson's honest doubt with his deep desire for belief. The belief he finally is able to salvage is a tenuous thing – belief without proof, much evidence, or even strong conviction supporting it. It is the personal answer of a poet, but it did not prove to be an intellectually satisfying answer for many thinking Victorians.

Other Victorian writers, like Matthew Arnold and A. H. Clough, were conscious of the same conflict, but unable to reach even this tentative solution. This lack of a firm resolution of the conflict in literature was admitted by the writers and stressed by the philosophers. Many thinking Victorians did not find a personal solution like Tennyson's intellectually comforting. They could admit that there is much good philosophy in poems like *In Memoriam* while recognizing that the personal view expressed by the poet is not a reasoned solution to the problem. Someone who held it as a poetic truth might still believe it to be false from a scientific standpoint. Many regarded this as an undesirable state of affairs and looked to philosophy to reconcile these beliefs in a rational way (e.g., Green 1906, 1–4).

Yet the two dominant philosophies of mid-Victorian Britain seemed unable to do this. At the end of his life John Stuart Mill did bring the resources of the empiricist tradition to bear on religious problems, but in a way that disconcerted rather than consoled. Mill's reluctant admission that supernatural religion had some utility and that there is some evidence for the existence of a limited, finite God failed to ease the distress of his more religious contemporaries (1969, 419–20, 482). Furthermore, in his last major work, *An Examination of Sir William Hamilton's Philosophy*, Mill succeeded for all practical purposes in destroying the reputation of the last original member of the Scottish school of common sense. Taking its origin from Thomas Reid, this school claimed to defend common sense and religion against Hume's skepticism. It was the other considerable philosophy in mid-Victorian Britain. By attacking Hamilton so effectively, Mill showed that the Scottish school was unable to reconcile religious belief with scientific theory.

The inability of these philosophies to deal with the Victorian problem was not just the result of the fact that their arguments were unacceptable. Even more telling was the fact that neither school seemed to be able to address the issues effectively. Mill had nothing substantial but doubts to add to the views of William Paley, views that Darwin undermined, while the Scottish defense of religion seemed to reduce itself to nothing more than simple agnosticism. As a contemporary writer put matters, with

> . . . the recent crowding in of new scientific conceptions. . . . Neither system seems to present its leading principle bent as one would like to see it into the curves and junctures of the most anxious thought of our time. (Masson 1877, 137; quoted in James Bradley 1979, 16)

The stage was thus set for the arrival of a new form of philosophy. Mid-Victorian culture faced a serious question which its members were able to formulate effectively but unable to answer in a principled, rational way. A new philosophy seemed necessary to provide the answer.

II

The stirrings of a new philosophy had been felt for some time. In separate ways Samuel Taylor Coleridge and Thomas Carlyle voiced important themes found in German idealism. Neither, however, developed them in the systematic way that some thinking Britons felt was needed to deal with the current crisis. At the same time, two British philosophers, John Grote and J. F. Ferrier, began to develop their own versions of idealism. Unfortunately, John Grote, who had the disadvantage of being eclipsed by his older utilitarian brother George, died before he was able to effectively systematize his views, and Ferrier's works, although systematic, never captured public attention. The first idealistic work to do so was James Hutchinson Stirling's dark, uneven Carlylean tome, *The Secret of Hegel*.[4] This book introduced German philosophy as the answer to the British crisis of faith and contained, in a very rough form, the strategy for defending the faith that subsequent British idealists would develop.

While visiting Germany in 1857, Stirling, a Glasgow physician, saw the name "Hegel" and "was very peculiarly impressed by it" (1898, xviii). After learning that Hegel was by repute the deepest and the darkest philosopher, the one who had reconciled philosophy to Christianity, Stirling set out to master his system. The result, published eight years later, was a two-volume, 1,000-page opus of irregular contents. After opening with a preface defending the value of German philosophy, it continues with a

series of long notes, originally not intended for publication, that chronicle Stirling's thoughts as he began to understand Hegel. This section, amounting to almost one-third of the book, is aptly titled "The Struggle to Hegel." It includes discussions of Kant, Coleridge, Fichte, Schelling, and Plato, along with explanations of some parts of Hegel. This is followed by a translation of the first section of *The Science of Logic*, "Quality," to which is appended a commentary. The next section is a partial translation interspersed with commentary of the second section of *The Science of Logic*, "Quantity." The volume is rounded out by a discussion of some of Hegel's commentators and an application of Hegel's views to what Stirling saw as the problems of his day.[5]

The Secret of Hegel was by no means a bestseller, but for such a weighty book it sold remarkably well. There were many favorable reviews, and Stirling received letters filled with praise from writers as diverse as J. E. Erdmann, Thomas Carlyle, T. H. Green, and Ralph Waldo Emerson (Muirhead 1931, 170–1). More than anyone else, Stirling introduced Hegel to a British audience and made his views intellectually respectable, even if not fully understood. He also provided an important service by finding English equivalents for some of Hegel's German terminology. Most important of all, he succeeded in showing in a preliminary way how Hegel couldsoothe mid-Victoriananxieties(James Bradley 1979, 17–20).

Four elements in Stirling's approach to Hegel were particularly important for the early British idealists. First, Stirling situated Hegel's thought in the series of systems of philosophy that, in Stirling's view, constitute the history of philosophy. Unlike many philosophers in this century who have seen the history of philosophy as a series of attempts, often misguided, to solve the perennial problems of philosophy, Stirling saw it as an ordered sequence of philosophical systems. This order exhibited the progress of reason, because each new system added essential elements for the rational understanding of reality.[6] This sequence reached its climax in Hegel, who showed that reality was completely a manifestation of reason. Stirling thought Hegel was the greatest thinker of the modern world and closed modern thought just as Aristotle closed ancient thought (1898, 78). He thus approached Hegel as a systematic philosopher whose thought should be evaluated by comparing it with other systems of thought.

Second, Stirling approached Hegel through Kant. This allowed Stirling to attribute Kant's project of reconciling science and religion to Hegel. Like a good Scottish nationalist, Stirling claimed that just as Hume inspired Kant, so Kant inspired Hegel (1898, 185). But while Hume awoke Kant from his dogmatic slumbers and so changed the direction of

philosophy, Hegel merely completed what Kant had initiated. As Stirling put it, the secret of Kant is the secret of Hegel (1898, 98). Kant's secret, his Copernican revolution, consisted in his claim that the familiar objects of the everyday world are partially constituted by the experiencing subject. In Stirling's view, this meant that sensations, contributed by a source external to finite minds, the thing-in-itself, are converted into objects by a priori subjective machinery in finite minds. This machinery includes the forms of space and time and the categories that are functions of the transcendental unity of apperception. Because these categories are functions that enable finite minds to form judgments, they are rational, logical categories. Consequently, the world as finite minds know it, the world constructed by subjectivity from sensation, is shot through with rationality. This is made possible by the fact that it is a purely phenomenal world. It depends for its existence on the rational activity of a subject working with materials contributed by the unknown thing-in-itself (1898, 156–8).

As Stirling saw it, Kant succeeded in showing that the phenomenal world is rational, but he failed to show that this is the only world there is – he failed to eliminate the thing-in-itself. By failing to include the thing-in-itself, Kant's Copernican revolution was incomplete. Stirling thought that it was completed by Hegel, who eliminated the thing-in-itself and thus showed that reality was completely in accordance with reason. Instead of being the product of sensations from an unknown source, Hegel showed, objects were categories materialized and externalized by the divine mind in which finite human minds participate (1898, 84–5).

The third element in Stirling's approach that was appropriated by the early British idealists was Stirling's belief that the work in which Hegel succeeded in eliminating the thing-in-itself was not the *Phenomenology of Spirit* but *The Science of Logic*. It did this, Stirling thought, by providing a proper deduction of the categories. Rather than merely following Kant's lead and organizing the categories by means of an external principle, which in Kant's case was supposedly a list of the kinds of judgments recognized by formal logicians, Hegel showed that the categories defined the interconnected, unfolding nature of thought and reality (1898, 335–8). Hegel's *Logics* thus became the vehicle by means of which Hegel entered Britain.

The last and most important element in Stirling's approach to Hegel was his use of Hegel as a Christian apologist. Stirling differed from later idealists, however, by remaining relatively orthodox. In the "Preliminary Notice" to *The Secret of Hegel* he announced that "Kant and Hegel . . . have

no object but to restore Faith – Faith in God – Faith in the immortality of the Soul and the Freedom of the Will – nay, Faith in Christianity as the Revealed Religion – and that, too, in perfect harmony with the Right of Private Judgment, and the Rights, or Lights, or Mights of Intelligence in general" (1898, xxii). Stirling thought Hegel's *Logic* shows – this is the secret of Hegel – that the world is a materialization of rational thought. But, as Stirling reminds his readers, this is not the thought of a finite spirit but of "God as he is in his 'eternal essence before the creation of the world and any finite spirit'" (1898, 85).[7] In proving that the world is an externalization of thought, Hegel is thus proving, at least in Stirling's view, the existence of God. Because reality is God's thought, no scientific investigation, if properly conducted, can cast doubt on God's existence.

Even though the strategy behind Stirling's use of Hegel is clear, more is required to show that Hegel's argument vindicates Christianity. At the very least, some account is needed of why the thought with which Hegel is concerned is the thought of God. Surprisingly, Stirling provided no such account. In fact, *The Secret of Hegel* lacks any detailed discussion of Hegel's philosophy of religion. Instead, Stirling identifies Hegel with Christianity in two other ways. First, he quotes a large number of passages from Hegel that testify to Hegel's sympathy with revealed Christian doctrines and to the "depth and fervency" of his religious feelings. Second, he makes a large number of extravagant, unsupported claims about the religious implications of Hegel's views. It comes as no surprise that Stirling thinks that Hegel has shown Christianity to be the one and only revealed religion. It is more surprising to find him saying that with Kant's help Hegel vindicated the freedom of the will, the immortality of the soul, and the existence of God. And it is quite astonishing that he took Hegel's claim that Spirit is embodied in finite particulars to show that the soul is necessarily immortal and that for Hegel God is a personal God (Stirling 1898, 717–21). Stirling did not defend these claims. He only assured his readers that Hegel had shown them to be true.

This allowed Stirling to use Hegel uncritically to combat the two main scholarly disciplines that were undermining the faith of his contemporaries. He was more successful in defusing the force of the scholarly study of Scripture. He criticized it for grubbing in historical fact and, following Hegel, argued that the essence of Christianity is not to be found in its external, historical details but in its spiritual core. Like other matters of fact, historical facts are, he said, contingent and not essential to the faith. It is the spiritual core of the faith that matters, not its accidental, historical manifestations (1898, 728–9).

He was less successful in dealing with the other major challenge to Christianity – Darwinism. Because Darwin and Hegel are both concerned with development, Stirling might have attempted to show that they are compatible. Instead, he took the unpromising line that Darwinism committed philosophical mistakes. The major "mistake" identified in *The Secret of Hegel* concerns the transformation of species. Stirling followed a passage in Hegel's *Philosophy of Nature* (Hegel 1970, 20, sec. 249) by claiming that nature is organized into a system of grades or species. These grades or species can be generated from each other, Hegel claimed, only as logical categories. As really existing, species comprise individuals. Only individuals occupy space and time, which, according to Hegel, is (necessarily!) the realm of contingency. To attempt to identify logical changes in the contingent realm is a mistake. Consequently, Stirling's criticism of Darwinism is that it confuses a logical transformation with an empirical one (1898, 735–47).[8]

As a footnote to the discussion of Stirling, it is worth noting that even though *The Secret of Hegel* was primarily concerned with religious questions, it did have a social dimension. Stirling was sharply critical of contemporary uses of political economy in British politics. In his view, political economy represented the principle of Enlightenment, self will. It failed to see that reason was not confined to the individual, but that there was a universal reason active in the formation of social institutions. This was the realm of the ethical, and in his view it was essential that it be cultivated in Britain. Following the individual self-interest embodied in political economy would lead only to "a wilderness of self-will and animal rapine" (1898, 716). Stirling had no positive social program to suggest, but his mention of the need for one in this context foretold what was to come from later idealists (1898, 695–719).

Even though Stirling convincingly introduced Hegel to a British audience as a defender of the faith, he failed to give this defense in *The Secret of Hegel*. Moreover, none of his many subsequent works had anything remotely approaching the importance or influence of *The Secret of Hegel*. Although he was widely regarded as one of the pioneers who introduced Hegel into Britain, he did not write the kind of systematic defense of the faith for which many of the educated were looking. Moreover, he never obtained a chair in philosophy and so was not in a position to continue the propagation of idealism by introducing students to Hegel's work. What he did accomplish, however, should not be underestimated or dismissed with a joke about the title of his main work. He pioneered the first serious British approach to Hegel. By treating Hegel as a systematic

philosopher whose *Science of Logic* completed Kant's system, Stirling introduced the British idealist defense of religion. By arguing that reality is God's thought, he showed how scientific findings could be harmonized with religion.

III

From the point of view of the British intellectual establishment, Stirling was an outsider. His Hegelian defense of religion was promising, but it did not by itself introduce large numbers of people to Hegel's thought. Others were responsible for the domestication of Hegel. From their academic positions they drew from Hegel the weapons with which they defended Christianity against Darwinism and higher criticism. The academic who inspired this use of Hegel in Britain was Benjamin Jowett, who is remembered today as a liberal theologian, a translator of Plato, and the greatest nineteenth-century master of Balliol College, Oxford. His interest in Hegel marked the beginning of a second stage in the rise of British Idealism.

Jowett's first contact with Hegel came in 1844, when he spent part of his summer vacation in Germany. One of the books he carried with him during the trip was Kant's *Critique of Pure Reason*. Jowett apparently studied Kant during much of the trip and, discovering that Hegel was someone to be taken seriously, met the foremost Hegelian of his day, J. E. Erdmann, then at work on his *Geschichte der Philosophie*, and obtained his advice on the proper manner of studying Hegel. Jowett studied Hegel seriously over the next few years and even prepared a translation of most of the *Logic* from the *Encyclopaedia of the Philosophical Sciences*. In subsequent years Jowett's interests shifted from Hegel to Plato, and his translation was never published, but in later years he insisted that he gained more from Hegel than from any other philosopher. Furthermore, his interest in Plato was related to his idealistic leanings, and he mentions Hegel in some of his introductions to the individual dialogues – for example, the *Parmenides* and the *Sophist* (1871a ix; 1871b 239, 445). The most important point, however, was that he encouraged his ablest students to study Hegel. He introduced both Edward Caird and T. H. Green to Hegel, and he was the inspiration for William Wallace's translation of Hegel's *Logic* from *The Encyclopaedia of the Philosophical Sciences*. It was from Jowett's college, Balliol, that Hegel began radiating into British intellectual life.[9]

The main difference between Stirling's Carlylean Hegel and the figure who began to make a mark at Balliol College was that Stirling's Hegel was

a defender of the faith against modern life, while the Balliol Hegel was a reinterpreter of the faith in conformity to modern life (Bradley 1979, 12–15). This is most clearly illustrated by the fact that Balliol Hegelians seldom used Hegel to defend particular doctrines without reinterpreting them. For example, unlike Stirling, no one from Balliol used Hegel to defend personal immortality, or, more important, to attack Darwin. This difference first became apparent in the work of William Wallace, who like Bradley was a fellow of Merton College.

Wallace's most important contribution to British Idealism was his translation of Hegel's *Logic* from *The Encyclopaedia of Philosophical Sciences*. This made available in abbreviated form what most British idealists followed Stirling in regarding as Hegel's major work. The impact of this translation was increased by the fact that Wallace prefaced it with a number of short essays that approached Hegel from a variety of perspectives (1874; 1968). Although Wallace presented a much more balanced approach to Hegel than Stirling – he denied, for example, that there was any secret to Hegel except perseverance – he accepted Stirling's general approach. He, too, regarded Hegel as a systematic philosopher whose *Science of Logic* showed reality to be divine thought and thus completed Kant's project of reconciling science and religion. This approach allowed Wallace to follow Stirling in claiming that the core of Christianity is not historical and that it has nothing to fear from higher criticism (1874, xxvi; 1968, 23–4).

Where Wallace differed from Stirling significantly was in his attitude toward evolution. On this topic he extended Stirling's defense of Christianity by rejecting the inerrancy of Scripture. This enabled Wallace to accept the theory of evolution. Replying to Stirling's criticism of Darwin, Wallace acknowledged the distinction Hegel drew between the development of logical concepts and the evolution of new species. Unlike Stirling, however, Wallace rejected much of Hegel's philosophy of nature, the part of Hegel's system that conflicted with Darwin (Wallace, 1892, xi–xii). Rather than using Hegel's views to criticize Darwin as Stirling had, he emphasized the parallels between Hegel's dialectic and Darwin's account of evolution. Hegel's dialectic, Wallace said, "is the natural selection, caused by the struggle for existence" (Wallace 1874, clxxx).[10] Wallace illustrated this by applying Darwin's use of the similarity between the artificial and natural breeding of animals to the history of philosophy (Darwin 1993, chap. 1). Just as we can learn something about natural selection through artificial breeding, breeding that is under conscious human control, so we can learn something about the natural relationships

between concepts by studying their relations under conscious control – that is, in the history of philosophy. Just as the history of philosophy is a struggle for survival between systems, so is the conceptual development recorded in Hegel's logic (1874 cix–cx; 1968, 62, 114–22). Rather than oppose Darwin, Wallace accepted the theory of evolution and argued that it was the counterpart of the development of the ego that Hegel found in the history of philosophy. Hegel, Wallace thought, described in his *Logic* the pure forms involved in both spheres. By this means Wallace incorporated the theory of evolution into his Hegelian defense of Christianity (1874, lx–lxi). Dismissing Hegel's philosophy of nature allowed him to show how Hegel's account of the identity of thought and reality was consistent with Darwin's theory of evolution. Wallace was thus able to use Hegel to meet both of the major challenges facing mid-Victorian Christianity.

Wallace's contribution to British idealism was thus to translate the shorter version of what the British idealists regarded as Hegel's main work and to show how this work would enable thoughtful Victorians to accept the results of science and higher criticism, while retaining a liberal Christian faith. But he did not himself formulate a detailed general defense of Christianity, even though he showed that the materials for such a defense were present in Hegel. That task was reserved for two Scottish philosophers, the brothers John and Edward Caird.[11] John was fifteen years older than Edward, but his philosophical development was slower. John had little formal training in philosophy. From 1845 until 1862 he served as a minister in a number of Presbyterian parishes. During these years he developed an interest in theology, and in order to follow this interest he learned German. In 1862, after much hesitation, he became the successful candidate for the chair in theology at the University of Glasgow. In 1873 he became principal of the University of Glasgow. His interest in German philosophy seems to have matured following the arrival of his brother Edward in Glasgow. After studying at both Glasgow and Oxford, Edward became a fellow of Merton before returning to Glasgow in 1866 as Professor of Moral Philosophy. During the next twenty-eight years, until Edward succeeded Jowett as master of Balliol, the brothers Caird were very close, having almost daily contact while the university was in session. Their discussions were frequently about philosophy (Edward Caird 1904b, lxiv–lxvii). Although not entirely in agreement (Edward Caird 1904b, lxxvi), they remained among the most Hegelian of the British idealists, and they followed Wallace's lead in using Hegel's *Logic* to insulate Christianity against both Darwinism and higher criticism.

While the Cairds agreed in their Hegelian outlook and while their arguments for it overlapped, they tended to defend Christianity in rather different ways. Edward's main task was to work out a detailed interpretation of Kant's system that was supposed to show why it needed to be completed by Hegel. This he did in his two large books on Kant: *A Critical Account of the Philosophy of Kant* (1877) and *The Critical Philosophy of Immanuel Kant* (1889).[12] He also wrote works on the development of religion generally that exhibited his Hegelian point of view (1893; 1904a).[13] John, as befitted a theologian, focused less on the history of philosophy or of religion and more on the actual content of Christianity. His main philosophical works, *The Fundamental Ideas of Christianity* (1904) and *Introduction to the Philosophy of Religion* (1910), are on the nature of the Christian religion.

What the Cairds saw as the goal of this kind of defense is perhaps best summarized by Edward Caird. In his essay "The Problem of Philosophy at the Present Time," he writes:

> The need for philosophy arises out of the broken harmony of a spiritual life, in which the different elements or factors seem to be set in irreconcilable opposition to each other; in which, for example, the religious consciousness, the consciousness of the infinite, is at war with the secular consciousness, the consciousness of the finite; or again, the consciousness of the self, with the consciousness of the external world. It is easy to see this, if we reflect on the nature of the controversies which most trouble us at present. (1892, 191–2)

What these controversies were was not secret, but even so Caird goes on to say that it is the task of philosophy to reconcile thoughts about the world, the self, and God. Philosophy thus has the special function of unifying oppositions through a higher synthesis; it finds a way to reconcile opposing views by showing that both depend in crucial ways on common ground.

Although it is impossible to do justice to the wealth of detail in the Cairds' elaboration of this argument, its bare bones are perhaps best illustrated by a very informal argument of John Caird's in his *Introduction to the Philosophy of Religion*. Caird begins by claiming that materialism is self-refuting. The reason is that materialism is an attempt to explain the properties of mind as properties of matter. But to do this, the materialist must begin with a set of data that are nonmental. Following Kant, Caird claims that this is impossible. To conceive of data requires the categories of self-consciousness. Even supposing that bare sensations are given, they do not become data without the unifying action of mind by means of logical categories. Because these data presuppose the existence of mind,

it follows that materialism presupposes the existence of mind and hence is self-contradictory. Caird formulates the result of this argument by saying that *the unity of thought and being* is a principle that it is impossible to doubt. But because this thought cannot be finite human thought, it must be divine thought. Consequently, all knowledge presupposes the existence of God, and any attempt to explain away His existence will be self-contradictory (John Caird 1910, 94–8, 147–9). In particular, Darwinism and higher criticism presuppose the existence of God, so their findings can never conflict with religious faith when it is properly understood. Caird thus claimed to use logic to do what Hegel, he thought, had so effectively done: overcome opposing views by including them in a higher unity.

IV

Stirling, Wallace, and the Cairds in their different ways used commentary on Hegel and vastly simplified versions of Hegel's arguments in defense of Christianity. They explained why they thought Hegel's *Logic* showed that reality was identical to God's thought and thus completed Kant's defense of Christianity. Like Wallace, however, the Cairds were dissatisfied with a portion of Hegel's system: his philosophy of nature (Caird 1907, 195–202). In keeping with their regard for the importance of philosophical systems, they needed to incorporate their defense of Christianity into such a system – a system that would not only defend Christianity but that would also provide a defense of morality. But, again like Wallace, they were not systematic philosophers. They did not create a philosophical system to complete their defense of the faith.

The first systematic philosopher among the British idealists, the person who made British idealism into a force in British philosophy and even in British life, was the Oxford philosopher T. H. Green, arguably the most important philosopher to teach at Oxford since John Wyclif (Quinton 2000, 21). After initial success as a Balliol scholar under Jowett, Green became a Balliol fellow, a tutor, a lecturer, and, finally, late in a short career that ended with his death by blood poisoning shortly before his forty-sixth birthday, Whyte's Professor of Moral Philosophy. Green's achievement was to construct a philosophical system around a Hegelian defense of Christianity.[14]

Like Stirling, Wallace, and the Cairds, Green approached his task historically. He thought philosophy articulated humanity's progressive understanding of the rationality of the world (1885, 1–3; 1888b, 93). But

philosophy in Britain was stagnant. Green thought that the last stage in the development of British philosophy, empiricism, had become *the* popular philosophy and that in a simplistic form it had been codified as British common sense. This happened, Green thought, in spite of the fact that the last great British philosopher, David Hume, had shown that empiricism failed on its own terms. It claimed to give an explanation of the origin of human knowledge, but, as Hume showed, on empiricist principles knowledge is impossible. This failure, especially apparent in the face of higher criticism and evolutionary theory, was in Green's opinion responsible for much of the religious anxiety of his age (1888b, 92–7). Green's plan for removing this anxiety was to replace the popular philosophy – empiricism – with idealism. This was the task Green set for himself in his first substantial work, his destructive 371-page introduction to his edition of Hume's *Treatise of Human Nature*. His thesis was that with Hume empiricism was "played out" and that the cure for the present anxiety was to be found in rethinking the nature of human knowledge and action with the help of Kant and Hegel (1885, 371).

Green saw empiricism as an attempt to explain the origin of ideas and the connections between them that constitute knowledge. Its distinguishing feature for Green is its claim that there are no innate ideas – apart from experience, the mind is empty. The ideas that fill the mind are fainter replicas of what is passively received in sensation or, at least for Hume, fainter replicas of impressions like hope or fear that result from reflecting on ideas received in sensation. Green's fundamental objection to empiricism is that if the mind received all of its contents from sensation, then it would not be aware of relations between ideas. Because knowledge is composed of judgments that require relations between ideas, a mind that received all of its contents from sensation would lack knowledge. Green thinks that empiricists have covered this lacuna in their theory only by conflating judgments and sensations (1885, 19). His critical writings on empiricism are mostly an attempt to show that a mind whose contents were derived from sensory impressions would not be able to relate those contents. Specifically, it would lack the "formal conceptions" like substance and causation that are essential for knowledge (Green 1885, 27). To show this he argues that these relations are neither impressions nor ideas, nor, despite Hume's strenuous attempt in the case of causation to show otherwise, are they habits. From this Green concludes that empiricism, particularly in the form in which it inhabits the popular consciousness, is bankrupt and should be replaced with a very different philosophy.[15]

Despite the fact that Green's arguments are frequently original, his replacement for empiricism is largely derived from Kant and Hegel. In fact, the core of his alternative to empiricism is found in three main things he acknowledged borrowing from Hegel:

> That there is one spiritual self-conscious being, of which all that is real is the activity or expression; that we are related to this spiritual being, not merely as parts of the world which is its expression, but as partakers in some inchoate measure of the self-consciousness through which it at once constitutes and distinguishes itself from the world; that this participation is the source of morality and religion; this we take to be the vital truth which Hegel had to teach. (1888c, 146)

In other words, Green thought, first, that Hegel had shown reality to be the manifestation of a nonmaterial self-consciousness. Green called this a nonnatural or spiritual principle. Second, he thought this self-conscious spiritual principle was realized in human agents and that, third, it provided a rational foundation for religion and morality. Like his predecessors, Green thought these truths were found in Hegel's *Logic* and that they could be appropriated only by approaching them through Kant's philosophy.

This approach is apparent in the opening book of *Prolegomena to Ethics*, where Green gives the most elaborate version of his argument for the existence of an all-encompassing spiritual principle. Specifically, he tries to show that such a principle is necessary for both knowledge and nature. Green begins his argument by defending Kant's claim that knowledge requires the synthetic activity of the knower. Green calls this synthetic activity a spiritual principle because he thinks it cannot be explained naturalistically. Knowledge, Green says, is always a knowledge of objects that are distinguished from and related to experiences of them. But such objects, he continues, are at least in part constituted by their qualities, and these are at least in part constituted by relations. Following Locke, Green asserts that relations are the work of the mind; only thought makes relations possible. Consequently, objects of knowledge are at least partially constituted or synthesized by a self-conscious mind, one able to distinguish objects from its experiences of them. Thus knowledge, as Green likes to put it, requires a spiritual principle (1906, 16–22).

On Green's interpretation, Kant was content to stop at this point. He claimed that knowable objects are the joint product of sensations contributed by things-in-themselves and the transcendental faculties that structure them. Green is not content to stop here. He argues that if anything at all can be known about the thing-in-itself, if it can even be an

object of thought, then it, too, is synthesized by thought. In his view Kant did not adequately recognize the implication of his own discovery. Green concludes that Kant's *Critique of Pure Reason* needs to be supplemented with Hegel's *Logic* (1906, 32–45).

Green follows Hegel by claiming that it makes no sense to say that what is known, the synthesized object, is not the real object, the thing-in-itself. What is known must be real. But if this is so, then the object as it is known is the object as it really is. Because the object as it is known has relational characteristics, and because such characteristics are the product of intellectual synthesis, it follows that the object, as it really is, is also the product of intellectual synthesis. More spectacularly, Green asserts that reality depends for its existence on a spiritual principle. Because everything is related to everything else, it follows that all objects depend on a single, all-inclusive spiritual principle. Reality, he concludes, is the manifestation of a spiritual principle (1906, 45–54). Green thus uses Kant's *Critique of Pure Reason* and Hegel's *Logic* to overcome the failure of empiricism by showing that knowledge requires a spiritual principle that must be understood as constituting nature. This is the first of the three truths that Green takes from Hegel.

The second truth is that as finite knowers, human beings participate in the self-conscious spiritual principle. The argument here is that human self-consciousness has two characteristics, neither of which is reducible to the other. On the one hand, it is a consciousness of a changing series of events in time, a consciousness that itself changes through time. On the other hand, it is a consciousness of the relations between events that occur at different times. Green argues that it can be a consciousness of the relations between events occurring at different times only if it is in some respect outside of time. He then asserts, almost without argument, that the only way these two features can be explained is by supposing that finite human self-consciousness is a limited realization of a self-conscious spiritual principle. This is Green's sketch for a defense of the second lesson he derives from Hegel (1906, 59–78). His early death prevented him from filling out this defense in more detail.

The third truth Green takes from Hegel is that his spiritual principle provides a foundation for morality and religion and thus a resolution of the mid-Victorian conflict between doubt and duty. Green's defense of this claim parallels his defense of the necessity for a spiritual principle in knowledge. Just as knowledge requires an object constituted by the spiritual principle, so, Green argues, moral action requires an objective end that, as objective, is also constituted by the spiritual principle (1906,

90–1, 104–5). To act on the desire for an objective end, Green claims, is to have a motive (1906, 92–3). It is to be moved by the idea of an end as part of the conception of one's personal good (1906, 120), which is "the abiding satisfaction of an abiding self" (1906, 250). Green argues that the only good that will provide this satisfaction is a social good, one that satisfies others in the process of satisfying oneself. In other words, one can achieve one's personal good only by living a life of virtue (e.g., 1906, 256–60). One can live such a life, Green suggests, only by giving up one's exclusively private ends for the general ones embodied in one's social institutions (1906, 191–3). These institutions provide the common objective ends necessary for the moral life. Green's view that the good is being progressively realized in social institutions provides him with the foundation he needs for Victorian morality.[16]

This finally gives Green the basis from which to defend Christianity as a *revealed* religion. Here Green identifies his all-inclusive Spiritual principle with God. He can thus claim that knowledge requires the existence of such a being and that consequently no empirical finding can disprove its existence. Because this being is a necessary presupposition for the existence of knowledge, no knowledge can conflict with its existence. By this means Green is able to reconcile the existence of a God not only with the theory of evolution and higher criticism but also with any scientific discovery whatever.

But Green's defense goes beyond this. His Hegelian account of morality allows him to transform Christian dogma into philosophy by treating it as a description of how one becomes a moral person. It requires giving up one's private conception of the good in exchange for the common good embodied in one's social institutions. Doing this, Green says, realizes the fundamental Christian idea of sacrificing oneself or dying to self in order to live (1888a, 236–7). This is the core meaning of the story of Jesus' life, crucifixion, and resurrection. Revealed Christianity in Green's view thus describes the fundamental structure of the moral life in mythical form. It is a nonrigorous representation of ultimate truth.[17]

V

Although Green's system of philosophy was not complete at the time of his death, it was sufficiently detailed to show how it could constitute an idealistic defense of revealed religion. As the domestication of an extremely elaborate and difficult alien tradition, it is an impressive achievement. There are, however, a number of indications that Green became

dissatisfied with it even before it was complete. His dissatisfaction centered on a crucial part of his system and, indeed, of the Hegelian defense of religion in any of its forms. Green suspected that there was something wrong with his defense of the identity of his spiritual principle and reality.

What troubled Green may be illustrated by examining his way of drawing on both Kant and Hegel in his argument for the reality of a spiritual principle. Following Kant, Green distinguishes between the form and the matter of experience, calling the former "thought" and the latter "feeling." He argues against the empiricists that feelings do not become objects of knowledge without the synthetic activity of thought. Here "thought" is understood to be the capacity to organize what is given by the senses. In this sense, thought is formal. In the Hegelian part of the argument Green tries to overcome the limitation he finds inherent in Kant's treatment of thought and feeling as the form and matter of experience. He does this by arguing that the notion of a thing-in-itself is incoherent and hence cannot be the source of anything. It certainly cannot be the source of what is conceptualized by thought. Eliminating the thing-in-itself thus forces Green to reformulate the distinction between thought and feeling. A contrast between them is necessary to make sense of the Kantian part of his argument, but he can no longer distinguish them as the form and matter of experience (1886, 180–1).

The problem with this position is that it seems to undercut the basic Hegelian claim that reality is thought. If thought is one aspect of experience, then it cannot be the totality of experience, much less of reality. To avoid this difficulty, Green is forced to distinguish between two different senses of "thought." In one sense, the ordinary sense, thought is opposed to feeling as an abstracted element within experience. In its other sense, thought is all-inclusive and contains both ordinary feeling and ordinary thought. Green identifies the first, limited thought, with that realized under the conditions of animal life, while he identifies the second with that of the Absolute or God. The problem this poses for Green is that he begins his argument with an analysis of ordinary thought but concludes it by discussing all-inclusive thought. The argument thus appears to change the subject partway through. This makes it look as if the argument contains an equivocation (Hylton 1990, 36–9).

Green's argument was sufficiently complex to prevent any of his contemporaries from reformulating it carefully and analyzing it fully. But a number of British idealists found Green's treatment of thought and feeling unsatisfactory, and in a few years these dissatisfactions provided

one of the grounds for the growing attraction of personal idealism (e.g., Seth [Pringle-Pattison] 1887, 74–8; McTaggart 1964, 60–1). In fact, Green himself found it unsatisfactory, but he was unable to formulate the exact problem. The main place his dissatisfaction surfaces is in his review of John Caird's *Introduction to the Philosophy of Religion*. In the course of this review Green makes it clear that the book is "a faithful representation of the Hegelian theology" (1888c, 141) and one that leaves out nothing essential. Green then goes on to criticize Caird and Hegel in a way that constitutes a self-criticism as well.

The problem Green sees with the Hegelian approach is that it begins arguing for the claim that reality is thought by examining thought as we find it in ordinary experience. This is what Green calls "ordinary thought." But as Green himself admitted, this kind of thought is different from all-inclusive or absolute thought. Absolute thought includes feeling, whereas ordinary thought does not. Consequently, it is difficult to see how an examination of ordinary thought can yield knowledge of absolute thought. Green is not sure that this is a real failure, but he is convinced that it prevents the argument from being persuasive. He firmly states that what is needed to avoid this difficulty is an account of how this truer conception of thought is formed (1888c, 143).

What Green is calling for is an examination of thought that will clarify and defend the Hegelian view. If one thinks, as Green and his contemporaries did, that thought is the subject matter of logic, then a systematic treatise on logic is required to defend the Hegelian view. To be successful, such a treatise would not only have to determine the nature of thought but also to show that thought is not just an aspect of an individual's mind but all of reality. Or, to put the point in a different way, it would have to show that the subject matter of logic is ontology, not psychology. Green found Hegel's own examination of logic, the *Science of Logic*, unsatisfactory, although his exact reasons remain unclear. He certainly faulted it for a lack of clarity and said that it needed to be redone (Edward Caird 1883b, 5; cf. Sidgwick 1901, 19). And for good reason – whatever else Hegel's *Logic* is, it is not a clear presentation of anything.

Green's dissatisfaction rarely showed in his writing, however. In this respect his review of Caird is an exception. But it showed in another way, one that has been largely forgotten but that was important for Green's contemporaries. It showed in Green's interest in an alternative way of reconciling science and religion, the way represented by the philosophy of Hermann Lotze. Lotze was a towering figure to both his German and English contemporaries, and his impact in Britain was tremendous.

Consider, for example, the amount of energy expended in translating Lotze as compared with translating Hegel.[18] By 1890 Hegel was represented in English by three books, *The Philosophy of History, The Logic* from *The Encyclopaedia of the Philosophical Sciences*, and *The Philosophy of Art*, along with selections, some of them substantial, from other works. None of the four works he published were completely translated into English. By contrast, Lotze's three main works, his *Logic* (1888) and his *Metaphysic* (1887) from the *System of Philosophy*, were available, as was his *Microcosmos* (1885). These works in translation total almost 3,000 pages. Green initiated the translations of Lotze's *System der Philosophie*. He translated the first 200 pages of the *Metaphysic* himself, and, when his death prevented his continued supervision of the project, it came under the direction of Bernard Bosanquet. Other translators included Richard Lewis Nettleship, E. E. C. Jones, and Elizabeth Hamilton, the daughter of Sir William Hamilton.

What is distinctive about Lotze is that he decisively rejected the Hegelian view, in both its German and British forms, that there is an identity between thought and reality.[19] For Lotze, logic is not ontology, and no ontological conclusions can be drawn from it. Like Hegel, Lotze's aim was to reconcile conflicting beliefs, mostly those of science and religion, but his chosen way of doing so was not by treating logic as ontology. Instead, it was by separating thought and reality and giving a straightforwardly metaphysical argument for the existence of a personal God whose existence assured the harmony between science and religion.[20] The deep interest in Lotze's work, manifested at this point in the development of British idealism, showed the seriousness with which the Hegelian identity of thought and reality was questioned. The time was clearly ripe for a serious examination of the nature of thought. This required a major treatise on logic, because for the British idealists logic *was* the study of thought.

F. H. Bradley was the first British idealist to respond to this need. At this point in his life his idealistic credentials were impeccable. Bradley began his philosophical career at Oxford when Green was ascending, and throughout his career he accepted, in a loose and modified form, Green's three main Hegelian points. But he worked them out in his own way, largely because he inverted Green's order. His first substantial work, *Ethical Studies*, is the most Hegelian of all his works. The argument advances through stages resembling the dialectic, the language is frequently Hegelian, Hegel is quoted a number of times, and in the preface Bradley disclaims all originality for the views. It is true that it is not a systematic

work and that it fails to provide the metaphysical foundation for ethics that Bradley thought was necessary. But Bradley met this difficulty by simply confessing that he had not yet developed a metaphysics (ES 65). A reader confined to reading only this work by Bradley would reasonably conclude that its author was a relatively orthodox Hegelian. Bradley thus had the proper credentials to write an idealistic examination of the principles of logic, an examination from which his own distinctive metaphysics slowly began to emerge.

2

Bradley's Project

Henry Sidgwick reports two exchanges he had with his old friend T. H. Green that were separated by a number of years. Sidgwick says:

> I remember writing to him after a visit to Berlin in 1870, and expressing a desire to "get away from Hegel": he replied that it seemed to him one might as well try to "get away from thought itself". I remember, on the other hand, that in the last philosophical talk I had with him, he said, "I looked into Hegel the other day, and found it a strange *Wirrwarr*"... . (Sidgwick 1901, 19)

Sidgwick uses these reminiscences to document Green's movement away from Hegel, a movement common among British idealists in the 1880s. Many were still attracted to Hegel's reconciliation of science and religion, but their doubts about Hegel's way of effecting the reconciliation were growing. Increasingly, idealists were feeling a need to reexamine the nature of thought in order to determine whether thought was indeed identical to reality. Bradley's *Principles of Logic* was the first extended British attempt to confront this issue. The confrontation reaches its climax in the final two chapters of *The Principles of Logic*, both entitled "The Validity of Inference," which conclude with Bradley's ringing denunciation of the attempt to identify thought and reality (PL 590–1).

Unfortunately, knowing that this is Bradley's conclusion is of surprisingly little help in understanding the path he follows to reach it or understanding the considerations that he thinks decide the issue. In fact, Bradley's strange selection of topics, his polemical outbursts, his unwillingness to explain himself, and his detours through nineteenth-century arcana conceal rather than reveal his final destination. It is usually with some surprise that Bradley's readers discover that the inferential patterns

they have spent several hundred pages struggling to understand are, in Bradley's word, "invalid." Rather than being designed to reach its goal, *The Principles of Logic* seems to consist of a hodgepodge of topics with the relation between thought and reality tossed in at the end. It appears to have no plot, only random thickening.

In this chapter I argue that despite its digressions, dead ends, and circuitous passages, *The Principles of Logic* has a unifying theme that forms a natural basis for Bradley's arrival at his conclusion. This is not, of course, to say that *The Principles of Logic* has an elegant but hidden formal structure. That is not so. But it does have more unity than initially meets the eye. I will begin by describing why *The Principles of Logic* seems to lack unity; then I will situate it with respect to other nineteenth-century works of formal, inductive, and philosophical logic; and finally I will explain Bradley's project and consequent way of organizing *The Principles of Logic*.

I

Two obstacles to understanding the unity of *The Principles of Logic* are immediately obvious: Bradley's initial refusal to explain what logic is and his book's seemingly arbitrary structure. These obstacles confront Bradley's readers on the very first page. This is the opening paragraph:

> It is impossible, before we have studied Logic, to know at what point our study should begin. And, after we have studied it, our uncertainty may remain. In the absence of any accepted order I shall offer no apology for beginning with Judgment. If we incur the reproach of starting in the middle, we may at least hope to touch the centre of the subject. (PL 1)

On succeeding pages Bradley does not sketch his view of logic, or survey the main schools of logic, or even describe the most significant issues facing logical theory. He simply plunges into his account of judgment, an account that fills the first third of *The Principles of Logic* and that has no stated principle of organization to guide readers over the course of its 242 pages. Furthermore, compared with other nineteenth-century logics, Bradley's selection of topics seems arbitrary. Why, for example, is there no discussion of conjunctive judgments? Why does he almost completely ignore mathematical judgments? Bradley's way of arranging the topics he does cover seems arbitrary as well. He begins his discussion of judgment with a general definition of judgment and then discusses categorical, hypothetical, negative, disjunctive, and finally modal judgments. Yet separating the chapters on disjunctive and modal judgments are two

chapters on other topics: One concerns the logical principles of identity, contradiction, double negation, and excluded middle, while the other concerns the quantity of judgments. There is no obvious rationale for the placement of these chapters.

If anything, the remaining two books of *The Principles of Logic* are even worse. In the third paragraph of the second book, which is entitled "Inference," Bradley states that "the arrangement of this Book as well as its basis must be considered arbitrary" (PL 244). He then proceeds to give a preliminary characterization of inference and to criticize in detail a number of other views. Some of these views are clearly germane to his account of inference, like the view that all arguments either are or can be reduced to syllogisms (a view that Bradley criticizes in Part I, Chapter III of Book II). Others are less essential. Bradley devotes a chapter to criticizing Mill's account of induction while admitting that he has "no positive doctrine" of induction (PL 369n7) or of scientific reasoning (PL 355). Book III is no better. It has no title, but each of its two parts has the same title, "Inference – Continued." Bradley begins this book by giving counterexamples to his account of inference in Book II; he then revises his account in order to accommodate them. After discussing some incidental topics, he concludes Book III by asking rhetorically whether inference is valid and then spends forty-four pages arguing that it is not. With this stunning claim Bradley closes the first edition of *The Principles of Logic*. He provides no summary and no account of the implications of his work.

There is, it is true, some minimal help in Bradley's first-edition preface. He begins his preface with this paragraph:

> The following work makes no claim to supply any systematic treatment of Logic. I could not pretend to have acquired the necessary knowledge; and in addition I confess that I am not sure where Logic begins or ends. I have adopted the title *The Principles of Logic*, because I thought that my enquiries were mainly logical, and, for logic at least, must be fundamental. (PL ix)

This tells the reader what the book will not do (i.e., it will not provide a systematic understanding of logic), but not what it will do.

Two further statements in the first-edition preface narrow the scope of Bradley's work, but without describing it in much detail. The first is a disclaimer about Hegel.

> Assuredly I think him a great philosopher; but I never could have called myself an Hegelian, partly because I can not say that I have mastered his system, and partly because I could not accept what seems his main principle, or at least part of that principle. I have no wish to conceal how much I owe to his writings; but I will

leave it to those who can judge better than myself, to fix the limits within which I have followed him. As for the "Hegelian School" which exists in our reviews, I know no one who has met with it anywhere else. (PL x)

This makes it relatively clear that Bradley is not trying to redo Hegel's *Logic* or to defend Hegel's main principle (whatever that is). A second comment indicates that Bradley's approach is primarily exploratory and critical. He says:

We want no system-making or systems home-grown or imported. This life-breath of persons who write about philosophy is not the atmosphere where philosophy lives. What we want at present is to clear the ground, so that English Philosophy, if it rises, may not be choked by prejudice. The ground cannot be cleared without a critical, or, if you prefer it, a sceptical study of first principles. (PL x)

This at least makes it clear that Bradley will investigate fundamental logical principles. This is some help, but not much, because Bradley never says what a principle is or how one should be studied. Bradley thus tells his readers that *The Principles of Logic* will critically examine fundamental features of logic, but they are left wondering what these features are, what makes them fundamental, or even what the subject matter of logic is.

One would think that Bradley might have tried to guide his readers through a second edition of *The Principles of Logic*, but even though he prepared one, it complicated rather than simplified matters. The main problem was the format he adopted. He reprinted the first edition in its entirety with only a few typographical corrections. Then he corrected and annotated the original text in detailed endnotes added to each chapter (thus forcing his readers to flip pages in order to consult them). He also appended twelve new Terminal Essays that summarize his views on the central topics of judgment and inference and include shorter essays on other, less central topics, like theoretical and practical activity. The endnotes themselves are exceedingly detailed and differ greatly in value. Some are clearly important. For example, in note 1 of Book I, Chapter 3, "Negation," Bradley says that the chapter contains serious errors, that he now accepts Bernard Bosanquet's view of negation, and that he has provided a survey of his current view in Terminal Essay VI (PL 125n1). By contrast, note 15 in the same chapter is a note on the sentence "A mere logical negation, it is fully admitted by the dialectical method, need not express a real relation" (PL 122). The note says "The *mere* must be emphasized" (PL 127n15). The Terminal Essays and the notes contain important information but in an even more disorderly way than it was

contained in the first edition. They make it harder rather than easier to understand Bradley's approach to logic.

There is, however, a brief passage appended to the end of his first Terminal Essay, "On Inference," in which Bradley describes what he thinks the purpose of logic is. He says

> Its direct and primary purpose is . . . to set out the general essence and the main types of inference and judgment, and, with regard to each of these, to explain its nature and special merits and defects. (PL 620)

Bradley explains this briefly by saying

> Truth is reality taken as ideal, and that must mean reality taken as an intelligible system; and every judgment and inference therefore must be understood as directed and aimed at such a reality. The degree in which the various types each succeed and fail in reaching their common end, gives to each of them its respective place and its rank in the whole body. (PL 620)

Although this is obviously important, Bradley declines to explain it. He then adds:

> Such an exposition is in my view the main purpose of Logic, but for an attempt to realize this object I can not refer to the present volume. The reader must be directed once more to the works of Dr. Bosanquet. (PL 620)

So even Bradley's conception of the purpose of logic (which I will discuss below) does not obviously guide his readers through the intricacies of *The Principles of Logic*.

II

In lieu of directions from Bradley, the obvious recourse is to situate *The Principles of Logic* in its historical context as defined by other nineteenth-century works on logic. This initially looks unpromising. When *The Principles of Logic* was published, there was considerable disagreement over the province of logic, its fundamental features, and the appropriate method for investigating them. Robert Adamson, reviewing *The Principles of Logic* in *Mind*, described the situation forcefully. In Britain, he said, "The state of Logic is like that of Israel under the Judges: every man doeth that which is right in his own eyes" (1884, 123). He found the German situation even worse. There, he said, "*Logics* swarm as bees in spring-time" and anyone who would try to extract a systematic set of doctrines from the comprehensive logical treatises of Lotze, Sigwart, Bergmann, Schuppe, Ulrici, Ueberweg, and Trendelenburg faces "a task to which the labours of Hercules

were simple" (1884, 123). Even triangulating the points of agreement between Bradley and his contemporaries is laborious, with Bradley, once again, providing little assistance. He does acknowledge some intellectual debts to "recent writers," specifically to Hermann Lotze, Christoph Sigwart, William Stanley Jevons, Moritz Lazarus, and Heymann Steinthal, but their works are so little known today that this is not of much help.[1] With the exception, perhaps, of Lotze and Jevons, even their names are not now familiar. Bradley's confession of his obligations to contemporary writers is suggestive but not immediately helpful in understanding what unifies *The Principles of Logic*.

Bradley's relation to his contemporaries is not, however, the only historical context into which his work can be placed. His list of intellectual debts combined with some trends in nineteenth-century logic allows his work to be placed in a larger and more revealing context, the context provided by the development of logic in nineteenth-century Britain. The British idealists were not alone in treating logic as a fundamental subject. Despite the fact that many nineteenth-century writers echoed Kant's remark that since Aristotle "logic has not been able to advance a single step, and is thus to all appearance a closed and completed body of doctrine" (Kant 1929, B viii),[2] during the nineteenth century a large number of serious, nonelementary treatises on logic were written. This renewed interest in logic arose from concerns about three interrelated subjects: formal logic, the methodology of the sciences, and the philosophy of Kant. Bradley was modestly touched by the first two of these subjects and immensely influenced by the third.

Much of what was valuable in the nineteenth-century British concern with formal logic grew out of criticism of something that was of more dubious value: Sir William Hamilton's new analytic of logical forms (Hamilton, 1866).[3] For Hamilton, logic was the study of the formal laws of thought, the laws that determine the conditions under which anything is thinkable. After applying these laws to concepts, judgments, and inferences, he concluded that all judgments have subject-predicate form and that all reasoning is syllogistic. Hamilton's innovation was his claim that while traditional Aristotelian logic rightly includes a quantification of the subject term, it ignores the equally important quantification of the predicate term, a lacuna he tried to fill. Although Hamilton went to great lengths to claim the credit for this discovery (a fact remarkable in itself, because Hamilton had been anticipated by George Bentham [1990]), he never systematically worked out the details of his discovery.[4]

The unexpected benefit of this confused discovery was the impetus it provided for other logicians. The public controversy over the quantification of the predicate between Hamilton and Augustus DeMorgan, himself an innovator in formal logic, inspired George Boole to construct his algebra of logic. Boole's innovation was to express the laws of thought as rules for algebraic operations. Boole's work, in turn, was extended by William Stanley Jevons, who expressed the laws of thought as algebraic rules for dealing with qualities rather than with quantities.[5] With the work of Boole and Jevons, mathematical logic became a subject in its own right in Britain.

Bradley shares with some of these writers the belief that not all arguments are syllogisms. In fact, he is the first English writer to take the sets of statements that normal English speakers would count as inferences as the data for a theory of inference. He says these are "palpable inferences and the fact that they are so is much stronger than any theory of logic" (PL 246). Many palpable inferences, he forcefully argues, are not syllogistic. But even though he recognizes the existence of nonsyllogistic arguments, he does not attempt to provide rules for drawing inferences for these or any other arguments. Bradley had little interest in formal logic. Aside from a few comments about Sir William Hamilton[6] and a few notes on Russell added in the second edition, the only formal logician whose work Bradley discusses is Jevons. Bradley cites Jevons in several places (e.g., in connection with adopting the exclusive reading of disjunctive judgments [PL 133]), says that he is inclined to accept Jevons's view of induction, and admits that Jevons's equational logic "works" (PL 370). But his only extended discussion of Jevons is a critical chapter (Book II, Part II, Chapter IV) devoted to specific issues in equational logic (e.g., whether all propositions are identities).[7] Here as elsewhere Bradley resolutely avoids discussing the rules of formal logic as well as any formal use of symbols. Bradley thus agrees with some of his innovative contemporaries that not all arguments are syllogistic, but his main concerns are elsewhere.

III

The nineteenth-century concern with scientific methodology grew from a different source than a concern with formal logic, the desire to apply the methods of the physical sciences to what were then called the moral sciences. Far and away the most important writers on the logic of the sciences were William Whewell and John Stuart Mill. Their approaches

to science were distinctively different, even though Mill drew heavily on Whewell's *History of the Inductive Sciences from the Earliest to the Present Time* (1857). Whewell's approach grew out of his concern with the Cambridge manner of teaching mathematics. At the start of the century, most British scientists followed Francis Bacon in taking induction as the method of the sciences and in using Newtonian methods of mathematical analysis. As these methods were replaced with Lagrangean methods, it became apparent that Bacon's inductive philosophy of science provided no account of the fit between mathematical analysis (which is conceptual) and induction (which is empirical). This lacuna is apparent in J. F. W. Herschel's Baconian *Preliminary Discourse on the Study of Natural Philosophy* (1987). Whewell attempted to meet this difficulty by arguing that the conceptual component of science is not an inductive generalization from experience but is invented by the mind and imposed on observed facts. Such an imposed concept brings previously unrelated facts under a common concept ("colligates" them, in Whewell's vocabulary). This concept can then be used in a hypothesis from which observed facts can be deduced. Whewell called the formation of such a hypothesis "induction." He argued that the conclusion of an induction (i.e., the induced hypothesis) is true if empirical facts can be deduced from it, if it simplifies existing theory, and if it produces explanatory surprises (which Whewell called the "consilience of inductions").[8]

A less accomplished scientist than Whewell, Mill incorporated more traditional logic into his extremely influential *A System of Logic*. Mill took logic to be the study of the reasoning processes used in the sciences. As he put it, logic is "the science of the operations of the understanding which are subservient to the estimation of evidence: both the process itself of advancing from known truths to unknown, and all other intellectual operations in so far as auxiliary to this" (1973–4, 12).[9] In pursuing this science, Mill preserved the definitions and distinctions of Aristotelian logic but claimed that all reasoning is from particular propositions to other particular propositions. Except in a few special cases, general propositions merely record the results of inductive generalizations from propositions about particulars. If general propositions were premises in arguments with conclusions about particulars, these arguments would beg the question. Mill argued that this was true of mathematical propositions as well with the added complication that mathematical objects are constructed by abstracting from empirical objects qualities that cannot exist apart from those objects. These abstracted qualities are then hypothetically (and falsely) assumed to be objects in their own right.

This motive for reviving the study of logic was important for both Green and Bosanquet. Both drew heavily on Whewell's alternative to Mill. It was much less important for Bradley, although it affected him in two surprising ways. First, although he straightforwardly admits that "it is not within the scope of [*The Principles of Logic*] to investigate either the nature of the processes which science employs, or the amount of evidence which it accepts as proof" (PL 355), he nevertheless criticizes in detail Mill's account of reasoning and the associationist psychology underlying it. Despite Bradley's lack of interest in scientific methodology, one of his main concerns in *The Principles of Logic* is the legitimacy and usefulness of deductive inference. In fact, his account of inference is a defense of deductive inference against Mill's claim that valid deductive inferences are question begging.[10] Second, Bradley is also affected by Whewell's and Mill's accounts of the relations between the components of scientific knowledge. This is another main concern in *The Principles of Logic*, a concern with what other idealists referred to as the *system* of knowledge. Like most of his idealistic contemporaries, Bradley takes his cue on this subject not from Mill but from Kant. As the creator of a new kind of logic, transcendental logic, Kant is the third major source of the revival in logic in the nineteenth century, and for Bradley he is the decisive one.

IV

By modeling the functions of the transcendental faculties of mind on formal logic and thereby creating the new subject of transcendental logic, Kant revolutionized the position and importance of logic in philosophy. From being the propaedeutic of Aristotle it became the guide to the a priori structure of the knowable world. Unfortunately, Kant made it an ambiguous guide. Although he forcefully argued that thought constitutes the world only as it appears, not as it is in itself, his difficulties in coherently describing his conception of thought convinced many of his successors that thought also constitutes the world as it is in itself. Which world it constituted was, of course, the issue with which Bradley and other British idealists were struggling. They wanted to know whether thought constituted reality as it was in itself – in their terminology, whether thought was identical with reality – or whether, as Kant believed, it constituted only the knowable world. Furthermore, they followed Kant in treating this as an issue about logic as a *system*. In treating this intricate subject I will begin by describing Kant's project in his most influential book, *The*

Critique of Pure Reason, with emphasis on the role of reason in defining the ideal system of knowledge. After identifying a tension in his account of the role of reason, I will examine two alternative ways of dealing with this tension: one offered by Hegel, the other offered by Lotze.

Kant's project in *The Critique of Pure Reason* is to determine the role of reason, understood as the source of a priori concepts,[11] in the construction of knowledge. Kant argues that it has two fundamental roles and that it lacks a third role that it is sometimes thought to have. Its first role is to provide the a priori concepts that are constituents of empirical knowledge. These concepts are required, Kant claims, because knowledge involves two ways of representing objects that he calls "intuitions" and "concepts." Intuitions represent objects as particular items given in experience. The matter of an intuition is the result of the interaction between mind and an otherwise unknowable object, a thing-in-itself, which affects the faculty. By contrast, the form of an intuition, which Kant says is space and time, is provided by the faculty of sensibility and not by its unknowable object. Sensibility individuates knowable objects by positioning them in space and time and is thus able to represent them as particular items. Unlike intuitions, concepts represent objects as members of classes. Kant identifies the ability to conceptualize objects with the faculty of the understanding. Together sensibility and understanding make empirical knowledge possible. Sensibility supplies intuitions, while understanding applies concepts either directly or indirectly to them. The name Kant gives to the complex representation that results from this sort of application of a concept is a term taken from formal logic, the term "judgment [*Urteil*]" (1929, A68/B93).[12] Kant claimed that making judgments requires a priori concepts, called categories, that constitute the form of experience. These categories function as rules for combining the concepts and intuitions that constitute knowledge. The categories, in Kant's words, are "functions of unity in judgments" (1929, A69/B94). So the first role of reason, its role as embodied in the faculty of understanding, is to provide the a priori concepts necessary for combining the two elements of empirical knowledge: intuitions and concepts.

There is also a second, more involved role, that reason plays in the construction of knowledge. Kant thought that in addition to the faculty of understanding, there is another faculty, which he called (somewhat misleadingly) "the faculty of reason," that is also a source of a priori concepts.[13] In contrast to the understanding, Kant treats the faculty of reason as a source of a priori concepts for which no corresponding objects can be intuited. The role of this faculty – and this is the second role

played by reason – is to prescribe how the knowledge procured by the understanding should be structured so that it can be extended beyond what has been directly observed (1929, A647/B675). Reason does this by treating judgments made by the understanding that constitute knowledge as conclusions and searching for universal premises from which they can be deduced. Because they can be deduced only by being subsumed under more general concepts that Kant calls "conditions," Kant describes this process as a search for the conditions that ground knowledge. Reason (in what Kant calls its "hypothetical employment") searches for increasingly universal grounds for knowledge, for the conditions for all knowledge. The ideal limit of this search is a condition that is itself subject to no conditions and under which all other conditions can be subsumed. Kant calls such a condition "the unconditioned" (1929, A307/B364). As an ideal limit, an unconditioned concept does not correspond to anything given in experience. It has its source not in intuition or in the understanding, but in pure reason. Kant has a special name for concepts of this kind; he calls them "ideas."

Ideas enable knowledge to be organized into the form of a system. Kant has a particular conception of a system that he describes as follows:

> By a system I understand the unity of the manifold modes of knowledge under one idea. The idea is the concept provided by reason – of the form of a whole – in so far as the concept determines *a priori* not only the scope of its manifold content, but also the positions which the parts occupy relatively to one another. (1929, A832/B860)

There are at least three significant claims here. First, a system unifies knowledge, which has its source in the understanding, by means of an idea provided by reason. Kant thinks this unity is deductive. The organizing idea provides the condition for all other concepts. Because for Kant a condition is the means by which the conclusions of syllogisms are derived from principles, the organizing idea is a constituent in a principle from which all other knowledge can be deduced. This is why Kant describes a system of knowledge as "connected according to necessary laws" (1929, A645/B673). Kant specifies the sort of connectedness involved in his second claim, that the principles from which the conclusions constituting knowledge are deduced also divide knowledge into parts and explain the relations between these parts. In order to do this, they must articulate the boundaries between the parts that form the body of knowledge and hence determine the scope of each part. That they do this is Kant's third claim. By contributing ideas that allow for the construction of a system of

knowledge, the faculty of reason allows knowledge to be generalized to all possible objects of experience, and it defines an ideal goal for scientific knowledge. This is the second role reason plays in the construction of knowledge.

In addition to these two legitimate roles, reason is sometimes thought to have an additional legitimate role, a role that Kant denies it to have. In this role, reason is alleged to use a priori concepts to construct knowledge that transcends the bounds of all possible experience. The belief that there is such knowledge, Kant thinks, arises out of a confusion generated by the faculty of reason itself. Ideas originating in the faculty of reason enable the construction of what Kant calls "principles," which are universal judgments containing ideas from which all knowledge can be deduced. Because the ideas in principles do not correspond to objects given in experience, Kant says that they lack objective necessity. However, because they arise inevitably out of reason itself, they have what he calls "subjective necessity" (1929, A297/B353). Kant thinks that it is unavoidable for human beings to take subjectively necessary connections between concepts for objective necessities. In so doing, human beings fall prey to "natural and inevitable" illusions (1929, A298/B354) that have their source in pure reason. The title *Critique of Pure Reason* expresses Kant's intention to criticize these illusions. Exposing them is the specific project of the part of that work entitled the "Transcendental Dialectic."

In locating these transcendental illusions, Kant once again uses formal logic as a model. He begins his critique of transcendental illusions by claiming that it is subjectively necessary to assume that there is an absolute totality of conditions that, if taken as a totality, is itself unconditioned (1929, A352/B388).[14] Because an absolute totality of conditions is not empirically given, concepts of such a totality are ideas of reason. As such, they can be used to constitute principles from which a knowledge of particulars that are empirically given may be deduced. Kant thinks that the faculty of reason seeks the smallest number of principles from which a knowledge of particulars may be deduced (1929, A305/B361). It is at this point that formal logic provides a model. Kant thinks that only three forms of deductive inference exist: the categorical syllogism, the hypothetical syllogism, and the disjunctive syllogism.[15] Because the premises of these syllogisms have different logical forms, even premises containing the same concepts will be different. From this Kant concludes that the minimum number of principles will be three, one for each kind of syllogism. Kant thinks that each of the three principles associated with these

syllogisms provides a different conceptualization of the unconditioned and, correspondingly, a different transcendental illusion. The principle of categorical syllogisms concerns the unity of the thinking subject, the principle of hypothetical syllogisms concerns the unity of all appearances, and the principle of disjunctive syllogisms concerns the unity of all objects of thought. Kant organizes his "Transcendental Dialectic" by associating the first with rational psychology (the subject of "The Paralogisms of Pure Reason"), the second with rational cosmology (the subject of "The Antinomy of Pure Reason"), and the third with natural theology (the subject of "The Ideal of Pure Reason"). By exposing these transcendental illusions, Kant claims to show that reason cannot construct knowledge that transcends the bounds of all possible experience.

The conclusion of Kant's examination of reason is thus that reason, as the source of a priori concepts, has two and only two legitimate roles in the construction of knowledge. The role of the faculty of understanding is to provide the a priori concepts necessary for combining intuitions and concepts in judgments, while the role of the faculty of reason is to construct a system of knowledge. There is, however, a tension in Kant's treatment of the second of these roles, a tension that led to quite different conceptions of reason and consequently of logic. The tension is between a regulative and an objective conception of reason. On the regulative conception the ideas of reason are limited to usefully arranging the knowledge acquired by the faculties of sensibility and understanding. The acquisition of knowledge by these two faculties is independent of reason and does not presuppose ideas of reason. On the objective conception, by contrast, reason provides the idea of the unity of knowledge, an idea that is presupposed in knowing empirical objects. Kant usually employs a regulative conception of reason, but on occasion he introduces an objective conception.[16] In his appendix to "The Transcendental Dialectic," entitled "The Regulative Employment of the Ideas of Pure Reason," Kant repeatedly describes the idea of a system of knowledge as only regulative. Sometimes, however, he attributes more than methodological importance to it. For example, Kant asserts, though with little explanation, that without the idea of a systematic unity of knowledge there would be no sufficient criterion of empirical truth (1929, A651/B679). The thought here, spelled out only by Kant's successors, is that coherence between what is known is a presupposition of empirical knowledge. Systematic coherence thereby becomes a criterion of empirical truth. Furthermore, Kant's use of reason as a presupposition of empirical knowledge is found in a major theme that runs through his *Werke*: the realistic interpretation

of Newtonian physics (Brittan 1978, 122–31). Kant makes this explicit in his examples of the functioning of regulative ideas. Pure earth, pure water, pure air, and other pure concepts do not have empirical instantiations, he says, yet they are required to explain chemical interactions (1929, A646/B674). These ideas are supposed to accord with nature itself and are not merely an "economical contrivance" (1929, A653/B681). They are regulative rather than constitutive in that objects corresponding to them are not given in experience. Nevertheless, they have what Kant calls "objective but indeterminate validity" (1929, A663/B691). They prescribe the relations an object will have to other objects without determining the object's monadic qualities. In this respect, ideas supplied by reason are more than merely regulative; they are presuppositions of empirical knowledge.

This conception of the ideas of reason is, however, deeply problematic for Kant. He does not explain how regulative principles can have "objective but indeterminate validity," and his claim that they do seems to contradict another claim he makes in this same section, namely, that their use is only heuristic or instrumental (1929, A671/B699).[17] This latter claim is not merely an aside but is in conformity with Kant's entire project of giving a critique of pure reason. According to that project, ideas are not constitutive of objects and so they should not receive a realistic interpretation. It is only *as if* they accord with nature. They are merely guides for pursuing inquiry.

Kant is not, of course, unmindful of these difficulties, but the subtleties of his attempts to deal with them were largely lost on his nineteenth-century successors. Most of them found the tension between Kant's objective and regulative conceptions of reason unsatisfactory. They generally agreed with Kant that transcendental logic described the structure of thought and that it was systematic. But they disagreed about the ontological status of the system as a whole. Some of them accepted Kant's claim that reason was only regulative and attempted to purge it of any elements presupposed by empirical knowledge. Others attempted to show that reason could not be merely regulative and that it must be regarded as a presupposition of empirical knowledge. These philosophers regarded reason as objective. Those who interpreted reason in this way allowed it to expand its role in empirical knowledge far beyond anything Kant imagined. For some of them it eliminated the need for Kant's concept of the thing-in-itself and allowed thought to become identical with reality as a whole. The most influential objective interpretation was, of course, given by Hegel, while the most influential regulative interpretation was

provided by Lotze. Their differing conceptions of reason defined a basic division among nineteenth-century idealists and naturally yielded quite different systems of transcendental logic.

Hegel strongly objected to interpreting reason and consequently logic as regulative, or, to use his term, as a "subjective" system. At one point, for example, he says,

> Logic shows that the subjective which is to be subjective only, the finite which would be finite only, the infinite which would be infinite only, and so on, have no truth, but contradict themselves, and pass over into their opposites. (1892, 355, sec. 214)

By this he means (in part) that if the logical categories that make knowledge possible are conceived as regulative rather than as objective, they cannot be consistently applied to objects. Their consistent application to objects presupposes that they be interpreted as constitutive of objects as they are in themselves.

Hegel attempts to demonstrate this in his *Phenomenology of Spirit*, a book that examines different forms of consciousness that claim to have knowledge. For Hegel, a form of consciousness is defined by two components contained in it: its conception of the object it knows and its conception of the relation of knowing it has to that object. Hegel furthermore claims that its conception of its object provides a standard for evaluating its own claim to have knowledge (1977, 52–4). Finally, Hegel assumes that a form of consciousness must have the conceptual resources to say what it knows (Taylor 1975, 141–2). After specifying a form of consciousness, Hegel evaluates its claims to know using its own standard. For example, the first form of consciousness Hegel examines, the form he calls "sense-certainty," is defined as a consciousness that knows by simply receiving sensations. Hegel argues that this form of consciousness does not have knowledge by its own standard, because a purely receptive consciousness lacks the conceptual resources to identify the objects of its knowledge (1977, 58–66).

Hegel arranges his examination of forms of consciousness so that succeeding forms modify previously existing forms, thereby correcting their failures. In so doing, the succeeding forms of consciousness reconceptualize the objects of knowledge of previous forms and the relations by means of which they are known and hence provide a new standard for knowledge. Hegel claims to examine all forms of consciousness in his *Phenomenology of Spirit* and argues that only one of them succeeds on its own terms: the form of consciousness he calls "absolute knowing."

Because this is the final form of consciousness and because it includes the contents of all others, it provides the only adequate criterion for knowledge.

According to absolute knowing, consciousness knows itself to be what Hegel calls "spirit." Spirit is that which externalizes itself in the world and knows itself as this externalization.[18] In simpler words, what is known is the knowing consciousness itself. This removes the possibility that there could be an object known that is independent of consciousness and hence undermines the Kantian possibility that the categories of knowledge are merely subjective. To be merely subjective they would have to apply to a phenomenal object of knowledge that is different from its corresponding noumenal reality. The argument of the *Phenomenology of Spirit* is supposed to show that the concept of a noumenal reality is incoherent. So the categories of knowledge – that is, of transcendental logic – must be given an objective interpretation. For Hegel, the categories of thought are the categories of being.

Hegel explicitly adopts this point of view in his *Science of Logic*. He says:

> Thus pure science presupposes liberation from the opposition of consciousness. It contains *thought in so far as this is just as much the object in its own self, or the object in its own self in so far as it is equally pure thought*. As science, truth is pure self-consciousness in its self-development and has the shape of the self, so that the absolute truth of being is the known Notion and the Notion as such is the absolute truth of being. (1969, 49)

In other words, what Hegel calls the pure science of logic assumes that the categories of logic are categories of reality and thus play a role in constituting objects. For Hegel, logic is metaphysics.[19]

But because it is *Hegel's* metaphysics, Hegel's *Logic* has an unusual shape. It is divided into three principal parts: "The Doctrine of Being," "The Doctrine of Essence," and "The Doctrine of the Notion." In "The Doctrine of Being" Hegel considers the first two divisions in Kant's table of categories, quality and quantity; while in "The Doctrine of Essence" he considers the other two divisions, relation and modality. Hegel's categories of being and essence thus correspond with the categories Kant locates in the faculty of understanding (1969, 61–2). Hegel treats the categories included in "Being" and "Essence" as defining the content of objective reality. The third division of his *Logic*, "The Doctrine of the Notion," describes the remaining categories necessary to show that the categories of "Being" and "Essence" are part of a system of thought that defines reality.

It is quite difficult to describe these categories and their interrelations in summary form. Most of the words one would like to use have already been appropriated by Hegel or his translators for different purposes. Very roughly, however, the categories Hegel considers part of "The Doctrine of Being" are categories that are necessary for knowing and distinguishing between individual objects.[20] In his introductory essay, "With What Must the Science Begin?" Hegel argues that the starting point for the science of logic must be a category that explains the specific character or determinateness of objects, that is not inferred from anything else, and that applies to what is known. Hegel suggests that the category which satisfies all these demands is the category of being (1969, 75; Pinkard 1988, 16–23). He then proceeds to argue that being without any determinations fails to explain determinateness and that an additional category is required to do so. In the long series of arguments that follows, Hegel tries to show that the application of each category of being requires the presence of another category. Hegel develops his list of categories in triads (at least most of the time) that are themselves subsumed under more inclusive triads. After considering all of the categories of being, he concludes that these categories, taken by themselves, fail to describe individual objects coherently and that the categories of being must be supplemented with the categories of essence.

Hegel calls the categories of essence "categories of reflection," by which he means that they attribute two levels of reality to objects: an underlying substratum and a superstructure in which the substratum is manifested. ("Reflection" is one of Hegel's terms for the relation between substratum and superstructure [Pinkard 1988, 55–60].) It is not always obvious, however, how the categories of essence have this structure. They include identity, difference, ground, appearance, the thing and its properties, causation, possibility, necessity, and actuality. Hegel argues that, like the categories of being, the categories of essence also fail to provide a coherent account of objective reality. But they are inadequate for a different reason. While they partially constitute reality, they fail to explain their role in doing so.

This leads Hegel to introduce a new group of categories in "The Doctrine of the Notion." This is the second division of his *Logic* and it is entitled "The Subjective Logic." The categories here are those in which one thinks of objects. They apply to themselves as well as to objects, because they are categories of thought. This division of Hegel's *Logic* corresponds to a lacuna Hegel finds in Kant. In "The Transcendental Deduction of the Categories," Kant argued that the transcendental unity of

apperception is required for an experience of objects. He then claimed that this unity takes twelve different forms, the forms listed in his table of categories. What Hegel finds lacking here is a deduction of these twelve forms from the transcendental unity of apperception. This is part of what Hegel tries to provide in his "Subjective Logic."

Starting from a category Hegel calls "The Notion" that he takes to correspond to Kant's transcendental unity of apperception, Hegel tries to show that this category must realize itself in a series of judgmental and inferential forms. This, in effect, is Hegel's derivation of the major categories of traditional logic (and hence his categories of "Being" and "Essence") from systematic considerations. The judgments and inferences of traditional logic thus become categories of Hegel's metaphysics. This is why he includes the categories of traditional logic in his more inclusive science of logic. Through a series of further arguments, he tries to show that these categories must be manifested in the objective world organized by a rational, all-inclusive plan called "The Idea." With this category Hegel completes his objective conception of logic.

In opposition to Hegel's objective conception stands the regulative conception, which was best articulated by Hermann Lotze. Coming after Hegel and being one of the forces behind German Neo-Kantianism,[21] Lotze was able to both criticize Hegel and borrow from him. His criticism is reminiscent of that of Feuerbach and Marx. He accuses Hegel of inverting the relations between subjects and predicates in metaphysical judgments about reality. According to Lotze, Hegel commits the "logical error of putting an abstract designation of essence, as conceived by us, in place of the subject to which the essence belongs" (1887, 158). Or, to put the point more generally, Lotze thinks that Hegel reified the concepts by means of which thought understands reality, but which have no counterparts in reality. This emphasizes the point that Lotze repeatedly makes in his work: that thought is inescapably subjective, that it contains elements not found in objective reality, and that these elements are essential for acquiring knowledge of reality. For Lotze, thought is an instrument that provides formal organization for material reality. In this respect he defends Kant against Hegel.

Furthermore, Lotze accepts Kant's view that thought contains a priori structures that make knowledge possible. These structures include a striving to interpret experience as an orderly whole (1885, 1:226–8). This orderliness, in turn, enables ideas to cohere as reasons and consequences and hence constitutes knowledge. Logic for Lotze is the study of these a priori organizational structures that make knowledge, the goal of all

intellectual endeavors, possible. One acquires knowledge for Lotze when one has knowledge of the relations between ideas that hold for everyone, not when one knows reality as it is in itself.

Lotze divides his *Logic* into three parts. The first part, "Thought" or "Pure Logic," is the study of the intellectual forms by virtue of which ideas cohere to form knowledge. This constitutes Lotze's system of logic. It describes the array of concepts, judgments, inferences, and methods of classification that constitute the ideal system for organizing the materials of experience into knowledge. What these elements provide is a justification for regarding ideas as coherent and hence as knowledge. The second part, "Applied Logic," is a study of practical difficulties that stand in the way of realizing this ideal using the data of experience. Here Lotze suggests ways in which some of these difficulties can be overcome. In the third part, "Knowledge," Lotze considers metaphysical and epistemological issues connected with applied logic. For example, one of Lotze's concerns is to justify the resulting system of ideas given that it contains elements contributed by thought that have no counterparts in reality.[22]

So far, this all sounds rather Kantian, although Lotze does not clearly distinguish between constitutive and regulatory elements in his system. There is, however, a Hegelian element that principally enters in Lotze's discussion of pure logic. Lotze organizes the elements of pure logic in a way that owes something to Hegel's "Subjective Logic," that part of *The Science of Logic* which covers traditional logic. In Lotze's system, pure logic covers three main subjects: concepts, judgments, and inferences. Although Lotze rejects Hegel's dialectical method (1888, 1:262–71), he nevertheless arranges his discussion of the elements of logic in an ascending order where each successive element remedies a previous element's defect or incompleteness. For example, Lotze's discussion of concepts begins with the transformation of impressions into ideas and concludes with the formation of full-fledged concepts. For Lotze, concepts provide grounds for the connection of attributes in an object by bringing those attributes under a rule (1888, 1:47). The defect in this way of classifying objects is that it is incomplete: It makes no provision for the way in which features that are not part of a concept attach themselves to the object conceived. Considering these features requires a new form of intellectual organization, namely, the form of organization embodied in judgments. Lotze thus organizes his pure logic into a series of ascending stages on something like the Hegelian model. These forms end in a system of organization that Lotze calls "the speculative ideal." It resembles Hegel's idea in that it determines the connections among all other elements of

knowledge. It differs from it in that it does not generate its own content. It is a formal structure that acquires its material filling from empirical observation.[23] Thought thus has a natural tendency to impose a particular system of organization on material reality, and it does so by employing elements that have no metaphysically real counterparts. Lotze's system of pure logic thus retains something of Hegel's systematic ideal but treats it as regulative rather than as objective. For Lotze, logic does not ground metaphysics.

As this long discussion indicates, Kant's legacy to nineteenth-century British idealists was complex. He contributed to the renewed interest in logic by using formal logic as the model for a new subject: transcendental logic. This new subject investigated the way the faculties of understanding and reason constituted the objects of knowledge and the judgments and inferences that defined the system of knowledge. But while Kant succeeded in creating this new subject, his account of it appeared problematic to his idealistic successors. They found his account of the role of reason in constructing knowledge ambiguous. Sometimes he seemed to have an objective conception of reason so that the faculty of reason seemed to play a role in constructing the objects of knowledge without the aid of other faculties. At other times he seemed to have a regulative conception according to which reason's proper function was merely to organize the knowledge provided by sensibility and understanding. Kant's successors, most notably Hegel and Lotze, developed these two conceptions in different ways, leaving nineteenth-century idealists the task of deciding which was the correct conception of reason and, correlatively, what was the proper way to understand the system of knowledge reason constructed.

V

In investigating the question of whether reason is to be understood as regulative or as objective, British idealists drew on the work of a number of lesser-known German philosophers interested in psychology. Many of these philosophers were impressed with Kant's work but thought that it was itself insufficiently critical. It presupposed too much scholastic psychology and it ignored the original work of the British empiricists (Merz 1965, 606–9). These philosophers, working in what they thought to be the proper critical spirit, either attempted to provide logic with an adequate psychological foundation or argued that logic was part of psychology. The most notable of the philosophers who tried to provide a psychological

foundation for logic was Johann Friedrich Herbart, Lotze's predecessor at Göttingen. Like most of his contemporaries, Herbart was influenced by Kant and in fact he held the chair in philosophy at Königsberg previously occupied by Kant. In contrast to Hegel and (most of the time) Lotze, Herbart developed the realistic elements in the critical philosophy with some heavy borrowing from Leibniz. Herbart is now almost completely forgotten, but his followers formed a large school in nineteenth-century Germany, and they were influential in Britain as well.[24] This is worth noting because Bradley was one of Herbart's admirers and because two of the forgotten "recent writers" to whom Bradley admits indebtedness, Heymann Steinthal and Moritz Lazarus, were Herbartians.[25] In *The Principles of Logic* Bradley also refers to the *Neue Darstellung der Logik* by another Herbartian, Moritz Wilhelm Drobisch (1875; PL 104). He mentions both Herbart and Drobisch as advocates of the view that judgments do not contain a reference to reality.

The most important logician who assimilated logic into psychology, at least for Bradley and his contemporaries, was Christoph Sigwart. Sigwart advocated the widespread view subsequently labeled psychologism.[26] In fact, he was perhaps its leading German representative. Like Lotze, Sigwart distinguished among logic, psychology, and metaphysics, but he made these distinctions differently from the way Lotze did. He regarded logic as part of the subject matter of empirical psychology, differing only in that logic is a practical discipline. Its purpose is to aid in forming universally valid judgments. Conceived in this way as a practical discipline, logic has three parts. The first part, which Sigwart calls the analytical part, is an analysis of that aspect of thought whose aim is to formulate universally valid propositions. This aspect of thought, Sigwart claims, is found in the activity of judgment, an activity that is one kind of "voluntary thought." The second part is the normative or regulative part. Its aim is to state the conditions that judgments must fulfill in order to be necessary and universally valid. The third or technical part brings logic to its completion. Its aim is to provide rules for how judgments, as described in Part I and subject to the conditions of human life, can be raised in the direction of the ideal described in Part II.

Of particular importance for Bradley was the fact that logic, so conceived, is metaphysically neutral (Sigwart, 1895, 4–8).[27] It is the study of the nature of thought where "thought" signifies a mental activity involving representations in which one is conscious of an object. It is distinguished from intuition (and what Green called "feeling") as well as from perception by the fact that it does not require immediate awareness of

something other than itself. It is distinguished from will in that it does not give rise to immediate actions. So understood thought falls within the subject matter of the empirical science of psychology. Insofar as it deals with thought, the aim of psychology is to distinguish thinking from other psychic activities, to formulate the relationships among thinking, feeling, and willing, and to discover scientific laws that state the conditions under which certain thoughts are formed (1895, 2–3, 9–10).

In Sigwart's view, thought arises naturally in the course of human life. When human beings first reflect, they are already thinking; they have no immediate knowledge of the beginnings of their own thought. They just find that they have ideas. These ideas arise involuntarily in the course of their lives, and they form some of the materials for further thought (1895, 2–3). Because thoughts are more valuable when they are universally valid, human beings try to correct them until they become universally valid (1895, 4–8). At this point thought becomes voluntary. Logic is a subdiscipline of psychology and is distinguished from psychology by the fact that it is a practical discipline. Its aim is to reach universally valid propositions in the most efficient way, and it presupposes a desire to do so. To put this as Sigwart does, logic is the study of voluntary thought with the aim of forming universally valid propositions.

Sigwart explains validity using the judgment "This is snow" as an example. This judgment, he says,

> is objectively valid when that which is seen coincides with the idea called "snow" by every one, and when, moreover, it is seen distinctly by an eye in a normal condition. Objective validity then reduces to this: that both the process of forming the intuition and the act of judgment take place in a way which is universally valid. (1895, 81)

In other words, a judgment is valid if its acceptance by a normal human being would be guaranteed by the laws of psychology. Because the aim of logic is to determine how human beings ought to think in order to reach universally valid propositions, it can be studied independently of the metaphysical question of whether valid thoughts correspond with reality. In this sense logic is subjective. It is concerned with reaching certain results, not with whether those results are metaphysically true.

This conception of logic allows Sigwart to study judgments without confronting the question of the relation between thought and reality that loomed so large for Bradley and his contemporaries. Sigwart's goal in studying voluntary judgments is to identify what he calls the elements and presuppositions of judgment (1895, 16). Because a judgment is analyzed

as an individual, subjective, mental activity, these elements will be psychological elements (1895, 82). The presuppositions will be constant relations between the elements of thought that are accessible in consciousness. Because there are a great many different kinds of judgments, there are a large number of different elements as well. Sigwart's analysis of judgment is a survey of the types of judgments with an account of the elements involved in each.

Sigwart analyzes judgments in the following way: Common to all judgments is the same basic structure. All judgments involve a subject idea, a predicate idea, and what might be called a copula.[28] (Sigwart calls it the consciousness of the objective validity of the unification of the subject and predicate.) All judgments involve the stating of something about something. ("Stating" here refers to the mental counterpart of the verbal activity of making a statement.) The something that is stated is the predicate; that about which it is stated is the subject. A judgment thus involves two elements, a subject and a predicate. Because both of these are representations or ideas, Sigwart calls an act of judgment an ideational or representational act. It unifies or synthesizes two ideas (1895, 25–7; cf. 232–3). In addition, it must be accompanied by a consciousness of the objective validity of the synthesis (1895, 74). A judgment for Sigwart is thus a synthesis of a subject idea and a predicate idea that is taken to be objectively valid. Sigwart analyzes objective validity into universal validity and necessity, so it follows from this that judgment is an act of thought that has the essential characteristics with which logic is concerned.

For Sigwart, all judgments involve this same basic unification. "Judgment" is not a homonym (1895, 235). Nevertheless, there are a number of different kinds of judgments, and each kind is a variation on this basic theme. Judgments vary in a number of different respects. First, they may be simple or complex. If a judgment is completely simple, it is constituted by the unification of an intuition with a concept. It is an act of naming (1895, 53–8). If it is complex, it unifies a subject that has already been named by means of categories. These categories fall into two groups, each with subdivisions (1895, 29–40). Second, judgments vary with the complexity of their subject idea. A subject may be singular or plural, or it may itself be a judgment (1895, 232). Finally, the ground of the unification of the subject and the predicate may be immediate or mediate (1895, 102–4).

An example of one of Sigwart's analyses will perhaps be helpful, so consider Sigwart's simplest kind of judgment, the denominative judgment. "This is a tree," made when one recognizes an object of intuition as a

tree, is a denominative judgment. It is a simple judgment that does not involve categories, the subject is singular, and the ground is immediate. Sigwart analyzes such a judgment by specifying its subject as an intuition and its predicate as an idea recalled by memory. Neither the subject nor the predicate needs itself to be resolved into particular elements, so the unification requires only a single act. What makes the unification possible, its ground, is the fact that the subject and the predicate do contain identical elements, a fact that is revealed upon analysis. This analysis need not, however, be present in the consciousness of a person making such a judgment. It is because the identity is present in the subject and predicate ideas by themselves without reference to any other ideas that the unification is immediate. Because it is revealed by analysis, Sigwart calls such a judgment analytic. Sigwart's account of this, the simplest kind of judgment, thus amounts to a specification of the nature of the subject, the predicate, and the unification between them (1895, 53–8). Because this way of analyzing judgments is not metaphysical, it provides an ideal method for analyzing thought in order to determine its metaphysical implications, and this is primarily what Bradley took from Sigwart.

VI

Given the importance of Mill and Kant to nineteenth-century philosophy, it is not surprising that their work was of primary importance for Bradley. Like Kant, Bradley was convinced that knowledge forms a system defined by judgments and inferences and that locating the different forms of judgments and inferences in this system is the main purpose of logic. But this was not his main concern in *The Principles of Logic*. His main concern, as I will be arguing in the rest of this book, was first to defend the legitimacy and usefulness of deductive logic against Mill and second to determine the ontological status of the system of knowledge constructed by thought. Was it a regulative system as Lotze maintained or was it an absolute system identical to reality as Hegel claimed? This was the issue T. H. Green was moving to confront at the time of his death, and it was perhaps the central philosophical issue for British idealists of Bradley's generation. Bradley confronted these issues by answering the Kantian question "How is deductive inference possible?" He then widened the scope of logic so that anything intuitively acceptable as an inference fell within its subject matter. In constructing his answer he followed Sigwart in treating logic as a subject that could be investigated without first determining its metaphysical implications. He then constructed a theory of deductive

inference as a defense against Mill. In doing so he did not attempt to construct a system of logic. Instead, he was content to notice some of the main features of the system. To this end he first described one of the considerable elements of the system: judgment. Because judgments form the premises for the other considerable element in the system, inference, he then provided an explanation of how judgments can be components of valid, noncircular inferences. Finally, on the strength of these explanations, he confronted the question of whether thought is identical with reality.

These concerns define the organizational structure of *The Principles of Logic*. In Book I Bradley addresses judgments, first in general (Chapter I) and then in their different forms (Chapters II, III, and IV). This leads naturally to a discussion of the system of knowledge as a whole (Chapters V and VI). Bradley concludes Book I by discussing another type of judgments – modal judgments – because these allow him to connect judgments with inferences. In his preliminary discussion of inference (Book II), he begins by defending the noncircular validity of some deductive inferences against Mill (Part I) and then by criticizing Mill (Part II). He then explains how noncircular deductive inference is possible (Book III, Part I). Having explored some of the main features of the system of logic, Bradley is finally able to address his main concern, whether thought is identical to reality (Book III, Part II). There are lots of twists, turns, and asides in *The Principles of Logic*, and it does not seem to me that a clear organizational strategy underlies all of them. But the main thrust of the work is present throughout: to identify the main features of the system of knowledge by exploring significant types of judgments and inferences, to explain how valid but noncircular deductive inference is possible, and then, on this basis, to determine whether thought is identical to reality.

3

Judgment

In his review of *Ethical Studies*, Henry Sidgwick commended Bradley for his frequently acute and suggestive criticism of psychological and ethical hedonism. Then he said,

> Often again, just at the *nodes* of his argument, [Bradley] lapses provokingly into mere debating-club rhetoric; and his apprehension of the views which he assails is always rather superficial and sometimes even unintelligent. This last defect seems partly due to his limited acquaintance with the whole process of English ethical thought, partly to the contemptuous asperity with which he treats opposing doctrines: for really penetrating criticism, especially in ethics, requires a patient effort of intellectual sympathy which Mr. Bradley has never learned to make, and a tranquillity of temper which he seems incapable of maintaining. (Sidgwick, 1876, 545)[1]

Weaken the stridency, replace the references to ethics with references to logic, and Sidgwick's remarks become an accurate description of many of Bradley's polemical outbursts in *The Principles of Logic*. Bradley matured a great deal in the seven years between writing *Ethical Studies* and *The Principles of Logic*. But even in *The Principles of Logic*, at just those points where the reader wants explanation, Bradley changes the subject or goes on the attack and tries to silence doubt with ridicule. His rhetoric is marvelous, but it sometimes misses its mark and – to quote Sidgwick again – perhaps exceeds "the canons of good taste" (Sidgwick 1876, 545).

This is certainly the case in portions of Chapter I ("The General Nature of Judgment"), one of the most frustrating, disorganized, yet insightful chapters anywhere in Bradley's work. It has three parts, one in which Bradley states (sometimes polemically) his theoretical definition of judgment, a second in which he defends his definition by criticizing the views

of others, and a third in which he considers the origin of the ability to make judgments. His treatment of these topics is uneven. His definition brings with it powerful insights into the philosophy of language. But instead of explaining and defending these insights, Bradley often develops his views inconsistently or just plain rails against his opponents. In some of the places where he has knockdown arguments available, he falls back on rhetoric almost completely lacking in logical structure. His motivation is further obscured by the changes and qualifications he added as notes in the second edition. In working through Chapter I of *The Principles of Logic* and into Chapter II (where Bradley has more control of his material), I will explain the three main elements in Bradley's definition of judgment. I will preface the discussion by considering some of T. H. Green's remarks about judgments and their relation to Bradley's definition. Then I will consider the first two elements in his definition – ideas and mental acts – and the explanation of the content of a judgment that Bradley derives from them. These topics are all covered in Chapter I of *The Principles of Logic*. Next, I will explain the third element in Bradley's definition, the reference to reality, which is found in Chapter II. I will conclude by motivating Bradley's position in another way.

I

As mentioned in Chapter 1, Green saw British empiricism as an attempt to explain the origin of ideas and the connection between them that constitutes knowledge. He thought that empiricism failed to do this. It appeared successful, Green believed, only because of an ambiguity in the term "impression," which can be used to describe either the effect of an external object on the senses or an object of perceptual knowledge. The British empiricists conflated these two meanings by taking their descriptions of the former to be descriptions of the latter, thereby confusing physiology with epistemology (Green 1885, 10–11).

Green thought that this conflation manifested itself in a number of different ways, one of which was the confusion of sensation with judgment.[2] Although Green took this confusion to be present throughout Locke's epistemology (Green 1885, 54–5), he confined his discussion of it to Locke's treatment of knowledge of the identity of ideas. For Locke, knowledge is the perception of agreement or disagreement between ideas. According to him, the relation of agreement or disagreement takes four forms, the first of which is the identity or diversity between ideas. Locke thought that perceiving an idea yields immediate knowledge of its

self-identity. Describing one example of such knowledge, Locke said, "A Man infallibly knows, as soon as ever he has them in his Mind that the *Ideas* he calls *White* and *Round*, are the very *Ideas* they are, and that they are not other *Ideas* which he calls *Red* or *Square*" (Locke, 1975, 526).

At this point Green objects. Citing Hume, he says that the perceptual awareness of a single impression conveys the idea of unity, not identity. Identity, he says in effect, is a relation that holds between the terms of an assertion. But assertions are significant only when the terms in them are not, as terms, identical. So, for example, "Antares is Antares" would not be significant according to Green (or, for that matter, according to Hume), but "Alpha Scorpii is Antares" would be.[3] This is because even though the terms "Alpha Scorpii" and "Antares" are different, they refer to the same star. From this Green concludes that one can significantly assert (and hence really know) that an assertion of identity is true only if the terms in the assertion are different. But if this is the case, then even if one could acquire knowledge from a single impression, that impression would not enable one to know any relations of identity.

Knowledge of identity, Green continues, requires more than the perception of a single impression. It requires recognizing that different terms refer to the same object. To put this in terms of impressions, impressions could convey a knowledge of identity only if they were recognized as appearances of the same continuing object. This recognition requires taking each impression as an idea that refers to an object. Green thinks that permanent objects are constructed by thought, so contrary to what Locke and the classical empiricists assert, he concludes that minds convert sensations into ideas that refer to objects. The knowledge of identity that Locke claimed to find in the perception of a single impression is for Green found only in judgments that two ideas refer to the same continuing object (Green 1885, 19–22).

Although Green never to my knowledge explicitly defines "judgment," his criticism of Locke identifies some of the crucial elements in his concept of judgment. Judgments include ideas recognized as ideas, the reference of those ideas to objects, and mental acts of referring. Contrary to Locke, Green thinks that these elements are found in even the simplest judgments, which also constitute the simplest elements of knowledge. So for Green, judging differs from sensing in that it requires converting a sensation into an idea, recognized as such, by mentally referring it to an object.

I have put Green's view of judgment this way because it reveals that these are just the elements Bradley uses in defining judgment in Chapter I

of *The Principles of Logic*. Bradley says, "Judgment proper is the act which refers an ideal content (recognized as such) to a reality beyond the act" (PL 10). So Bradley begins, in effect, by accepting T. H. Green's view of judgment and the criticism of empiricism implicit in it. This is one respect in which it seems to me that Richard Wollheim is correct when he describes Bradley's starting point as the rejection of empiricism. Wollheim comments,

> Behind every diatribe of Bradley's there is an original to be found in the works of the Empiricists; nearly everything that he said of value he said against something said first by them; if he was certain of anything, it is that they were wrong. (Wollheim 1969, 18)

II

In his definition of judgment, Bradley specifies the three main elements of judgments. First, a judgment is a particular kind of act, a mental act. Second, the act has a special sort of content that he calls an "ideal content (recognized as such)." He uses "ideal" as an adjectival form of "idea," so his claim is that judgments are composed of an idea or of ideas. Third, the phrase "refers . . . to a reality beyond the act" is his way of saying that judgments have objective reference. Bradley's definition of judgment might be paraphrased by saying that a judgment is a mental act that attributes ideas to an object.

The third of these elements, the objective reference of a judgment, presents a number of complexities. Bradley simply ignores them in Chapter I. (He returns to them in Chapter II.) In Chapter I he concentrates instead on elaborating upon the other two elements in his definition, the ideal content and the mental act. Both of these have long and distinguished philosophical histories. Unfortunately, these histories have not resulted in clear conceptions of either element, a state of affairs that Bradley does little to remedy. Even so, by dealing with these two topics, even in a groping and confused way, Bradley is able to break the empiricist identification of meanings and mental images and so to separate logic from psychology. This break is what allows Bradley to turn his attention from mental images to logical form.

Bradley begins his discussion of the first element, the ideal content of a judgment, with a crucial distinction. He notes that the phrase "ideal content," like its cognate "idea," is ambiguous. Like "ideal content," "idea" may refer either to a mental image or to a meaning. As a mental image, an idea is a particular thing, a datable mental occurrence. It is an existing

thing or, as Bradley says, a "hard individual" (PL 5). As an individual it is a particular, an idea differentiated from all other existing things by its characteristics. For example, it occurs at a specific time in the experience of a specific person and it stands in definite relations to all other aspects of that person's experience. Ideas in this sense are items in a stream of consciousness; they are momentary, fleeting existences.

"Idea" also has another sense. In this second sense an idea is a sign or symbol, something that stands for or represents something else. It is not a mental particular individuated by its own unique characteristics because it is not unique at all. It is a content common to many different occasions where something is represented. It stands as a type to its tokens. For this reason Bradley calls it a universal. As a universal, it lacks a space-time location, which is why Bradley says that it does not exist.[4] He further emphasizes its difference from mental particulars by calling it an adjective. It is not a thing in its own right like a particular but rather depends for its existence on what it qualifies. Bradley sums up the difference between these two senses of "idea" by saying,

> The ambiguity of "idea" may be exhibited thus. *Thesis*, On the one hand no possible idea can be that which it means. *Antithesis*, On the other hand no idea is anything but just what it means. In the thesis the idea is the psychical image; in the antithesis the idea is the logical signification. In the first it is the whole sign, but in the second it is nothing but the symbolized. (PL 6–7)

In Chapter I of *The Principles of Logic*, Bradley claims that psychology is concerned with ideas in the first sense, while logic is concerned with them in the second.[5] This claim provides the foundation for Bradley's rejection of psychologism, a rejection he has in common with some of his better-known contemporaries. It also allows Bradley to notice two features of logical ideas or meanings that are not shared by mental images. Logical ideas are both abstract and general. Bradley accounts for the abstractness by treating meanings as derived from mental images by a process of abstraction.[6] In his words, meaning "consists of a part of the content [of a mental image] (original or acquired), cut off, fixed by the mind, and considered apart from the existence of the [image from which it has been cut off]" (PL 4).[7] So, for example, if I have a mental image of a horse, this will be a particular element in my mental life. It will have a location in space and time, it will not exist forever, it will be related to my other mental images and sensations, and it will have features, like color and shape, that distinguish it from them. To construct the meaning "horse" from this image, I need to abstract from it "the connection of

attributes" by means of which I identify horses, and then use it out of relation with the rest of the image to refer to horses. The connection of attributes is only one aspect of my horse image, but it is this aspect that constitutes the meaning. Meaning may also, Bradley allows, be abstracted from the acquired content of an image. Bradley illustrates this using the language of flowers. A particular forget-me-not can have a great deal of meaning under certain conditions. This, however, is a result of the name conventionally acquired by the flower. The meaning is not connected in any natural, nonconventional way with its original content – the blue color, the tufted leaves, the funnel-shaped corolla, or with any of the other natural properties of forget-me-nots. Bradley summarizes his point about the abstractness of meaning by saying, "But an idea, if we use idea of the meaning, is neither given nor presented but is taken" (PL 7).

Bradley also uses the language of flowers to illustrate the fact that meanings are general (Wollheim 1969, 30–1). Giving someone a forget-me-not may have a good deal of meaning, but nothing essential to the meaning depends on the particular forget-me-not that is given. The meaning attaches to any individual forget-me-not. In this sense meanings are universals; a particular forget-me-not carries meaning only in virtue of being the token of a type. Meanings are thus not particulars but universals. They signify in virtue of their general content, not in virtue of their particular features.

A problem with this view, as presented in the first edition of *The Principles of Logic*, is that it requires meanings to be accompanied by mental images in all cases. Introspection suggests, however, that this is not the case. There do not seem to be enough mental images to account for all meanings, nor does one's mental life seem to consist of a constant stream of images that go unnoticed (Stout 1963, 8–15). Bradley met this objection in the second edition by acknowledging that he had exaggerated the amount of imagery required, because, as he also noted, the use of ideas is at least initially unconscious (PL 38n7). This is probably why in the second edition of *The Principles of Logic* he admitted that the ideal content of a judgment need not be recognized as such (PL 39n10).[8]

III

The issues surrounding the second element in Bradley's definition of judgment, the mental act of judging, are complex. This is because Bradley later rejected the main reason he gave in the first edition of *The Principles of Logic* for thinking that judgments require mental acts and, in any case,

for Bradley logic is primarily concerned with the content of a judgment rather than with the mental act itself. Bradley initially followed Green by including a mental act in his definition of judgment. Green thought mental acts essential in judgments because he accepted Kant's claim that impressions need to be conceptualized to yield knowledge. Green also believed that conceptualization requires a mental act that turns an impression into an idea by distinguishing it from and referring it to an object. Any form of consciousness that could perform such an act was, Green thought, self-conscious because it had the ability to distinguish its own impressions from objects. So it could be conscious of itself as well as of objects.

Bradley's remarks on the origin of judging in the last part of Chapter I of *The Principles of Logic* suggest that he agreed with Green on these matters. Bradley thought that the mind was a single phenomenon that existed in a number of different stages of development. Animals, infants, "intelligent savages"(!), and civilized humans all had it and he did not find it useful to distinguish among these manifestations in any precise way. At the same time, logic seemed to him to be concerned with the phenomenon of mind after it had reached a certain level of development – specifically, after it was aware that some but not all of its ideas characterized reality. So like Green, Bradley believed that only minds that can distinguish what seems to be the case from what is the case are capable of judging. Bradley thought that such minds have self-consciousness and that only beings with self-consciousness can judge (PL 29–31). He put this by saying "Judgment is the act which, while it recognizes the idea as appearance, nevertheless goes on to predicate it," where predicating an idea is attributing it to reality (PL 33). Because predication is a mental act, for Bradley judgments include mental acts.[9]

In the first edition of *The Principles of Logic*, however, the primary reason Bradley gives for including a mental act in his definition of judgment is different. The primary reason he gives there is that some of the ideas that might be used in judgments need not be actually judged. To use his terminology, some ideas are only considered but not judged. For example, he claimed that one can think about chimeras without making any judgments about them. There is a clear intuitive basis for this. The same content – say, "chimeras breathe fire" – can be the content of a question or of an assertion, and it can be denied or doubted (PL 13). If such contents are composed of ideas, these must be ideas that are not asserted or judged to be the case. Consequently, there is a distinction between the ideas that form the content of a judgment and the judgment itself. Something must

be added to the ideas forming the content to make the judgment. When he wrote the first edition of *The Principles of Logic*, Bradley thought that this something was the mental act of judging. It explains the difference between an ideal content that is merely considered and one that is really judged to be the case.

Despite the fact that intuitively this seems correct, it created problems for Bradley. As Bernard Bosanquet pointed out, Bradley had already defined logical ideas as adjectives – references to something other than themselves. But if this is what defines logical ideas, it is hard to see how a logical idea differs from an asserted idea, one that is part of the content of a judgment (Bosanquet 1968a, 142–4). Being an idea seems to require being asserted. Bradley does not seem entitled to a distinction here without further explanation. Bosanquet also questioned Bradley's claim that the same content can occur in a judgment or a question. While he did not give an explicit argument against it, Bosanquet suggested that it lacked a theoretical basis. He thought that it was based on the mistaken assimilation of sentences to judgments. In his view, Bradley noticed the verbal similarity between assertions and questions couched in the same vocabulary and inferred that the difference between them was in the act of judging rather than in the content of the judgment and the question. Bosanquet claimed that this was false and that as a result of this falsehood Bradley had incorrectly separated the act of judgment from the content judged (Bosanquet 1968a, 114–15n).[10]

Even though Bosanquet's arguments were not conclusive, Bradley subsequently accepted his conclusions and agreed that there were no ideas that were not parts of judgments – in his vocabulary, that there were no "floating ideas." Consequently, he revised his theory of judgment in the second edition of *The Principles of Logic* in order to eliminate this aspect of his theory. In doing so he made two concessions to his previous view that there were floating ideas. First, he insisted that sometimes judgments are implicit rather than explicit and that this is why the ideas in them seem to float. An idea may float explicitly while being part of an implicit judgment. Second, he admitted that some ideas are not predicated of actual fact – that is, of the world continuous with one's body in waking experience. (He later referred to this world as "my real world.") Dreams, for example, are real, but their contents need not characterize actual fact (ETR 28–34).[11] Despite these concessions, Bradley's revised view is that all ideas refer to reality. This reference requires a mental act, but it is the same act that transforms psychological images into logical ideas or meanings. The rejection of floating ideas thus makes the mention of a

mental act of referring in Bradley's definition of judgment redundant. The only requisite mental act transforms images into ideas.

This revision does not, by itself, change much of Bradley's theory of judgment, although it simplifies his theory of inference. But it does remove a potential objection to his theory of judgment. The objection rests on the fact that Bradley treats judgments as true and false. He needs to do this, because the main reason for discussing judgments is that they form the premises of inferences. The objection is that judgments are mental acts, and mental acts, like other acts, are neither true nor false. Bradley's rejection of floating ideas allows him to respond to this objection by saying that it is the content of the judgment that is true or false, not the mental act. Even if, as Bradley later asserts, truth has a psychological component, logic is not concerned with this component (PL 612). Bradley's rejection of floating ideas thus simplifies and strengthens his logical theory.

IV

Having explained the first two elements in his definition in the opening pages of Chapter I of *The Principles of Logic*, it would be natural for Bradley to devote the rest of Chapter I to the third element in his definition, the reference to reality. But he postpones this until Chapter II. In the remainder of Chapter I he criticizes alternative views of judgment and considers the development of the ability to judge. Not all of this material is essential to his theory of judgment. But his insistence that judgments contain only one idea with distinguishable parts is.

Bradley's exposition of this facet of his theory is unfortunately marred by rhetoric that makes his position sound contradictory. To take the most obvious example, in criticizing the common view that judgments contain two ideas Bradley says, "On the contrary they all have but one" (PL 11).[12] But a few pages later, in recording the positive results of his criticisms of the view that judgments always contain two ideas, he says that "in judgment there must be a plurality of ideas" (PL 27). This contradiction, although disconcerting, is only verbal. Bradley asserts the first claim in order to deny that judgments are combinations of separate ideas. He asserts the second in order to affirm that even though they are not combinations of ideas, the content of a judgment does have distinguishable (although inseparable) aspects.[13] Bradley's phrase "ideal content," with its lack of specificity about the number of contained ideas, allows him to express the complexity of his view.

Verbal niceties aside, it represents a significant departure from the views of his contemporaries. Most of them believed that all judgments had subjects and predicates.[14] Furthermore, although the defense Bradley provides for his position in Chapter I is disappointing, his procedure in formulating his position is impressive. Despite many casual references to Bradley in contemporary literature as a deductive metaphysician, his procedure in his definition of judgment is anything but deductive. His goal is to construct a theory of judgment, a theory that explains and unifies the data. The data are the declarative sentences of English that represent judgments.[15] This is in itself a large advance on some of Bradley's contemporaries. By taking English sentences as his data, Bradley helped to break the stranglehold of the syllogism as the form of all reasoning.[16] His view is that many judgments that do not fit traditional syllogistic subject-predicate forms are still premises in inferences. He lays the groundwork for this conclusion by pointing out that the other available theories fail to unify the data. Consider, for example, the view that every judgment contains a subject, a predicate, and a copula. Judgments like "A is equal to B," "$9 = 7 + 2$," and "A is north of C" do not seem to conform to this model. Criticizing other theories justifies Bradley's attempt to articulate his alternative – namely, that judgments contain only one idea with distinguishable aspects.

But Bradley gives very little explanation and only a hand-waving argument in support of it. The argument is based on an example of the ideal content of a judgment – namely, the idea of a wolf eating a lamb. He asks rhetorically, "How many ideas does this contain?" An immediate response might be three: the wolf, the lamb, and the eating. Bradley rejects this by demanding a principled way of individuating ideas. The problem he finds with saying that the judgment contains three ideas is that the principle invoked is inadequate. The principle seems to be that the ideas composing a judgment must exhaust its contents without including one another. The problem with it is that there are many ways to do this in conformity to the principle. If each element that includes another is counted as a separate idea, then the wolf, the lamb, and the eating all become clusters of ideas that are, no doubt, clusters themselves. This principle provides no nonarbitrary way of counting the number of ideas in a judgment. Consequently, Bradley recommends holding either that there are an indefinitely large number of ideas in this ideal content or that there is only one idea (PL 11–12). Without any explanation at all he adopts the latter course. As a result, whatever the mind grasps at any given time counts as a single idea (Ferreira 1999, 25).

Bradley's procedure here seems to me to be unsatisfactory. What he needs is an argument to support his view against the more natural view he is attacking, that making judgments requires combining several ideas drawn from temporally distinct experiences. The argument needs to show that there is something wrong with this more natural view, that it is in some important respect unacceptable.

Bradley does have an argument for this, but it requires turning to Chapter II of *The Principles of Logic*, the strongest, deepest chapter in Bradley's entire work. In that chapter he introduces, almost in passing, just the argument he needs to use here. What the argument shows, if it is successful, is that there is no way to combine separate ideas to form judgments.[17] It is his most famous argument, the argument referred to under such labels as "Bradley's puzzle about relations" (Bergmann 1964, 8), "Bradley's paradox" (Hochberg 1978, 337), and "Bradley's regress" (Sellars 1974, 78). Bradley uses this argument in several different variations in both *The Principles of Logic* and *Appearance and Reality* (PL 96–7; AR 17–18; 26–7; 27–8). In one of these variations he uses the image of the links of a chain to illustrate the impossibility of completing the regress. He says, "The links are united by a link, and this bond of union is a link which also has two ends; and these require each a fresh link to connect them with the old" (AR 28). Because of this image, the pattern on which this argument is one of the variations has come to be known as Bradley's "chain argument" (Mander 1994, 92).

The version of the chain argument I will discuss is introduced by Bradley in *The Principles of Logic* as part of a polemic against T. H. Huxley's restatement of Hume's view of relations. This may seem to be a strange target for the introduction of Bradley's best-known pattern of argument, especially because Bradley fails to say why a popular book that Huxley dashed off in a few weeks should be one of his prime targets.[18] But put in historical context it is not difficult to see why Bradley attacked Huxley. Huxley's *Hume* appeared in 1879, five years after T. H. Green charged that Hume could not on his own principles consistently explain the origin of ideas of relations (Green 1885, 174–91, 238–40, 280–1). This, Green claimed, was not just Hume's failure – it showed that there could be no consistent empiricist explanation of how knowledge is possible (Green 1885, 2). Huxley was familiar with Green's edition of Hume's *Treatise* (he disapproved of the spelling), and he was perhaps also familiar with Green's criticisms of Hume, although he did not explicitly respond to them. Like Green, he realized that Hume lacked an account of ideas of relations, but unlike Green, Huxley thought that by a simple addition

to Hume's system he could include ideas of relations. He tried to show this in his book. Huxley could thus be read, perhaps correctly, as defending Hume and empiricism against idealism. Consequently, a destructive critique of Huxley's *Hume* would preserve Green's negative verdict on empiricism.

Huxley's main aim in his book was to present Hume as a "man of science." He treated Hume as a mental scientist (i.e., a psychologist) and defended his approach to the study of the mind through direct introspection. In Huxley's view, the goal of this study is to "form conceptions of mental phenomena as they are given us by observation" (T. Huxley 1879, 62) and to classify phenomena according to these conceptions. No use is to be made of hypothetical or assumed characteristics of mind in these observations, which are confined to what can be introspectively confirmed or denied.

Studying the mind in this fashion, Huxley thinks, will reveal that the mind is (at least as far as can be scientifically determined) nothing but a series of impressions and ideas united by relations. Huxley follows Hume in claiming that all complex ideas can be resolved into simple ideas and that all simple ideas are copies of impressions. This reduction of ideas to impressions allows Huxley to claim that all of the contents of the mind are derivable from what is directly given in experience. In this respect Huxley is simply carrying out the empiricist project (T. Huxley 1879, 61–6). He faces a problem, however, when he attempts to account for relations. Because Hume denies that there are impressions of relations, relations must be ideas. But if so, on Hume's principles they must be derived from simple impressions. Yet Hume fails to provide such a derivation. Hume's account of the mind, Huxley concludes, contains a major lacuna.

Huxley tries to fill this lacuna by supplying Hume with impressions of relations. In Huxley's view these impressions are derived from the "feelings" of coexistence, succession, and similarity and dissimilarity. Consider, he says, the experience of seeing a flash of red followed by another experience of seeing a flash of red. If we remember the first flash, the second one will produce in us two new impressions: the feeling of the succession of the two flashes and the feeling of their similarity. If the two flashes were concurrent, we might also have a third impression: the feeling of their coexistence. These feelings, Huxley asserts, are the foundations of relations. He is careful to note, however, that these impressions differ from other impressions in that having them presupposes having two other nonrelational impressions (T. Huxley 1879, 66–73).

Huxley thus thinks that the mind is a series of impressions and ideas unified by relations. Relations themselves are either impressions or ideas of complex relations that can be resolved into their simple constituent impressions, just as other complex ideas can be resolved into their constituent impressions. In other words, the mind is a bundle of impressions and ideas unified by relations that are themselves elements in the bundle. Huxley thinks that this view of the mind can be confirmed by introspection.

Bradley rejects this simple defense of Hume and attacks Huxley's remedy with his regress. Given the difficulty of the argument, Bradley's exact words are worth quoting. After briefly describing Huxley's conception of the mind as a whole broken up into units of feeling, Bradley says:

> If units have to exist together, they must stand in relation to one another; and, if these relations are also units, it would seem that the second class must also stand in relation to the first. If A and B are feelings, and if C their relation is another feeling, you must either suppose that component parts can exist without existing in relation with one another, or else that there is a *fresh* relation between C and AB. Let this be D, and once more we are launched on the infinite process of finding a relation between D and C-AB; and so on for ever. If relations are facts that exist *between* facts, then what comes *between* the relations and the other facts? The real truth is that the units on one side, and on the other side the relations existing between them, are nothing actual. They are fictions of the mind, mere distinctions within a single reality, which a common delusion erroneously takes for independent facts. (PL 96)[19]

If sound, this is a very weighty argument. But its importance contrasts strikingly with Bradley's almost casual presentation of it. In fact, there is some ambiguity about what Bradley is trying to prove. Bradley's main aim, of course, is to controvert Huxley's view of relations so he can assert his own, as he does in the last two sentences of the foregoing quotation. But he does not say what the exact problem with Huxley's view is. I take his complaint to be that even if there are impressions of relations, and *even if* these impressions relate other impressions, impressions of relations do not *relate themselves* to the impressions that they relate. That is, even if there is an impression of the relation that relates A and B, the impression of the relation does not *relate itself* to A and B. Consequently, no relation unites all of the impressions and ideas that constitute the mind. Huxley's claim that the mind is unified by relations is therefore false. The following formulation brings out what I take to be the essential features of the argument.

(1) Suppose that the constituents of mind include the nonrelational units of feeling A and B existing together.

(2) If any of the units of feeling that are constituents of mind exist together, then they are related by a relation that exists together with them.
(3) If any of the units of feeling that are constituents of mind exist together, then a relation exists together with them (from 2).
(4) The constituents of mind include the units of feeling A and B existing together with a relation, call it C (from 1 and 3).
(5) Relations are units of feeling.
(6) Units of feeling do not relate themselves to anything.
(7) C does not relate itself to A and B (from 4, 5, and 6).
(8) A, B, and C are related by a relation that exists together with them and that is not identical to C (from 2, 4, and 7).
(9) A, B, and C exist together with a relation that is not identical to C (from 8).
(10) The constituents of mind include the units of feeling A, B, and C that exist together with a relation that is not identical to C, call it D (from 4, 5, and 9).

It is now possible to rephrase (7) so that it is about D as well as A, B, and C and then to repeat (8), (9), and (10) similarly modified. This leads to the introduction of a new relation, call it E. The same series of modified premises can be repeated for it and, indeed, indefinitely. This is an infinite regress. Because the initial relations in the regress, C and D, fail to relate themselves to the remaining units of feeling that exist together with A and B, and because when this is true of an arbitrarily chosen member of the series it is also true of the next member, it follows by mathematical induction that

(11) None of the relations that exist together with A and B relate all the units of feeling that exist together with A and B.

In this reconstruction of the argument, the conclusion is the denial of Huxley's Humean view of the mind. It shows that if the mind is a series of impressions and ideas (i.e., units of feeling) unified by relations, then contrary to Huxley's claim, the relation responsible for unifying the other members of the series is not itself a member. Bradley derives this conclusion from Huxley's view of the mind as stated in (1), (2), (5), and (6). (1) and (2) provide a simple illustration of Huxley's claim that the mind is composed of a series of related perceptions, where "perception" is the term Huxley follows Hume in using to cover both impressions and ideas. (1) says that the mind contains two mental contents or perceptions,

A and B, which exist together, while (2) stipulates that such mental contents are related. Bradley calls these mental contents "units of feeling," a term he borrows from Herbert Spencer.[20] Although this sounds obscure, "feeling" is merely an alternative way of referring to impressions and ideas, while "unit" emphasizes the Humean claim that impressions and ideas do not depend for their existence on anything other than themselves. (5) and (6) are meant to complete this picture of mind. (5) asserts that relations must themselves be mental contents, a point that Huxley makes in criticism of Hume's discussion of relations. (6) is a statement of what Bradley calls "psychological Atomism," a view he attributes to Huxley and Hume. Bradley derives his characterization of it from Hume's "cardinal principle of error and delusion" (PL 95) that "all our distinct perceptions are distinct existences, and the mind never perceives any real connection among distinct existences" (PL 301–2).[21] Bradley thinks this claim shows that even if perceptions (i.e., impressions and ideas) stand in relation to other perceptions, the relation itself is not thereby connected to those perceptions. If it were, it would not be a unit of feeling. This is what (6) asserts. Taken together, these premises provide a simple model of an empiricist view of mind by taking A and B to be independently existing but related impressions or ideas, where the relation that holds between them is itself an independently existing impression or idea.

The additional premises in the argument merely draw out the consequences of this view of mind. To understand the argument, it is essential to distinguish between three cases. The distinction between the first two is well known, thanks to Russell (1937b, 49–50). Russell distinguishes between (first case) a relation that holds between its terms but without the relation itself being a separate element in the relational complex and (second case) a relation that does not hold between these same terms so that there is no relational complex. For example, (first case) the relational complex of Socrates being bald is different from (second case) the set composed of Socrates, baldness, and the relation of predication. In the first case the relation of predication holds between Socrates and baldness to form the relational complex of Socrates being bald, while in the second case the relation does not hold and there is no complex. Following Russell again, most philosophers have assumed that these two cases are the only ones possible. But this misses a third case and one that is essential for understanding Bradley's argument. In this case the relation holds between the terms while being a separate element. In this case the terms form a relational complex that does not include the

relation. Bradley's point is that on Huxley's view of the mind, relations fall into the third case, because for Huxley relations unify the mind while existing separately. As a result, relations relate their terms, but they do not relate themselves to the relational complex formed by their terms. Bradley's argument shows that in this case relations do not unify the mind. There is always at least one relation that is a mental content but that is not itself related *to* and so not in unity *with* the other mental contents. In this version Bradley's chain argument is directed specifically against Huxley's view of the composition of mind and it shows that this view is incoherent.

The importance of this rather intricate interpretative point can be illustrated by considering an objection that might be made to my formulation of the argument. Someone might say that my premise (6) is overly complex and that the last three words, "themselves to anything," could be dropped. This, in effect, assimilates the third case to the second. Premise (6) would then be

(6′) Units of feeling do not relate.

This, the objector might conclude, is sufficient to show that Huxley's account of the composition of mind is incoherent.

This seems to me to be an attractive suggestion, and it does preserve the force of Bradley's argument against Huxley. It is possible to deduce a contradiction from (1), (2), (5), and (6′) and thus to show that Huxley's account of the composition of mind is incoherent. Bradley's argument is sometimes interpreted this way (e.g., Gram 1970). The difficulty I have with this interpretation is that it makes the regress pointless. Rephrasing (6) by dropping the last three words allows a contradiction to be deduced without going through the regress. Premises (1) and (2) entail that the nonrelational constituents of mind A and B are related by a relation, while premises (5) and (6′) entail that relations do not relate and so A and B are not related by a relation. This contradiction completes the *reductio* without recourse to the regress. Preserving the point of the regress requires premise (6) rather than (6′). For this reason I reject this attractive simplification of the argument and distinguish the second case from the third.

To return to the context of the argument, Bradley uses his chain argument in *The Principles of Logic* to support his view of the unity of the mind in the following way: Like Huxley, Bradley assumes that the mind is a unity and that it contains relations as well as related units. But he now thinks he has shown that the relations do not unify themselves and the

units into relational wholes. It seems natural at this point to ask what does unify the units and the relations. But Bradley thinks his argument shows that this is a bad question, for the argument can be generalized to show that no existing thing can unify itself and other units. But if this is so, then the question "What unifies the units and the relations?" has no answer. So there must be something mistaken about the question. Bradley takes the mistake to be that the question assumes that units are unproblematic and that the problem is to explain how they become unified. It assumes that it is the unity of the whole that requires explanation and not the diversity of the *related* parts. Bradley thinks this is false. In his view it is not the unity but the diversity *of the related parts* that requires explanation. He thinks that what is given in immediate experience is a whole containing *nonrelational* diversity.[22] To arrive at his view Bradley begins with what he thinks is unproblematic – unity – and argues that we derive relational diversity from it through the mental process of abstraction.[23] This is why he puts forward his view by saying:

> The real truth is that the units on one side, and on the other side the relations existing between them, are nothing actual. They are fictions of the mind, mere distinctions within a single reality, which a common delusion erroneously takes for independent facts. (PL 96)

In other words, for Bradley the unity of the mind is primary; it is the diversity of the related elements in it that requires explanation.[24]

The point to notice is that Bradley's argument against Huxley supports Bradley's claim that judgments contain only one idea. This consequence is relatively straightforward. If judgments contain several ideas, then it is natural to ask how these ideas come to be unified in one judgment. But to ask this question is to make the same mistake Huxley made concerning the unity of mind: It is to assume that the units are unproblematic and that what needs to be explained is the unity. Bradley thinks that this is exactly backward. It is the diversity that needs to be explained, not the unity. Judgments, in other words, contain one ideal content. The diversity in them is found by abstracting elements from this content. Speaking of the number of ideas in a judgment, Bradley puts this very clearly when he says:

> The relations between the ideas are themselves ideal. They are not the psychical relations of mental facts. They do not exist between the symbols, but hold in the symbolized. They are part of the meaning and not of the existence. And the whole in which they subsist is ideal, and so one idea. (PL 11)[25]

Bradley's first version of his regress thus provides the defense he needs for his claim that judgments contain only one idea. It allows Bradley to preserve Green's view of judgment and the force of Green's criticism of Hume against Huxley's defense. Even granting that there are impressions of relations is not sufficient to explain the unity of mind or of judgment. Judgments involve more than sensing impressions. For Green and Bradley, they are ideal contents referred to an object. This reference to reality is the third element of judgment that Bradley takes from Green. Understanding Bradley's definition of judgment requires considering it in some detail.

V

Bradley discusses the need for the third element, the reference to reality, in the opening pages of his intricately organized, immensely rich second chapter. He puts the point of the chapter in the following sentence: "To see clearly that, if judgment is the union of ideas, there then can be no categorical judgment, is a very great step in the understanding of Logic" (PL 44). By this he means that if judgments are only unions of ideas *without a reference to reality*, then judgments will not state facts and hence will not be true. Unfortunately, Bradley's arguments throughout Chapter II are anything but straightforward, and a number of complexities in his position require explication. In this section I will address them by reconstructing Bradley's position; in the next I will motivate them using other considerations.

Bradley's attempt to show that judgments require a reference to reality has three convoluted parts. The first is a (rather too) simple account of a commonsense view of why judgments are true or false. The second is an argument Bradley takes from J. F. Herbart that is a *reductio* of this commonsense view. The third is Bradley's explanation of why this commonsense view is flawed. Bradley locates the flaw in its failure to require judgments to contain a reference to reality. He takes this to show that judgments do require a reference to reality. Bradley thus starts with a commonsense view, shows it to be false using Herbart's argument, and then explains why it is false to arrive at his own position.

Right here, in the first part of the argument, one of the characteristic difficulties in understanding Bradley surfaces. Rather than giving a single, careful statement of the view he is criticizing, or even of his own argument, Bradley describes both in several rhetorical passages. These passages differ in vocabulary and emphasis, and it is not obvious that they

describe the same things. It is almost as if Bradley expects his readers not merely to read his words but to read through them.

On this cautionary note, consider the commonsense view that Bradley is criticizing. His most extended description of it is this:

> We reflect about judgment, and, at first of course, we think we understand it. Our conviction is that it is concerned with fact; but we also see that it is concerned with ideas. And the matter seems at this stage quite simple. We have a junction or synthesis of ideas in the mind, and this junction expresses a similar junction of facts outside. Truth and fact are thus given to us together, the same thing, so to speak, in different hemispheres or diverse elements. (PL 43)

Even though this is not a very full statement, it is relatively easy to see what the basic aspects of this view are. Each idea is taken to represent a thing or some aspect of a thing. The combination of things and their aspects is a fact. The combination of ideas representing the thing and its aspects is a judgment. The judgment is true if and only if the ideas that constitute it are combined in the same way as the items which those ideas represent. Bradley summarizes this as the view that "facts outside us [pass] over into the form of truth within us, or [copy] themselves in a faithful mirror. . . ." (PL 46). It is strikingly similar to a view of thought and reality suggested by Green's interpretation of Locke. In fact, it is quite similar to the "popular philosophy" that Green thought was derived from empiricism and that he set out to attack in one of his earlier essays (Green 1888b). For the sake of convenient reference, I will call this "the popular view." I take it to be equivalent to what Bradley occasionally describes as "the ordinary view" (e.g., PL 44). It is the view Bradley sets out to undermine.

Bradley thinks the popular view can be shown to be problematic in a variety of simple ways, some of which he mentions (e.g., PL 46). Having given some examples, in the second part of his attempt to show that judgment requires a reference to reality Bradley concentrates on a problem he thinks is revealed by an argument of Herbart's (1850, 91–106). As Sidgwick noted, Bradley was not a sympathetic commentator anxious to capture all of the nuances of other philosophers' arguments. So it comes as no surprise that his statement of Herbart's argument is quite casual:

> Judgments, we find, are the union of ideas, and truth is not found except in judgments. How then are ideas related to realities? They seemed the same, but they clearly are not so, and their difference threatens to become a discrepancy. A fact is individual, an idea is universal; a fact is substantial, an idea is adjectival; a fact is self-existent, an idea is symbolical. Is it not then manifest that ideas are *not* joined in the way in which facts are? Nay the essence of an idea, the more it is considered, is seen more and more to diverge from reality. And we are confronted

with the conclusion that, so far as anything is true, it is *not* fact, and, so far as it is fact, it can never be true. Or the same result may have a different form. A categorical judgment makes a real assertion in which some fact is affirmed or denied. But, since no judgment can do this, they all in the end are hypothetical. (PL 43–4)

This brief statement describes not one but two arguments. The first proceeds in a reasonably straightforward way to the conclusion that there is a gap between truth and reality. Bradley makes this point by saying that what is true is not fact and facts are not true. Not all of the steps in this argument are completely clear, but there is no great difficulty in filling in the requisite details. Bradley begins his description of the second argument with the sentence "Or the same result may have a different form." He then gives his two-sentence argument for the conclusion that all judgments are hypothetical. Unlike the first argument, the second one appears to be a glaring non sequitur. Contrary to what Bradley says, it seems to have a different conclusion from that of the first argument. In order to understand Bradley's position both arguments require closer examination.

Given Bradley's subsequent comments, the first part of the argument can be reformulated as a *reductio:*

(12) Judgments are unions of ideas.
(13) A judgment is true if and only if it corresponds with a fact.
(14) Facts are individuals.
(15) Ideas are universals.
(16) Unions of universals do not correspond with individuals.
Therefore, (17) Unions of universals do not correspond with facts (from 14 and 16).
Therefore, (18) Unions of ideas do not correspond with facts (from 15 and 17).
Therefore, (19) No judgments correspond with facts (from 12 and 18).
Therefore, (20) No judgments are true (from 13 and 19).[26]

Even though this argument is formally valid, it is not clear what some of the premises mean, much less whether they are true. Understanding Bradley's position requires examining his premises. Premise (12), "Judgments are unions of ideas," is a statement of the popular view and hence (because this is a *reductio*) true by hypothesis. Consequently, the three fundamental terms it contains, "judgment," "union," and "idea," do not play technical roles. "Judgment" carries its normal meaning of being a truth bearer, a mental entity, and the rough counterpart of a sentence.

"Union" just seems to mean combination. In his discussion of the argument Bradley sometimes substitutes other terms for it, like "junction." "Idea" is used in what Bradley earlier referred to as its logical rather than its psychological sense. It refers to any mental constituent of a judgment that represents objects or their aspects. (12) thus asserts that true or false mental representations of facts are combinations of ideas.

Premise (13), "A judgment is true if and only if it corresponds with a fact," is also a description of the popular view, and so true by hypothesis. It contains three significant terms: "true," "correspond," and "fact." "True" is used in the ordinary way as a property of judgments. Its further meaning is defined by (13) as correspondence with fact. Bradley does not explain how he understands "correspondence," however, and he uses it only once in the course of the argument (PL 46). Its sense is explained by the alternative descriptions Bradley gives of the relationship between a true judgment and a fact. For example, he says that in true judgments there is a "similar junction" of ideas and facts or that true judgments faithfully "copy" facts.

The third term in (13), "fact," is also used nontechnically. In this argument, facts are the segments of reality that determine the truth or falsity of judgments.[27] Premise (13) thus asserts that judgments are true if and only if the ideas they contain stand in the same relations to each other as the facts they represent. Like (12), this is Bradley's statement of the popular view, and it is true by hypothesis. But Bradley will subject it to intensive scrutiny in the final chapter of *The Principles of Logic*. In fact, one of his main aims in *The Principles of Logic* is to attack this view of truth.[28]

Bradley takes premise (14), "Facts are individuals," to be another part of the popular view. If "fact" means "segment of reality," then this premise asserts that whatever is real is individual. This interpretation is confirmed by his comment that "The real is what is individual" (PL 45). Individuality and universality function as contraries in this argument, because what is individual, at least as far as this argument is concerned, is not universal. This is because Bradley takes whatever is individual to have some feature or features that cannot be instantiated elsewhere and are consequently not universal (PL 647). In this respect what is individual is for Bradley unique (PL 49). Premise (14) thus asserts that as segments of reality, facts are unique. Bradley treats this claim as part of the popular view in his initial statement of the argument. As far as this argument is concerned, then, it can be accepted as true by hypothesis.

It is worth noting, however, that while Bradley rejects (12) and (13), he accepts (14), although not for reasons that can be accommodated by

the popular view. His reasons for accepting it are metaphysical, and he is unsure how far he should introduce metaphysical considerations into the early chapters of *The Principles of Logic*. In connection with this argument he says that he will discuss metaphysical issues "from a level not much above that of common sense" (PL 44), and this, he says, is the level of the ordinary view. But he later admits that he has not consistently held his discussion to this or any other level (PL 108n4). His view of uniqueness does, however, begin to emerge in his discussion of the third element in all judgments, the reference to reality, which I will discuss below.

Premise (15), "Ideas are universals," is much less problematic. On Bradley's view, ideas in the logical sense, whatever the psychological status of their bearers, signify many things, not just one thing. They function as general terms. In this sense ideas, both in the popular view and in Bradley's view, are universals. The idea "dog," for example, is one idea, but it can represent many different dogs. Because this conforms to the popular view of ideas as well, (15) seems obviously true.

The remaining premise is (16), "Unions of universals do not correspond with individuals." This is not explicit in the version of the argument I previously quoted, but Bradley makes it explicit in the course of his discussion (PL 46). He regards it as the crucial premise in the argument and one for which he must argue. The terms in (16) are now familiar; only the justification is needed. Bradley provides this by pointing out that if ideas denote more than one actual or possible thing, then a combination of ideas will likewise do so. For example, if "dog" denotes a number of individuals and "brown" denotes a number of individuals, then "brown dog," while denoting fewer individuals than either term taken separately, will still fail to signify one and only one fact. When facts include both possible and actual facts, this will remain the case however many ideas are combined, for no combination of universals will allow for unique reference. It will always be possible to describe another individual of the same type. Consequently, a crucial aspect of facts will not be present in combinations of ideas representing them, namely, their uniqueness (PL 69–70). Because it will not be present in them, the ideas will fail to copy the facts "in a faithful mirror" – it will not correspond to them, and this is what (16) asserts.

Bradley is now in a position to complete his argument. The first conclusion he draws is (17), "Unions of universals do not correspond with facts." Because facts are individuals (14) and unions of universals do not correspond with individuals (16), unions of universals do correspond with facts. The next conclusion, (18), "Unions of ideas do not correspond

with facts," follows directly. Because ideas are universals (15) and because unions of universals do not correspond with facts (17), unions of ideas do not correspond with facts. These conclusions are so straightforward that Bradley breezes over them in the haze of rhetorical questions with which he concludes the argument (PL 46). But they are essential for deriving his main conclusion: that there is a gap between facts and judgments. This follows easily from the conclusions already reached. Because judgments are unions of ideas (12) and because unions of ideas do not correspond with facts (18), judgments fail to correspond to facts. But in order to be true, judgments must correspond to facts (13). Because they fail to do so, all judgments are false. In other words, (20), "No judgments are true," follows from (13) and (19). Because this conclusion is on its face absurd, Bradley has completed his *reductio*.

Instead of making this clear, however, Bradley restates the premises of the argument in a condensed form and draws a new conclusion. This is his second argument. He says that this argument yields the same result in a different form. The problem is that while the form is clearly different, so is the conclusion. As Bradley states it, the argument appears to be this:

(21) Categorical judgments make assertions about fact.
(22) No judgments make assertions about facts.
Therefore, (23) All judgments are hypothetical.

To understand why (23) follows from (21) and (22) requires a little work.

Although these premises look new, they are restatements of the preceding argument. The first premise, (21), "Categorical judgments make assertions about fact," is a restatement of the popular view. This is partially concealed by Bradley's use of the term "categorical judgment," a term that he never explicitly defines. However, in nineteenth-century logical terminology a categorical judgment is one in which a predicate is attributed to a subject without qualification.[29] Notice that this embodies the view that judgments contain at least two elements, a subject and a predicate, that are conjoined. Furthermore, this union of subject and predicate is then taken to be directly affirmed of reality. That is, in such a judgment reality is asserted to have something corresponding to the conjoined subject and predicate (Bosanquet 1968a, 5). Categorical judgments are thus combinations or unions of ideas that are true if they correspond with fact or reality. Premise (21) thus follows from the common nineteenth-century way of defining "categorical judgment," a definition that embodies the popular view that Bradley is criticizing. It is nothing more than a condensed restatement of the popular view. So

Bradley can treat it as true by hypothesis. The second premise, (22), "No judgments make assertions about fact," is a restatement of Bradley's criticism of the popular view as embodied by (19). Bradley's support for (19) is that judgments are unions of ideas and ideas are general terms that even in combination never refer to a unique individual. This is a reason for saying that they do not assert anything about any particular individual and hence about any (inevitably particular) fact. Because they fail to refer to facts, they say nothing about them. This is what (22) asserts.

What is different in this version of the argument is the conclusion, (23), "All judgments are hypothetical." Strictly speaking, what follows from (21) and (22) is that no judgment is categorical. Given Bradley's understanding of judgments, however, this is enough to yield (23). A judgment must assert something. What is distinctive about categorical judgments is that they assert something directly, without qualification. It follows that if a judgment is not categorical, then it asserts something indirectly, with a qualification. But to assert something with a qualification is to assert it under a condition. It is to assert that if a condition obtains, then the judgment holds. Such a judgment is conditional or hypothetical, and this is what (23) says. Bradley thus concludes his second version of Herbart's argument by saying that if judgments are unions of ideas, then they are all hypothetical.

Premise (23) is supposed to be obviously false, although Bradley's rhetoric and his casual use of the term "hypothetical" make this difficult to see. In any event, Bradley accepts Herbart's argument as an accurate account of the consequences of the popular view. The merit of Herbart's argument, as Bradley sees it, is that it shows that "if judgment is the union of ideas, there then can be no categorical judgment" (PL 44). But this is a *reductio*, so Bradley rejects the conclusion. "We can not so give up the categorical judgment," he says, "for, if that is lost, then everything fails" (PL 48). Although Bradley does not explain this comment, his opening remarks in the chapter indicate that a reference to reality is necessary for the objectivity of judgment. In these remarks he forcefully asserts that judgments must be true or false. Because these properties are not found in judgments themselves, they must result from something external that compels judgments to be either true or false. This external something can only be reality. Consequently, in order to be true or false – that is, to be objective – judgments must refer to reality. If judgments are hypothetical because they are nothing more than syntheses of ideas, however, they lack such a reference. Consequently, there is nothing to compel them

to be true or false. They thus lack objectivity, an essential property of judgments. For this reason, Bradley rejects (23) (PL 41–2).

Because Bradley accepts the validity of Herbart's argument but rejects its conclusion, he also needs to reject one of the premises. He explains which one and why in the third part of his argument. It should come as no surprise that the premise Bradley rejects is (12), "Judgments are unions of ideas," the premise that formulates the popular view of judgments. Bradley's reason for rejecting (12) is that it ignores the fact that in addition to ideal content a judgment must also contain something that will account for its objectivity.[30] Bradley thinks that this element is a reference to reality. This is a new element, something added to the ideal content of a judgment. The presence of this additional element indicates that for Bradley all judgments are existential. They assert something about an existing thing. Because for him existence is not an idea (i.e., he thinks that existence is not a predicate [PL 81]), it follows that judgments must contain something more than a union of ideas. Consequently, (12), which says that judgments are only unions of ideas, is false. By rejecting (12), Bradley blocks the derivation of (23) from his definition of judgment, for he claims that this additional element, the reference to reality, enables judgments to refer to individuals. Consequently, (16) fails to apply to judgments properly defined, and this blocks the inference to (20) and hence to (23).

Bradley is now in the following position: He has argued that judgments are objective – they are made true or false by something else, namely, the reality to which they refer. But he has also argued that the ideal content of a judgment is incapable of referring to reality by itself. As he puts it, "The real is inaccessible by way of ideas" (PL 63). It follows that judgments must refer to reality without the *mediation* of ideas. That is, in addition to their ideal content they must contain an additional element: a reference to reality. Because the hallmark of reality for Bradley is its individuality or uniqueness, in the case of each judgment this reference to reality will have to be a reference to an individual, a single unique thing, which as Bradley will go on to argue must be reality as a whole. So his position now is that in addition to an ideal content, judgments must also contain a reference to something unique, a direct reference without the mediation of ideas. To complete his argument, Bradley needs to explain how judgments contain such an element.

His explanation proceeds by analogy with the reference involved in using a demonstrative pronoun. A demonstrative pronoun, like "this," is sometimes used to refer to an individual. For example, if I say to the

produce manager of my local food co-op, "I will take this watermelon," I am referring to a particular watermelon – the dark green oblong one on the left side of the stack. But for reasons already given by Herbart's argument, Bradley does not think that my description is sufficient to describe it uniquely. My description applies equally well to any number of possible watermelons. The descriptive content of the idea corresponding to the demonstrative pronoun "this" is not sufficient either. It is even more general than the descriptive phrase I applied to the melon. It is, in Bradley's terminology, a universal and so describes a kind of thing, not an individual. Or to put the point his way, "in using 'this' we do *use* an idea, and that idea is and must be universal; but what we *mean*, and fail to express, is our reference to the object which is given as unique" (PL 66). In other words, if the meaning of a judgment containing a demonstrative pronoun is expressed solely by the ideal content corresponding to the pronoun, it will fail to refer to an object. Reference to reality cannot be by means of an *idea* corresponding to a demonstrative pronoun.

Many philosophers would, of course, agree with this. But they would immediately add that there is no reason to expect the ideal content of a demonstrative pronoun *by itself* to refer to a definite individual. This, they would add, is because a demonstrative pronoun requires an associated demonstration of the object meant – perhaps by pointing at it. David Kaplan, for example, says:

> A demonstrative without an associated demonstration is incomplete. The linguistic rules which govern the use of the true demonstratives 'that', 'he', etc., are not sufficient to determine their referent in all contexts of use. Something else – an associated demonstration – must be provided. (Kaplan 1989a, 490)[31]

This, after all, is what is special about demonstratives and why some philosophers (e.g., Peter Strawson) have suggested that all identifying descriptions may contain a demonstrative element (1963, 10).

Bradley does not explicitly discuss demonstrations, but he could easily agree that demonstrative pronouns require associated demonstrations to refer to definite individuals. This would not, however, significantly alter his position. He thinks that demonstrative pronouns (or their mental counterparts, because for him judgments are mental entities) are somehow sufficient to identify individuals within a space-time continuum. "The parts [of space and time]," he says, "exclude one another reciprocally" (PL 63). So, to identify an object by virtue of its position in space and time is to distinguish it from all other objects in space and time. Because demonstrative pronouns somehow succeed in doing this, they do

distinguish one object from all others in space and time. To this extent, demonstrative pronouns refer to individuals. The problem, Bradley thinks, is that this allows for relative identification only. This is because there are other possible spaces and times. So identifying an object with reference to "our" space and time, the space and time of actuality, provides only relative identification. Securing unique identification requires a unique identification of the space and time of actuality, an identification that demonstrative pronouns fail to provide. From this Bradley concludes that demonstrative pronouns, even with their associated demonstrations, are insufficient to guarantee reference to individuals.

Still, demonstrative pronouns provide Bradley with his best illustration for explaining how a judgment can refer to an individual. He puts this by saying:

> Everything that is given us, all psychical events, be they sensations, or images, or reflections, or feelings, or ideas, or emotions – every possible phenomenon that can be present – both is "this" and has "thisness." But its stamp of uniqueness and singularity comes to it from the former and not from the latter. (PL 64–5)

That is, every phenomenon can be referred to by using a demonstrative pronoun. As such, every phenomenon has the quality Bradley calls "thisness." But because every phenomenon has it, it is not a useful characteristic for identifying individual phenomena. But the fact that every phenomenon has it indicates something else: that every phenomenon is given. The significance of this is that judgers have direct cognitive contact, contact without the mediation of ideas, with every phenomenon that is given to them. This provides Bradley with an explanation of how judgments can refer to individuals. In his words,

> At least so much is certain, that we find uniqueness in our contact with the real, and that we do not find it anywhere else. The singularity which comes with presentation and is what we call "this," is not a *quality* of that which is given. (PL 65)

For Bradley, what is individual is confronted directly without the mediation of ideas. Because what is confronted is real and because what is real is individual, direct contact with what is individual is found in immediate experience. This contact is what makes possible the use of demonstrative pronouns.[32]

This completes Bradley's reason for saying that judgments must contain more than ideal content. Judgments are objective, and the ideal content of a judgment by itself is not enough to provide objectivity. The

ideal content by itself is incapable of referring to an individual. So Bradley concludes that judgments require more than an ideal content, namely, a reference to reality that is not mediated by ideas. Because judgers have direct contact with reality in immediate experience (i.e., without the mediation of ideas), Bradley concludes that all judgments include a reference to reality as it is given in immediate experience. This is the doctrine he abbreviates by saying that all judgments have the same logical form: "Reality is such that S is P" (PL 623). Consequently, according to Bradley's theoretical definition of judgment, all judgments contain ideal contents directly referred to reality as a whole.

V

Before proceeding to the implications of Bradley's definition, I would like to sketch an alternative way to rationalize his position. It will involve some anachronism, but it will also provide a simpler way of understanding his point of view. Because he holds an intensional view of judgment, a natural starting point is his treatment of intensions and extensions.

This subject, like a number of others, raises an immediate problem. Bradley's discussion of intensions and extensions occurs well after his argument that judgments contain only one idea. Nevertheless, he explains his views of intensions and extensions on the assumption that judgments contain two ideas, a subject and a predicate. Having done this, for the sake of convenience perhaps, one would then expect Bradley to explain how it accords with his view that judgments contain only one idea. He does not do this. Throughout *The Principles of Logic* he writes from a variety of points of view, leaving his readers the task of interrelating them. So, with apologies, I will explain Bradley's view of intensions and extensions on the assumption that judgments contain two ideas.

The extension of a term for Bradley is the object or objects it stands for or denotes (PL 193n2). Its intension is its meaning or content, what it conveys about its extension (PL 168). Bradley is independent of the Fregean tradition; he does not treat intensions as extensions across possible worlds. According to Bradley, terms in every judgment have both intensions and extensions. Every judgment can be read to emphasize either. Consider, for example, the judgment "All dogs are mammals." Read in extension, this says of every individual dog that it is also a mammal. Bradley describes this by saying that "it directly asserts the identity of the subject, with an implication of the difference of its attributes" (PL 174). Read in intension, it says that if an entity has the attribute of being a dog,

it also has the attribute of being a mammal. In Bradley's vocabulary, "It asserts a connection of different attributes, with an indirect reference to an identical subject" (PL 174). Bradley claims that every judgment can be read in both of these ways, although he denies that both readings are equally natural. In this respect Bradley is simply following Jevons (1958, 48). He is also ignoring the fact that it is difficult to see how these readings fit judgments as he conceives them, because for him they contain only one idea, not two as Jevons would have it.

What makes these remarks important is that Bradley holds that neither intensions nor extensions are eliminable. Or, as he puts it, while judgments can be read in either intension or extension, they cannot be read merely in extension or merely in intension (PL 642). Like most of his contemporaries, Bradley thinks that the intensional reading is the more important one.[33] But he is not ready to reduce extensions to intensions. In fact, one of the purposes of his discussion of Herbart's argument was to show that the content or intension of a judgment must be supplemented by a separate extension (cf. PL 168). The argument shows that a separate extension, a reference to reality, must be added to the ideal content or intensional component of a judgment.

This offers a way of understanding Bradley's definition of judgment by way of a problem. The problem is this: Because Bradley's judgments are objective, they are made true or false by the actual objects to which they refer. Among the requirements for objective reference is that the truth or falsity of a judgment that objectively refers must be independent of the manner in which the reference is made. If truth or falsity depends on the object of reference as Bradley claims, then it should not matter how one refers to the object. One manner of reference ought to be as good as any other. For example, if the judgment "Alpha Scorpii is the brightest star in Scorpius" has objective reference – in this case is made true by some characteristic of the star named "Alpha Scorpii" – and if this star is also named "Antares," then the truth value of the judgment ought to remain the same when "Antares" replaces "Alpha Scorpii." If it does not, then the truth value depends on something other than the object to which the reference is made. To the extent that it is so dependent, the judgment lacks objectivity.

There is, however, a more general way to state this requirement, one that naturally introduces Bradley's solution. One can say that a judgment is objective when the replacement of coextensive parts (either statements or terms) does not alter the truth value. The trouble with putting matters this way is that Bradley denies the applicability of this principle, because

on his analysis judgments have an ineliminable intensional component. Bradley is explicit about this. He insists that judgments are not made true merely by the particular individual objects with which they are concerned (PL 646). This accords with the contemporary way of classifying a judgment as intensional. In this classification, a judgment is intensional if its coextensive parts are not intersubstitutable *salva veritate*. The problem can now be restated by saying that Bradley is in the position of insisting that judgments have objective reference, while denying a condition under which such reference is possible. This is a significant problem. Bradley's claim that reality is the logical subject of all judgments solves the problem. It explains how judgments can have objective reference given the fact that they are intensional.

To understand Bradley's solution, it will be useful to compare it with Jaakko Hintikka's attempt to preserve objective reference, and hence the validity of the substitutivity of identity and existential generalization, inside of intensional contexts. One of the keys to Hintikka's semantics is his distinctive use of the notion of a possible world. For him, terms inside of intensional contexts can be treated as having multiple reference; they refer to different individuals in different possible worlds (Hintikka 1969, 92–3). Terms are coextensive, however, when they are true of the same object in the actual world. Given this analysis, it is not surprising that both the substitutivity of coextensive terms and existential generalization fail inside of intensional contexts. Consider, for example, the following argument:

(24) It is necessary that nine is greater than five.
(25) The number of planets is nine.
Therefore, (26) It is necessary that the number of planets is greater than five.

This is a case where the substitutivity of identity seems to fail for intensional contexts. However, if (25) states what is true in the actual world, but (24) states something true in all possible worlds, then it is to be expected that the inference to (26) will be fallacious. The term "nine" in (24) refers to other worlds besides the actual world. In all of them the object referred to by "nine" is greater than the object referred to by "five." In (25) the term "the number of planets" refers to nine in the actual world, but to other numbers in other possible worlds. Consequently, it is not coextensive with "nine" in all possible worlds; so far as modal contexts are concerned, it cannot be validly substituted for "nine." The substitutivity of identity is valid in modal contexts when the terms substituted

are coextensive in all possible worlds. This analysis justifies the validity of the substitutivity of identity for modal contexts and hence satisfies one condition for objective reference.

As it stands, this strategy is too restrictive for intensional contexts created by propositional attitudes, but with a few modifications it will work. Consider the following argument:

(27) Mary judges that Alpha Scorpii is the brightest star in Scorpius.
(28) Mary judges that Antares is the brightest star in Scorpius.
Therefore, (29) Mary judges that Antares is Alpha Scorpii.

The inference from (27) and (28) to (29) seems acceptable despite the fact that there may be possible worlds in which the object denoted by "Antares" or "Alpha Scorpii" is not the brightest star in Scorpius. For if Mary judges that Antares is the brightest star in Scorpius and that Alpha Scorpii is also the brightest star in Scorpius, then assuming that her beliefs are consistent, she also judges that Antares is Alpha Scorpii. The validity of the inference is explained by the fact that "Alpha Scorpii" and "Antares" are coextensive in all possible worlds compatible with Mary's beliefs. This suggests a general requirement. Expressions are substitutable within intensional contexts created by propositional attitudes provided that they are coextensive in all possible worlds compatible with the beliefs of the person holding the attitude. This analysis preserves the substitutivity of identity in intensional contexts created by propositional attitudes (Hintikka 1969, 96–8).[34]

To preserve the other rule of inference, existential generalization, it is necessary to stipulate that expressions which are intersubstitutable in intensional contexts refer to an individual in the actual world, an existing individual, and to the same individual in other possible worlds (Hintikka 1969, 96–8). This rules out a host of terms. Terms like "the red thing on my desk" do not denote the same object in all possible worlds. (I am following Bradley here in assuming that descriptions denote objects by describing their properties.) In this world the red thing is a cup, in another world a costly jewel that I own. Substitutable expressions must denote the same individual in all possible worlds compatible with the beliefs of the person holding the attitude.

This gives rise to a new problem: defining the class of expressions that denote the same individuals across possible worlds. One solution is to divide the properties of individuals into essential and accidental. Those properties that an individual has in all the worlds in which it exists are essential properties, while those properties it has in only some of the

possible worlds in which it exists are accidental. If this distinction can be made intelligible, then expressions that denote individuals by their essential properties denote across possible worlds, while those that denote individuals by their accidental properties do not. Terms that denote the same individual across all possible worlds compatible with the beliefs of the person holding the attitude are substitutable *salva veritate* inside of intensional contexts created by propositional attitudes.

This solution provides a framework for appreciating Bradley's approach to his problem. Although he would not put his point this way, he does hold the view that terms in judgments refer to possible as well as to actual individuals (PL 63–4). This is why he thinks it is so difficult to uniquely designate an individual. It also provides one reason why it is useful to compare his approach to these problems with Hintikka's. Certain aspects of Bradley's thought, however, prevent him from accepting the kind of solution I have outlined in terms of essential and accidental properties. First, Bradley accepts the view that individuals are identified by their properties – that is, he treats proper names as descriptions (PL 59–61). In terms of the foregoing solution, this means that individuals in different possible worlds must be identified by their essential properties. But second, Bradley rejects a distinction between essential and accidental properties. As an heir to the British empiricist tradition, Bradley claims that necessity is found only in thought (PL 198–205). Consequently, Bradley must hold that it is impossible to identify individuals across possible worlds. This, of course, requires Bradley to reject any solution, like the foregoing, that requires identifying individuals across possible worlds.

There is, however, one way in which Bradley can use something like the foregoing solution. If he can find a way for judgments to denote a single individual in the actual world and denote no individuals in other possible worlds, then he can preserve substitutivity within judgmental contexts. Such judgments would have to identify uniquely a single individual where this individual could exist only in the actual world. Bradley argues that only one object can be denoted uniquely in this way – reality as a whole. This provides a rationale for his claim that all judgments must refer to reality and must have the logical form "Reality is such that S is P" (PL 623). His arguments about designation support this claim. No descriptive phrase can have the required kind of designation because descriptive phrases are universals and facts are individuals. This, in effect, is an argument for the impossibility of descriptively identifying individuals across possible worlds.

Because a unique individual that exists in the actual world and in no other possible worlds cannot be descriptively identified, it must be identified directly, without the mediation of any ideal content. This can be done if all judgments contain a direct reference to reality as it is given in immediate experience. Because this reality is ever present, it is always possible to refer to it directly in a way that is not possible with any other object. Consequently, the whole of reality becomes the only genuine individual, and the only objective judgments are those that contain a direct reference to it. This is Bradley's solution to the problem of objective reference. He claims that in the case of every judgment, the idea that forms its content is directly referred to reality as a whole as it is given in experience. Because he holds that all judgments, true or false, objectively refer (it is, after all, in virtue of this that they are true or false) it follows that the logical subject of all judgment is reality as a whole.

Two things are worth noting about this solution. First, expressed in modern terms it has a very important consequence, and this is exactly the consequence that Bradley wants it to have. The only terms that are subject to existential generalization are those demonstratively applied to reality as a whole. It follows that if to be is to be the value of a bound variable, then the only thing that exists is reality as a whole. This is exactly Bradley's metaphysical conclusion. Second, while Bradley has explained how the extension of a judgment accounts for its objectivity – for its having a truth value – he has not explained how this truth value is determined. Bradley denies that it is exclusively determined by its extension. He must deny this, because some judgments are true while others are false, but all have the same extension: reality as a whole. So to specify the truth-conditions for judgments Bradley will have to do more than specify the extension; he will have to explain how this truth value is intensionally determined. Bradley does this by accepting a qualified version of Herbart's claim that all judgments are conditional.

This concludes my exposition of Bradley's theoretical definition of judgment. His account of the direct reference to reality contained in all judgments completes his preliminary defense of T. H. Green's view of judgment. He has described the popular view of judgment, he has used Herbart's argument to trace its unacceptable consequences, and he has shown how his own view of judgment avoids these consequences. But it does so at a price. It requires that all judgments be conditional. He is now ready to examine this implication of his definition.

4

Conditional Judgments

In his essay "General Propositions and Causality," F. P. Ramsey described a way of evaluating conditionals that has inspired a great deal of subsequent reflection. He said,

> If two people are arguing "If p will q?" and are both in doubt as to p, they are adding p hypothetically to their stock of knowledge and arguing on that basis about q. . . . (1978b, 143n)

Ramsey went on:

> In general we can say with Mill that "If p then q" means that q is inferrible from p, that is, of course, from p together with certain facts and laws not stated but in some way indicated by the context. This means that $p \supset q$ follows from these facts and laws, which if true is in no way a hypothetical fact; so that, in spite of the sound of *inferrible*, Mill's explanation is not circular as Bradley thought. (1978b, 144–5)

In this second quotation Ramsey sins against Bradley twice – first in attributing Bradley's view to Mill and second in thereby implying that Bradley did not hold it. The facts, however, are otherwise. What Ramsey calls Mill's explanation omits elements Mill emphasizes and adds elements first made explicit by Bradley.

In presenting his treatment of conditionals, Mill tries to show that conditionals have the same structure that other propositions have. For Mill a proposition is a "*discourse, in which something is affirmed or denied of something*" (Mill 1973–4, 21). Accordingly, every proposition has three parts: a subject, a predicate, and a copula, each of which is a denoting term. The subject denotes a thing, the predicate denotes something affirmed or denied of that thing, and the copula denotes the affirmation

or denial. If the affirmation or denial is dependent on a condition, then the proposition is *conditional*; if it is not dependent on a condition, then it is *categorical* (Mill 1973–4, 82–3).

Because conditional propositions contain at least two propositions and so have at least two subjects or two predicates, Mill needs to explain how they can be fitted into his subject-predicate-copula schema. He does this by pointing out that conditional propositions contain only one affirmation. Consider, for example, the conditional proposition "If the Koran comes from God, Mahomet is the prophet of God" (Mill, 1973–4, 83). It neither affirms nor denies either of the two propositions it contains, "The Koran comes from God" and "Mahomet is the prophet of God." This conditional may be true even if both of the contained propositions are false. What it asserts, Mill says, is that its consequent is inferable from its antecedent. This assertion does have subject-predicate-copula form. The subject is the name of the consequent proposition, the predicate is the name of the antecedent proposition, and the copula affirms that the former is inferable from the latter. Conditional propositions, in other words, are metalinguistic propositions, propositions about propositions. On this view, conditional propositions have the same logical form that other propositions have. Like other propositions, they are categorical. They unconditionally assert that an inferential relation holds between two propositions.[1] They owe their distinctiveness only to the fact that in virtue of asserting something about an entailment relation they are metalinguistic. Because they are not in principle different in form from other propositions, Mill concludes his short discussion of conditionals by speculating on why they have been taken so seriously by logicians. His explanation is that they are about inferences and inference is the central concern of logic (1973–4, 83–4).

Bradley justifiably finds Mill's account unsatisfactory. His objections to it, however, are not overly clear, and Bradley's hostility to Mill conceals the extent to which Bradley's account and its problems are similar. Nevertheless, two of Bradley's criticisms are important for understanding his view of conditionals.[2] First, he claims that Mill has not explained how the antecedent entails the consequent, for Mill says nothing about the facts and laws mentioned by Ramsey that enable one to infer the consequent from its antecedent. "Left to ourselves," Bradley says, "we can only conjecture the doctrine he here intended to teach" (PL 84). Second, as Ramsey notes, Bradley claims that Mill's account is circular. Bradley finds circularity in Mill's claim that conditional propositions can be reduced to categorical propositions. This is because categorical propositions are

about what is inferable, but what is inferable is conditional. While admitting that this is a "verbal quibble," Bradley insists that in the absence of further explanation it blocks Mill's reduction of conditional judgments to categorical ones (PL 84). In reflecting on his first criticism, Bradley explains how judgments about facts and laws enable one to infer the consequent of a conditional from its antecedent. In developing his second criticism, he draws an unexpected consequence from his definition of judgment: that all judgments are conditionals. Together the claims underlying Bradley's criticisms form the premises of a valid argument with a surprising conclusion, namely,

(1) All conditionals are abbreviated inferences.
(2) All judgments are conditionals.
Therefore, (3) All judgments are abbreviated inferences (from 1, 2).

Bradley's defense of these claims, especially his extremely diffuse defense of (2), occupies a large portion of Chapter II of *The Principles of Logic*. In this chapter I explain Bradley's defense of (1) and his three-part defense of (2), and then show why (3) has surprising implications.

I

Bradley's argument for (1) occupies a few pages of the second chapter of *The Principles of Logic*, "The Categorical and Hypothetical Forms of Judgment." His announced aim in this chapter is to "support and deepen" the view of the general nature of judgment that he defended in his first chapter (PL 41). He does this by examining different kinds of categorical and hypothetical judgments and showing how they conform to his account of the general nature of judgment. He is especially concerned to show how hypothetical or conditional judgments include a demonstrative reference to reality.[3] Explaining this requires recognizing the presence of an additional element in these judgments, an element Bradley associates with the presence of the word "if" in their verbal expressions.

In examining these judgments, Bradley turns his attention from what are usually called simple propositions to compound ones. The usual modern procedure in introducing compound propositions is to specify their truth-conditions using truth tables. This contextually defines the logical connectives that form compound propositions from simple ones. Because truth tables had not been invented in 1883 and because Bradley rejects an extensional interpretation of logical connectives, this is not his

procedure. Yet despite a few comments about the psychological meanings of the terms that stand for logical connectives, Bradley's concern is with determining the conditions under which compound judgments are true.

Bradley begins his discussion of conditionals by noticing a fact that Mill emphasizes: Both the antecedent and the consequent of a conditional judgment may be false and yet the conditional itself may be true. From this Bradley concludes, as Mill did, that what a conditional asserts is neither the truth of its antecedent nor that of its consequent, but rather something about the connection that obtains between them (PL 82). Bradley's problem, like Mill's, is to characterize the connection.

This is more difficult than it initially appears to be. If neither the antecedent nor the consequent is asserted by the judgment to be a fact, the connection between them cannot be asserted to be a straightforwardly factual one. Connections obtain between things, and if there are no connected things, then there are no factual relations between them. As Bradley puts it:

> You do not assert the existence of the ideal content you suppose, and you do not assert the existence of the consequence. And you can not assert the existence of the connection, for how can a connection remain as a fact when no facts are connected? (PL 86)

One answer to this question is that a conditional judgment asserts an entailment relation between two abstract entities, propositions perhaps, referred to by the antecedent and the consequent of the conditional judgment. But because Bradley regards the contents of judgments as abstractions from concrete mental events, he rejects the existence of such third-realm entities (PL 704n).[4] He needs to find something else for conditionals to assert.

Bradley approaches this problem by interpreting conditionals differently from the way Mill does. Mill claimed that conditional propositions were equivalent to disjunctive ones. Specifically, he said that " 'Either A is B or C is D' means 'if A is not B, C is D; and if C is not D, A is B' " (1973–4, 82–3). Mill, in other words, takes conditional propositions to be material conditionals. For him, propositions of the form "if not p, then q" have the same truth-conditions as those of the form "p or q." This is the classical, truth-functional analysis of conditional propositions.

Bradley rejects this analysis by denying that conditional judgments are equivalent to disjunctive ones (PL 128). In offering his alternative, he focuses on the element in conditional judgments indicated by the word

"if." He calls this element a supposal, and describes it in the following words:

> A supposal is, in short, an ideal experiment. It is the application of a content to the real, with a view to see what the consequence is, and with a tacit reservation that no actual judgment has taken place. The supposed is treated as if it were real, in order to see how the real behaves when qualified thus in a certain manner. (PL 86)

In this description, "ideal" is as usual in Bradley's writings an adjectival form of "idea," so a supposal is an experiment with ideas, a thought experiment. The experiment consists in supposing that the antecedent is true. The antecedent is the content Bradley says is applied to the real by assuming that the content is true "for argument's sake" (PL 86). To make this assumption, Bradley says, is to perform a "subjective" operation (PL 86); it is to assume rather than to assert that a mental content is true. Because what is supposed in a judgment is not asserted by that judgment, the presence of a supposition does not by itself explain what the judgment asserts. But it is an element in Bradley's explanation. What a conditional asserts, he says, is the fact that reality has a quality in virtue of which the connection between the supposed antecedent and its consequent holds (PL 87).

Bradley explains this by using as an example the judgment "If you had not destroyed our barometer, it would now forewarn us."[5] He says,

> In this judgment we assert the existence in reality of such circumstances, and such a general law of nature, as would, *if we suppose* some conditions present, produce a certain result. But assuredly those conditions and their result are not predicated, nor do we even hint that they are real. . . . It is the diminution of pressure and the law of its effect, which we affirm of the actual world before us. (PL 87)

In other words, a conditional judgment asserts that there are certain circumstances and certain laws of nature that, in the presence of what the judger supposes, result in a further circumstance. What is supposed is described by the antecedent, while the resulting circumstance is described by the consequent. A conditional judgment thus asserts that reality is characterized by a scientific law that, in the presence of the antecedent and the circumstances under which the law operates, will result in the circumstance described by the consequent.[6]

If Bradley were content to say, with Ramsey, that scientific laws are by no means hypothetical facts, this would complete his analysis. He could then say that conditional judgments assert that scientific laws hold of reality.

Bradley treats judgments stating scientific laws as universal conditionals, however, so they also assert that reality has a quality in virtue of which their antecedents and consequents are connected. But Bradley does not say what this quality is. So while his analysis does provide a way to determine the truth or falsity of a conditional, it does not specify the unconditional fact that according to his definition of judgment conditional propositions assert. To complete his analysis, Bradley needs to identify the kind of fact asserted by judgments describing scientific laws.

Bradley says this fact is that reality has a certain disposition and that this disposition is such that if the antecedent of the judgment is supposed to be true, then the consequent will also be true. So, on his analysis the judgment "If you had not destroyed our barometer, it would now forewarn us" asserts that reality has an "occult or latent" (PL 88) quality in virtue of which the scientific law implicit in the conditional holds. As Bradley came to recognize, however, this analysis is not satisfactory. According to this account, to assert that a lawlike connection obtains in reality is to assert that reality has a specific disposition. But if dispositions are in turn analyzed by means of conditionals, an analysis Bradley favors, then his analysis is circular. In Bradley's words, "If 'disposition' is used to explain 'conditional,' then obviously, since the very meaning of 'disposition' involves a standing 'if,' the explanation is circular . . ." (PL 111–12n41). In other words, Bradley's second criticism of Mill's analysis is an objection to his own as well.

This significant problem aside, Bradley's treatment of conditionals provides them with truth-conditions. To see how, consider the following example. Suppose that two people are arguing about the truth value of a judgment of the form "If p, then q." Bradley would evaluate their disagreement by asking them to perform a thought experiment. They should begin by supposing that the antecedent of the conditional is true. He would next ask them to conjoin this with their judgments about the circumstances and the relevant laws of nature. He would then instruct them to evaluate their experiment by determining whether or not these judgments would entail the consequent of the conditional. If they would, Bradley would pronounce the conditional true; if not, he would pronounce it false. Or, to put the point more succinctly, for Bradley a conditional is true if the inference it abbreviates is sound (with the proviso that the antecedent is true by hypothesis). He requires soundness rather than validity, because falsely judging certain conditions or laws to obtain would not affect validity but would provide a ground for rejecting the conditional.[7]

While Bradley's account fails to give a noncircular analysis of what conditional judgments assert, it succeeds in providing a new way of determining the truth or falsity of any given conditional. It describes how the antecedent of a conditional can plausibly be regarded as entailing its consequent. Mill usually gets the credit for this analysis; Ramsey's remarks here have been quite influential. But Mill's analysis is truth functional, it provides no explanation of how the antecedent of a conditional entails its consequent, and in any case Mill is repeating the views of other nineteenth-century logicians (e.g., Whately 1975, 109–10). Bradley is the first British philosopher to provide an intensional, nontruth functional analysis of conditionals. It is what I have summarized as (1), "All conditional judgments are abbreviated inferences."

II

Bradley's argument for (1) takes up only a few pages of the very long second chapter of *The Principles of Logic*; his argument for (2), "All judgments are conditionals," takes up much of the rest. Reading it, one has the impression that Bradley continued to revise this chapter until it assumed a life of its own. Near the end of the chapter Bradley even breaks his exposition to include a new chapter heading: "Chapter II (*Continued*)." In its wealth of detail and intricacy of argument, it is far more than a discussion of the two forms of judgment that its title, "The Categorical and Hypothetical Forms of Judgment," announces. It can be *roughly* divided into four parts. In the first (PL 41–51, discussed in the previous chapter of this book) Bradley argues that judgments must demonstratively refer their contents to reality as it is immediately given. The remaining parts of the chapter explain the nature of these contents and how they refer to reality in more detail. In the second (PL 51–80), Bradley gives a preliminary explanation of the features of singular categorical judgments. In the third (PL 80–90) he explains the features of universal categorical judgments, and in so doing he argues that universal categoricals must be treated as conditionals. (In the process he gives his argument for (1)). In the final part of the chapter (PL 91–106), Bradley returns to singular categorical judgments and argues that despite appearances, they have the same sort of content as universal categorical judgments, and so they too should be treated as conditionals. Because Bradley later argues that other forms of judgment contain categorical and therefore conditional components, I have summarized the second, third, and fourth parts of this chapter by saying that it is an

argument for the conclusion that all judgments are conditionals, that is, for (2).

In order to explain this argument, I will begin by giving Bradley's reasons for thinking that judgments that are grammatically universal and categorical have the logical form of conditionals. I will then turn to his much more elaborate treatment of singular categoricals and explain the different kinds of singular categoricals he distinguishes and why he thinks they must refer to reality as it is given. I will conclude by explaining why he thinks this reference must be indirect and why, as a consequence, singular categoricals must also be treated as having the logical form of conditionals.

Bradley's main reason for thinking that universal categoricals have the logical form of conditionals is that they have the same truth-conditions as conditionals. On this analysis a judgment like "All animals are mortal" is not a judgment about every member of the definite class of animals,[8] but instead it asserts that if anything is an animal, then it is mortal.[9] Today this is standard textbook analysis, but it is not the way these judgments were traditionally treated. Aristotle's exact views on the analysis of universal categorical judgments are not entirely clear, but he definitely thought that an affirmative universal categorical judgment is convertible in part. That is, he accepted inferences like that from "Every pleasure is good" to "Some good is pleasure" as valid (1984a, 25a 8–9). This suggests that Aristotle regarded universal categorical propositions as having existential import – that is, as affirming the existence of members of the class referred to by their subject terms. In traditional logic, universal categorical judgments were generally treated as having existential import (e.g., Whately 1973, 84). Bradley is sometimes given credit for first analyzing them as conditionals and so as lacking existential import (e.g., Russell 1971a, 43, 1971b, 70), but in fact he popularized this analysis only in England. This analysis was already common among logicians (Adamson 1884, 128), having been advocated, for example, by Lotze (1888, 1:98–9).

Bradley defends his analysis on grounds drawn from the philosophy of language rather than on logical grounds. By this I mean that his defense is an appeal to the linguistic intuitions of his readers about the truth-conditions of judgments. He does not even mention the ways in which alternative analyses of judgments affect the validity of arguments in which such judgments are present, nor the way in which argument forms that are valid on one analysis become invalid on another. Instead, he tries to show that treating universal categoricals as assertions about the existing members of a class of individuals is problematic. He then claims

that these problems can be avoided by treating universal categoricals as conditionals.

Bradley gives three brief arguments for thinking that universal categoricals are not assertions about existing collections of objects. First, he considers what a judgment like "All animals are mortal" refers to. It does not intuitively refer, he says, only to existing animals, but to future animals as well. Because animals that exist in the future are not actual animals, the reference of the judgment cannot be confined to actually existing animals (PL 47).

Second, Bradley appeals to introspection and claims that those who make the judgment "All animals are mortal" are not thinking about the complete collection of all existing animals (PL 47). Consequently, the judgment cannot be about each and every presently existing animal. Bradley thinks this holds for other universal categoricals as well. This is not a compelling argument because the ideas a judger has when judging are a poor guide to the logical form of the judgment.[10] A better guide is the place judgments have in intuitively acceptable forms of inference that can be systematized by means of logical principles. Still, Bradley's sort of argument is common in the history of philosophy and has been used by people whom one would not expect to use it. For example, Russell claimed that introspection shows that the relation between a name and its object is different from the relation between a sentence and its truth value. This, he thought, showed that Frege was wrong in thinking that the true and the false were the extensions of sentences (Russell 1937b, 504).

Bradley's third reason for thinking that universal categorical judgments are not about an existing class of particulars is that some true universal categoricals are not about existing particulars. His example is the judgment "All persons found trespassing on this ground will be prosecuted" (PL 48). This may be true, he notes, even if no persons ever do trespass on this ground. If universal categorical judgments refer to an existing set of particulars, then judgments like this are false. Because they seem to be true, this analysis assigns the wrong truth value to some universal categoricals.

Bradley thinks that all of these complaints against treating universal categoricals as judgments about a set of presently existing objects can be accommodated by treating universal categoricals as conditionals. If they are treated as conditionals, then they can easily cover future or other nonactual individuals. They can be treated as asserting of anything that if that thing is a member of a class, then it has a certain property. On

this analysis, universal categorical judgments need not have existential import. From this Bradley concludes that universal categorical judgments have the logical form of conditionals. This completes the first part of his argument for (2). Bradley has shown that categorical judgments of one important class have the logical form of conditionals.

III

The remainder of the argument, which concerns singular categoricals, is not nearly so congenial or straightforward. As mentioned, it has two parts. In the first, Bradley roughly divides singular categoricals into three kinds and argues that judgments of each kind must predicate their contents of reality as it is given.[11] This offers a further specification of the way in which judgments demonstratively refer their contents to reality as it is given. The first group comprises what Bradley calls "analytic judgments of sense." Bradley borrows this terminology from Sigwart rather than from Kant.[12] As he acknowledges, he is not using "analytic" in its familiar, Kantian sense. Analytic judgments of sense "make an assertion about that which I now perceive, or feel, or about some portion of it" (PL 49). "I have a toothache," "There is a wolf," and "That bough is broken" all count as analytic judgments of sense. They literally analyze what is given in sense at the time that it is given, hence the name.

Bradley contrasts analytic judgments of sense with what he calls "synthetic judgments of sense." Here again, "synthetic" is Sigwart's terminology, not Kant's. A synthetic judgment of sense states "either some fact of time or space, or again some quality of the matter given, which I do not here and now directly perceive" (PL 49). "This road leads to London," "Yesterday it rained," and "Tomorrow there will be a full moon" all count as synthetic judgments of sense (PL 49). They are synthetic because they connect or synthesize what is now given with something that was or may be but is not now given.

Bradley is primarily concerned with analytic and synthetic judgments of sense. He does, however, identify a third, unnamed group of singular categoricals. These are judgments that refer to something that is never given as a sensible event in time at all. This class includes judgments about history where the subject could not be given at any set of moments in time, as well as judgments about nonphenomenal things. Bradley gives no examples of historical judgments from this class. Bosanquet suggests that judgments like "Athens was extinct as a political power after the fourth century B.C." and "The Hellenic race approached without attaining a

complete national unity" might be what Bradley has in mind (Bosanquet 1968a, 13). Of more concern to Bradley are the nonphenomenal judgments, which this class of judgments also contains. "God is a spirit" and "The soul is a substance" are his examples of these (PL 49). Bradley says he has doubts about whether nonphenomenal judgments are ever true or significant, but he thinks their existence needs to be at least recognized. Because they are metaphysical judgments, however, he declines to discuss them in any detail in *The Principles of Logic*.[13]

Having roughly demarcated his three classes of singular categoricals, Bradley proceeds to the first part of his analysis by explaining how they may be construed as predicating something directly of reality as it is given. In this part of the chapter he is taking these judgments, as he later says, "in the character which they claim for themselves" (PL 106). By this he means that his analysis here is only a preliminary one. In the last part of the chapter he will argue that, contrary to "the character which they claim for themselves," these judgments are conditionals.

Explaining how singular categorical judgments predicate their contents directly of reality as it is given is not a significant problem with analytic judgments of sense. Consider an analytic judgment of sense like "This bird is yellow" judged in the presence of a yellow bird (PL 58). Bradley has already argued that all judgments predicate their contents of reality as it is given. Because judgers have direct, cognitive access to reality and to nothing else, and because the contents of an analytic judgment of sense purport to describe it, there is no problem about ascribing their contents to it. Judgments must predicate their contents of something, and there is nothing else but the given to which to direct them. What is interesting about his discussion is that he attempts to explain how his analysis fits a wide range of judgments, including those expressed in one-word sentences, such as the cries of "Wolf," and "Fire." This is one of the places where he breaks with the logical tradition that considered judgments to be expressible always as premises of syllogisms. By taking English sentences as the verbal counterparts of judgments, Bradley greatly extends the data and the range of logical theory.

Synthetic judgments of sense are much more problematic. Bradley needs to explain how these judgments, which by definition transcend what is given, can still predicate their contents of reality as it is given. Consider, for example, the synthetic judgment of sense "Tomorrow there will be full moon" (PL 49). This is a judgment of sense because it is concerned with what is or will be given in sensible experience, and it is synthetic because its contents do not describe what is given to the judger at

the moment the judgment is made. In this case the judgment is ostensibly about something not temporally present to the judger. Bradley's problem is to explain how judgments like these predicate their contents of reality as it is now given.

His solution is that "events past and future, and all things not perceived, exist *for us* only as ideal constructions connected, by an inference through identity of quality, with the real that appears in present perception" (PL 75). In other words, judgments about things not spatially or temporally present to a person making a judgment refer to reality by being connected with what is present to the judger. They are connected by means of an inference involving identity, the result of which Bradley calls an "ideal construction."

Bradley explains this schematically in Chapter II of *The Principles of Logic*, reserving until later a fuller explanation of inference. Suppose, he says, the "this," the given,

> contains a complex of detail, either times or spaces (or both) in series, which we may call *c. d. e. f.* The idea, on its side, contains a series of particulars *a. b. c. d.* The identity of *c. d.* in each extends the perception of *c. d. e. f.* by the ideal spaces or times *a. b.*, and the whole is given by synthetical construction as a single fact *a. b. c. d. e. f.* The whole series now is referred to the real, and by the connection with unique presentation, has become a series of events or spaces, itself unique and the same as no other series in the world. (PL 73)

What Bradley is imagining in this case is a judger confronted with a series of either spatial or temporal appearances. These are the elements *c. d. e. f.* They represent reality as it is immediately given to the judger.[14] In addition, the judger is aware of a series of ideas that Bradley represents as the elements *a. b. c. d.* I take these ideas to form the explicit content of the synthetic judgment of sense that is somehow to be connected with reality as it is given. The judger then assumes that there is an overlap between the two series – that is, the judger assumes that the elements *c. d.* in the two series are qualitatively and numerically identical.[15] Because the elements *c.* and *d.* are connected with *a.* and *b.* in the series of ideal elements and with *e.* and *f.* in the series of given appearances, the judger infers that *a.* and *b.* are connected with *e.* and *f.* This inference connects all of the elements in both series (i.e., it forms the series *a. b. c. d. e. f.*). This series is what Bradley refers to as the ideal construction. It combines the ideal content of the synthetic judgment of sense with what is given and so allows a judger to refer ideas of things not spatially and temporally present to the judger to reality as it is presently given (PL 72–3).

Bradley has the same basic problem in a more extreme form with his third class of singular judgments. Because some of these judgments do not refer to events that are sensibly given at any particular time, it is difficult to see how they can be predicated of reality as it is given. Bradley's explanation of this is very brief. He says, "Our ideas are here identified with the real that we find in perception, but they do not attach themselves to any one part of the phenomenal series" (PL 79). Presumably what he means is that judgments of this unnamed third type ideally construct the phenomenal series of past and future events by connecting ideas of them to what is presently given to the judger. This construction requires the sort of inference involving identity present in synthetic judgments of sense. The judger then attaches an idea to reality as it appears in this series and thereby makes a judgment of this third, unnamed type. Rather than explain this, however, Bradley chooses to question the significance of this class of judgments and then leave it altogether. As he puts it,

> It may be said, of course, that such judgments are illusory. But, as we saw, that conclusion, if true, could only be established by a metaphysical enquiry we have no place for. (PL 79–80)

With this, Bradley claims to have shown how all singular categoricals refer to reality as it is given. This completes the first part of his treatment of singular categoricals.

IV

After a digression into universal categorical judgments, Bradley returns to singular categoricals in the final section of Chapter II to complete his argument. This final part of the argument is an attempt to show that in order to be true, singular categoricals must attribute their contents to reality *indirectly* or conditionally. Like universal categoricals, they must attribute the ground of the connection between antecedent and consequent to reality. To demonstrate this, Bradley argues the case only for analytic judgments of sense. This is because his account of synthetic judgments of sense and of the third kind of singular categorical judgments requires treating both as inferences, one premise of which is an analytic judgment of sense. This is sufficient to show that synthetic judgments of sense and judgments of the third kind are conditional. Consequently, what he tries to show is that like universal categorical judgments, analytic judgments of sense have the logical form of conditionals.

His argument is a *reductio*. If one assumes that analytic judgments of sense are singular categoricals, then Bradley claims that the following argument is sound:

(4) Analytic judgments of sense are singular categorical judgments.
(5) If a judgment is true, then it corresponds with a fact.
(6) Singular categorical judgments of sense abstract from fact.
(7) Judgments that abstract from fact do not correspond with any fact.
Therefore, (8) Singular categorical judgments are false (from 5, 6, and 7).
Therefore, (9) Analytic judgments of sense are false (from 4 and 8).

Until the final chapter of *The Principles of Logic*, Bradley assumes that truth is correspondence with fact. So in this argument he accepts (5) as true. Because he thinks the conclusion of this argument is false and that premises (6), (7), and (8) are true, he rejects his initial supposition (4), that analytic judgments of sense are singular categorical judgments.

Although the exact meaning of some of Bradley's premises is unclear, his argument looks both valid and, even apart from (4), unsound. While (5) and (6) seem plausible, (7) does not. There is no obvious reason why judgments that abstract from fact should fail to correspond with fact. However, once the unusual meaning Bradley gives to the term "correspond" is taken into account, (7) is less problematic than it appears. It is, rather, (5) that is the controversial premise.

Premise (5) contains two crucial terms, "corresponds" and "fact." As previously mentioned, Bradley seldom uses the word "correspond." Throughout most of *The Principles of Logic*, however, he assumes that a true judgment stands in a definite relation to a fact and that it is in virtue of this relation that the judgment is true. True judgments, he assumes, faithfully "copy" facts. This idea plays a crucial role in the present argument. In the course of the argument Bradley makes claims like this:

> There are more ways than one of saying the thing that is not true. It is not always necessary to go beyond the facts. It is often more than enough to come short of them. And it is precisely this coming short of the fact, and stating a part as if it were the whole, which makes the falseness of the analytic judgment. (PL 93–4)

The point here is that judgments are false unless they state the facts exactly, neither adding to them nor subtracting from them. This concern is present elsewhere in Bradley's work as well (e.g., ETR 225). What emerges from passages like these is that judgments are true if and only if they stand in a one-to-one relationship with the facts, so that each distinguishable

element of the idea forming the content of judgment represents some element in the fact to which the judgment refers.[16] This is what false judgments fail to have that is responsible for their falsity. For convenience I have called this relationship to fact "correspondence."

The second crucial term in (5), "fact," is what makes (5) so controversial, for Bradley uses "fact" here as a name for the given.[17] In his words, "The fact, which is given us, is the total complex of qualities and relations which appear to sense" (PL 94). As some of his other remarks indicate, Bradley does not think that the given is relational. Although he sometimes describes it in relational terms, he is usually careful to qualify such descriptions.[18] He does not think that what is given to sense is composed of discrete elements but rather that it is a continuum of feeling. Instead of describing it atomistically, he says that it is "a continuous mass of perception and feeling" (PL 95), a "sort of confusion" or "nebula" in which various aspects are blended into a whole (AR 419). Furthermore, he claims that this whole is a felt unity that contains diversity without relations (e.g., AR 140–1). This sounds either deliberately paradoxical or hopelessly confused. In fact, Bradley is merely using terminology congenial to some nineteenth-century psychologists according to whom a relation is experienced only when its terms are clearly discriminated.[19] So by describing the given as containing diversity without relations, Bradley is saying that one is aware of differences in immediate experience without having discriminated and compared different things. Bradley calls immediate experience, so understood, "fact."

The meanings Bradley attaches to the words "correspond" and "fact" indicate why (5) rather than (7) is the controversial premise in his argument, for (5) says that a judgment is true if and only if its discriminable elements stand in a one-to-one relation with the discriminable elements in the given. Because virtually no judgments stand in such a relation with any likely candidate for the given, (5) seems to require virtually all judgments to be false. Because this seems paradoxical, it is difficult to see why Bradley accepted it. Yet his reasons for accepting it are what make his argument interesting rather than merely bizarre.

Because Bradley provisionally accepts correspondence as the nature of truth in most of *The Principles of Logic*, his defense of (5) is a defense of his interpretation of correspondence. It is a best-explanation defense. He claims that the only other account, the account consistent with the philosophy of "the school of experience," faces serious problems that his account avoids.[20] This is what he tries to establish in his defense of (5).

As Bradley understands it, the only account consistent with the "philosophy of experience" (his name for the philosophy of the school of experience) depends on the claim that distinctions in thought indicate differences in reality. This, of course, is one way to put Hume's claim that things that are distinguishable in thought are really different.[21] What makes this claim important in this context is that if it is true, then there is no reason at all to require the relation of correspondence to hold between a judgment and the whole of the given. It is sufficient for the truth of a judgment for it to correspond to something distinguishable in what is given. This, in effect, is what the school of experience requires. On its account, judgments are true if they correspond with distinguishable things.

To understand Bradley's response to this position, it is useful to put the position into a slightly different focus. To accept the position of the school of experience is to accept the validity of the inference form Bradley calls abstraction. This is his description of it:

> We start here with a given whole *abcd*; we operate on this by the neglect of or by the removal of *bc*, and *ad* is left; and we then predicate this *ad* of the reality. The real was *abcd*, and in consequence of our action we now know it is *ad*. (PL 411)

As Bradley sees it, analytic judgments of sense involve this inferential pattern. They assume the presence of a "given whole," eliminate elements from this whole, and then predicate the remainder of reality. For example, on the basis of a given mass of detail that contains something looking both yellow and birdlike, I eliminate the other details and assert the judgment "This bird is yellow." Bradley claims that this is an inference and that inferences like this are not valid. Things that look yellow are yellow only under certain conditions. These usually include standard lighting conditions, a properly functioning optical apparatus on the part of the observer, and so on. Inferences of this type also rely on some general principle which asserts that when these conditions obtain, what seems to be the case is the case. For the school of experience, the crucial general principle that needs to be invoked here is that things that are distinguishable in thought are really different. It follows that if things have been distinguished in thought, then they are separable, in which case abstraction is a valid inference form.

This does not satisfy Bradley. He rejects both the validity of abstraction and the claim that things which are distinguishable in thought are really different. This allows him to reject the claim that a true judgment need only correspond with distinguishable things. His rejection of these

claims, however, is roundabout. He attacks the psychological atomistic view of the given that the claim about distinguishability, and hence the alternative account of correspondence, presupposes.[22] According to the atomistic view, the given is composed of simple sensory qualities that exist independently of one another in the sense that no claim about one sensory quality entails anything about any other sensory quality. If sensory qualities are independent in this way, and if they are simple as any atomistic account will require, then two distinguishable sensory qualities will be different. An atomist view of the given thus supports the claim about distinguishability. This claim in turn makes it reasonable to suppose that true judgments need only correspond with distinguishable qualities given in immediate experience and not with the entirety of what is given. So in order to defend (5), Bradley needs to show that this view of correspondence rests on an incorrect view of the given.

Accordingly, Bradley sets out to undermine the atomistic account of the given. In doing so he relies on two arguments. The first is that reflection shows the given not to be atomistic but nebular (which as far as I can tell is just a vivid way of saying that it is not atomistic). Insofar as one can speak of such a nebula as having parts, and Bradley does so with apologies (CE 631–2), these parts are mutually dependent. They have the features they have in virtue of their connection with other parts. Bradley thus denies that the given is atomistic and hence concludes that there is no reason to believe that what is distinguishable is really different.

This explains Bradley's position but does not justify it. It is not clear that the nature of the given is a factual matter nor that its nature can be known through simple reflection. Bradley's lengthy attempt to show how immediate experience becomes an object of thought indicates his acceptance of this (ETR, 159–201). Furthermore, Bradley's account of the given depends on a claim that members of the school of experience would almost certainly reject, the claim that aspects of the given are mutually dependent. They would reject it for one of two reasons. Either they would claim that dependence is a relation and that relations are not given, but are rather the products of mental activity (cf. Locke 1975, 319–24), or they would claim that relations are given and that they are simple impressions that have independent existence. Either way, the school's reply to Bradley would be that his criticism presupposes an incorrect account of relations.

Bradley responds (and this is his second criticism) by attacking these alternative views of relations. His criticism is that the school of experience cannot explain the role of relations consistently with their view of the

given. According to the first alternative open to the school, no relations are given. But as Bradley points out, if this is so, then it is difficult to explain how what is given comes to be related. Even if one accepts the view that the given is composed of sensory qualities like reds, yellows, and oblongs, it also seems to be the case that some of the qualities are given at the same time. But if this is the case, then they are co-present and co-presence is a relation. So the first alternative fails and the school is driven to adopt the second. Some nineteenth-century empiricists like Huxley realized that this was so, and in fact this is the point made by Huxley in his defense of Hume. Bradley claims that realizing it is not enough and that the second alternative also fails. He does so using the regress argument I discussed in the previous chapter.

The school thus faces a dilemma. It has the choice of treating relations as independently existing impressions (i.e., as relations that are not themselves related to what they relate) or as impressions that are related to their terms. The first leads to an infinite regress, the regress that Bradley introduced his famous argument against relations to demonstrate. The second alternative requires giving up the claim that relations exist independently. This avoids the regress by admitting that some elements in the given are not atoms but molecules composed of terms related to relations. But the price of avoiding the problem this way is to abandon the claim that relations are added to experience by thought. Either way, the school of experience has failed to support the claim that everything which is mentally distinguishable is really different. If relations do not exist except when relating themselves to terms, then the terms and relations can be mentally distinguished without being really different (i.e., without independently existing). But if this is so, then the truth of a judgment is not guaranteed by its corresponding to distinguishable items in experience. As Bradley points out, these items may not be capable of independent existence, so corresponding with them will not constitute corresponding with fact. He concludes that the school has failed to provide an account of the given consistent with its view of correspondence.

From this Bradley infers that the only viable alternative to (5) fails and that as a consequence a true judgment must correspond to the entire given. On Bradley's part this amounts to a refusal to decontextualize any aspect of immediate experience. As he puts it in *Appearance and Reality*, "[I]f a thing is known to have a quality only under a certain condition, there is no process of reasoning from this which will justify the conclusion that the thing, if unconditioned, is yet the same" (AR 13). Abstraction, as he argues later in *The Principles of Logic*, is always vicious.

Given this view of (5), it is easy to see why Bradley accepts (6) and (7). Premise (6) says that singular categoricals abstract from fact. This seems obviously true in the sense that judgments about specific things are selective. They do not purport to describe the given completely but only specific aspects of it. In Bradley's vocabulary they are abstractive. Premise (7) likewise seems obviously true. Abstractive judgments, judgments that purport to be about selected aspects of the given, fail to correspond in any element-by-element way with the entire given. But if "correspondence" means standing in such a relationship, then (7) follows and is obviously true. Bradley has now given his reasons for thinking that all categorical judgments are false. Because by hypothesis analytic judgments of sense are categorical judgments, it follows as (8) asserts that they too are false.

This, of course, is a paradoxical conclusion. The paradox vanishes, however, if it is seen as a *reductio* on the attempt to treat analytic judgments of sense (and other so-called singular categoricals) as subject-predicate judgments. Bradley's point is that if such judgments are treated as subject-predicate judgments, then they are false. Because this consequence is absurd, it follows that they must have some other logical form.

Bradley claims that the form they have is that of conditionals. Subject-predicate judgments assert their contents directly and without qualification of reality. Bradley thinks his argument shows that analytic judgments of sense are not subject-predicate judgments, so they do not assert their contents directly of reality. But according to his definition of judgment, all judgments do assert their contents of reality. So he concludes that analytic judgments of sense assert their contents of reality subject to a qualification – that is, conditionally. They implicitly suppose that certain conditions obtain and, on the strength of this supposition, assert that something else is therefore the case. The implicit assumptions form the antecedents of the conditionals, while what is explicitly asserted forms their consequents. Consider, for example, a judgment like "This tree is green," judged in the presence of a green tree. On Bradley's analysis this judgment asserts that, given the conditions judged to be present by the judger at the time of the judging, it follows that the tree is green. By analyzing such judgments as conditional, Bradley is able to claim that they are about the whole of the given (PL 97–8). From this it follows that conditional judgments do not abstract from fact in the way that categorical judgments do, and this blocks a *reductio* of conditional judgments paralleling Bradley's *reductio* on categorical ones.

This analysis also has another consequence, one of some importance in Bradley's philosophy as a whole. It transforms so-called singular

categorical judgments into universal judgments. In the foregoing case, the judgment about the green tree fits any situation in which the given has the same constituents it had when the judgment was made. Thus the judgment is about any situation of this kind. As a result, it has the form of a universal conditional. It transcends any given fact and is about reality as a whole (PL 104).

Bradley has now completed his argument for (2), "All judgments are conditionals." He has argued that so-called universal categorical judgments are either lawlike and therefore conditional, or they are collective judgments and so reducible to a conjunction of singular categorical judgments. In the latter case, so-called universal categorical judgments are singular categorical judgments. But because singular categorical judgments either are or depend on analytic judgments of sense, and because Bradley claims to have shown that all analytic judgments of sense are universal conditionals, he concludes that all judgments are conditionals.

V

From (1), "All conditional judgments are abbreviated inferences," and (2), "All judgments are conditionals," Bradley infers (3), "All judgments are abbreviated inferences." He concludes, that is, that in the case of any judgment, that judgment is true if the inference it abbreviates is sound. This is the major conclusion of Chapter II of *The Principles of Logic*, and its consequences are enormous. Consider, for example, what is involved in determining the truth value of a judgment. Because all judgments are conditionals, and because conditionals are true if the inference they abbreviate is sound, determining the truth value of a judgment requires determining the soundness of the inference it abbreviates. To do this, one formulates the inference and then determines the truth values of the premises. But the premises are themselves conditionals and so true if and only if the inferences they abbreviate are sound. The process of determining the truth value of a judgment is thus endless. Bradley describes this situation using the analogy of a chain:

> We are fastened to a chain, and we wish to know if we are really secure. What ought we to do? Is it of much use to say, "This link we are tied to is certainly solid, and it is fast to the next, which seems very strong and holds firmly to the next; beyond this we cannot see more than a certain moderate distance, but, so far as we know, it all holds together?" The practical man would first of all ask, "Where can I find the last link of my chain? When I know that is fast, and not hung in the air, it is time enough to inspect the connection." But the chain is such that every

> link begets, as soon as we come to it, a new one; and, ascending in our search, at each remove we are still no nearer the last link of all, on which everything depends. . . . A last fact, a final link, is not merely a thing which we can not know, but a thing which could not possibly be real. Our chain by its nature cannot have a support. (PL 100)

Because it is an endless task to fill in all the details of the abbreviated inference, it is impossible to infer that the consequent obtains in fact. All that can justifiably be asserted is that the consequent would be true if certain conditions were to hold. Bradley expresses this by saying that judgments are not merely conditioned, but conditional. No judgment is finally secure. This is one source of his profound skepticism about the reliability of thought.

It is not, however, a complete skepticism, for even if the truth value of any judgment can never be finally determined, it does not follow that all judgments have the same cognitive value. Bradley thinks that even though all judgments are to some degree unreliable, some judgments are more reliable than others. These more reliable judgments he describes as "more true" (PL 104). This is not, however, a doctrine Bradley works out in *The Principles of Logic*.[23] Instead, he turns to the analysis of other forms of judgment.

5

A System of Judgments

In his *Critical Exposition of the Philosophy of Leibniz*, the first book he published after his conversion to realism, Bertrand Russell compared Leibniz's cosmological argument for the existence of God with an argument of Bradley's. This is what Russell said about Bradley:

> To maintain that there is no truth is self-contradictory, for if our contention were itself true, there would be truth. If, then, all truth consists in propositions about what exists, it is self-contradictory to maintain that nothing exists. Thus the existence of something is metaphysically necessary. This argument, which is set forth at length in Book I., Chaps. II.–IV. ["The Categorical and Hypothetical Forms of Judgment," "The Negative Judgment," and "The Disjunctive Judgment" respectively] of Mr Bradley's *Logic*, partakes of both the Ontological and Cosmological arguments. (Russell 1937a, 177)

As with many of Russell's comments on Bradley, this one is both insightful and misleading. One of Russell's insights is that the chapters he mentions are parts of a single argument rather than a series of separate ones. Bradley treats categorical, hypothetical, negative, and disjunctive judgments as elements in a "system" of judgments. Another insight is that this system has metaphysical implications, implications that Bradley mentions despite his professed desire, expressed through much of *The Principles of Logic*, to avoid metaphysics. A final insight is that if Bradley's analysis of these different forms of judgment is correct, then indeed something must exist. None of these insights has been particularly obvious to Bradley's frequently bewildered readers.

As so often, however, Russell's way of describing Bradley's argument is misleading. Although Bradley gives an argument something like this one in *Appearance and Reality* (AR 349–52, 454–6), he does not use it in *The*

Principles of Logic.[1] In particular, nowhere in *The Principles of Logic* does he assert the first premise of the argument. Furthermore, Bradley does not draw a metaphysical conclusion from his treatment of the different forms of judgment; he merely states a view that he says seems "metaphysically true" and that agrees with his logical results (PL 186). It is Hegel, not Bradley, whose treatment of disjunctive judgments leads to a metaphysical conclusion, namely, that thought is identical to reality, a conclusion he says he reaches by way of a version of the ontological argument. Russell's description of Bradley's argument assimilates it to part of Hegel's case for the identification of thought and reality.[2] By contrast, Bradley's conclusion in *The Principles of Logic* is that Hegel's identification of thought and reality is mistaken.

Bradley's aim in Chapters II, III, and IV, as well as in VII of *The Principles of Logic*, is to show that different forms of judgment are parts of a system. This means that the truth or falsity of individual judgments is always dependent on the truth or falsity of other judgments. Specifically, individual judgments are true only if the inferences they abbreviate are sound. Bradley argues for this in Chapter II by treating conditionals as abbreviated inferences. In Chapters III and IV he argues for a similar view of negative and disjunctive judgments by treating them as abbreviated inferences. Likewise, in Chapter VII, which forms the transition to his discussion of inference, he argues the same thesis about modal judgments and judgments of probability. He thus tries to show that all judgments depend for their truth and falsity on the soundness of the inferences they abbreviate. One consequence of this is that all judgments are ambiguous. Because any judgment can be interpreted as abbreviating many different inferences, some of which are sound and some of which are not, no judgments are absolutely true or false.[3] They are at most true or false to a degree.

In this chapter I will explain Bradley's argument for treating judgments other than categoricals and hypotheticals as abbreviated inferences. I will first explain why he thinks negative and disjunctive judgments are abbreviated inferences. He discusses these judgments in Chapters III and IV, and they are of fundamental importance in his system of logic. Next, I will discuss his treatment of modal judgments and judgments of probability, topics he addresses in Chapter VII. These are less central to his system of logic, and I will spend less time discussing them. I will conclude by commenting on the result of Bradley's examination of the different forms of judgment in Book I of *The Principles of Logic* and on how this naturally leads to a discussion of inference in Books II and III.

I

Bradley might try in several ways to show that negative judgments are abbreviated inferences. The easiest would probably be to extend his argument that conditionals are abbreviated inferences. He could do this by arguing that negative judgments are a species of categorical judgments. Because categorical judgments are conditionals and conditionals are abbreviated inferences, he could then conclude that negative judgments are also abbreviated inferences. Bradley accepts all the premises in this argument and could use them to reach his conclusion. But this is not what he does. Instead, he returns to his definition of judgment as "the act which refers an ideal content . . . to a reality beyond the act" (PL 10) and explains what ideal content negative judgments refer to reality. By doing this Bradley argues his case for negative judgments' being abbreviated inferences from a different point of view from the one he finally reached in arguing that all categorical judgments are abbreviated inferences.

Both his doctrine of degrees of truth and his treatment of categorical and hypothetical judgments in Chapter II illustrate these different points of view. Bradley concludes Chapter II by contrasting these two points of view. He mentions the first when he summarizes his conclusion that categorical judgments are conditionals by saying,

> If we consider *the ultimate truth* of assertions, then, so far as we have gone, the categorical judgment in its first crude form has entirely disappeared. The distinction between . . . categorical and hypothetical has been quite broken through. All judgments are categorical, for they all do affirm about the reality, and assert the existence of a quality in that. Again, all are hypothetical, for not one of them can ascribe to real existence its elements as such. (PL 106, my italics)

This is the account of conditionals discussed in the previous chapter of this book. Notice that Bradley describes this account as a view of "the ultimate truth of assertions." He mentions the second point of view by continuing,

> But, if we remain at *a lower point of view*, if we agree not to scrutinize the truth of judgments, and if we allow assertions as to particular fact to remain in the character which they claim for themselves, in that case our result will be somewhat different. Abstract judgments will all be hypothetical, but the judgments that analyze what is given in perception will all be categorical. (PL 106, my italics)

From this lower point of view some judgments, particularly analytic judgments of sense, are categorical. This point of view corresponds

to Bradley's initial discussion of categorical judgments in Chapter II (PL 56–80).

Even though Bradley distinguishes different points of view a number of times (e.g., PL 181–2, 663), he never explains how many points of view there are nor how they are related. In Chapter II he says that he is proceeding "from a level not much above that of common sense" (PL 44), but in the second edition note on this statement he admits that "in this work, with regard to 'reality,' neither the view of Common Sense (whatever that is) nor any other view has been kept to consistently" (PL 108n4). It seems to me that in fact he shifts between viewing judgments in terms of their ultimate truth and viewing them in the character they claim for themselves.

One example of this shift occurs in the transition between Bradley's discussion of categorical and conditional judgments in Chapter II and his discussion of negative judgments in Chapter III. In the last part of Chapter II he discusses judgments by considering their ultimate truth. Just two pages later (in the first edition), on the opening page of the chapter on negative judgments, Bradley without explanation proceeds from a lower point of view. He contrasts negative and affirmative judgments by saying, "In affirmative judgment we are able to attribute the content directly to the real itself" (PL 114), while in negative judgment this is not so. In saying this Bradley must be describing affirmative judgments from a lower, not an ultimate, point of view. So rather than extend the argument of Chapter II to negative judgments, Bradley sets out a different argument from a different level of analysis to show that negative judgments are abbreviated inferences.

By returning to his definition of judgment, Bradley raises the question of what ideal content negative judgments refer to reality. Here he faces a problem like the one he faced with conditionals. Neither the antecedent nor the consequent of a conditional needs to be true for the conditional to be true. Reality itself is not conditional, or so Bradley firmly believes, yet it is somehow responsible for conditional judgments' being true or false. The same sort of problem arises for negative judgments. As H. W. B. Joseph expresses it, "A negative judgment declares what [the real] is not, and how can this express it as it is?" (Joseph 1916, 171). This states Bradley's problem exactly. He thinks that reality is not negative, yet it is responsible for the truth or falsity of negative judgments. The problem is to explain how.[4]

Bradley's explanation is contained in his defense of two main theses in Chapter III:

(1) Negative judgments stand "at a different level of reflection" from affirmative judgments. (PL 114)
(2) Negative judgments presuppose "a positive ground." (PL 114)[5]

Properly speaking, his explanation is almost entirely contained in his defense of (2), but it is essential to understand his defense of (1) in order to see the point of (2). Both theses are very unfortunately complicated by the fact that Bradley explains them differently in the two editions of *The Principles of Logic*. This is mostly because he accepted the existence of floating ideas when he wrote the first edition. After Bosanquet convinced him that there are no floating ideas, he was forced to modify his first edition explanations of both (1) and (2), explanations that involved floating ideas.

The core of Bradley's defense of (1) in both editions rests on a distinction he draws between the levels of reflection he uses to characterize the difference between affirmative and negative judgments. Affirmative judgments, Bradley says, are on the lower level of reflection because they attribute their contents directly to reality as it is given. He illustrates this by means of an analytic judgment of sense, "The tree is green." The ideal content of this judgment, he says, fuses or coalesces with presented reality. I take this to mean that its ideal content is judged to be real. In other words, "The tree is green" asserts that it is a fact that the tree is green. A negative judgment, by contrast, is further removed from reality. Consider, for example, the judgment "The tree is not yellow." On Bradley's analysis this judgment does not assert that it is a fact that the tree is not yellow. If this were what it asserted, then there would be negative facts. What it asserts is rather that "The tree is yellow" is false (PL 122). It is about the ideal content of another actual or possible judgment rather than directly about reality. It is in this respect that it is at a level more removed from reality than the affirmative judgment "The tree is green."

Bradley describes this difference obscurely by saying, "The suggestion of the real as qualified and determined in a certain way, and the exclusion of that suggestion by its application to actual reality, is the proper essence of the negative judgment" (PL 114). The phrase "the suggestion of the real as qualified and determined in a certain way" is a description of the content of a judgment. In the judgment "The tree is not yellow," this content is "The tree is yellow." The judgment that "The tree is yellow," like other simple affirmative judgments, qualifies and determines the real by predicating its ideal contents of it. The negative judgment "The tree is not yellow" is a judgment about "The tree is yellow." It asserts that "The

tree is yellow" is false or, as Bradley puts it in the foregoing quotation, is excluded "by its application to actual reality." This is the meaning of (1).

Part of the cumbersomeness of Bradley's statement of his account of negative judgments is a result of the fact that in the first edition of *The Principles of Logic* he accepted the existence of floating ideas. This is why he uses the phrase "the suggestion of the real as qualified and determined in a certain way" to describe the content of a judgment. He wants to indicate that this content need not actually be judged true; it need only be something that might be judged true. It is, in other words, an unasserted or floating idea. Bradley emphasizes this when he says,

> What we deny [in negative judgments] is not the reference of the idea to actual fact. It is the mere idea of the fact, as so qualified, which negation excludes; it repels the suggested synthesis, not the real judgment. (PL 115–16)

The words "the reference of the idea to actual fact" in the first sentence of this quotation describe affirmative judgments. This sentence says what negative judgments are not: They are not denials of explicit affirmative judgments. The second sentence says what they are: They are denials of suggested judgments, not of real judgments.

Although this first edition account of negative judgments allowed Bradley both to defend (2) and to argue that negative judgments are abbreviated inferences, he did not remain content with it. After becoming convinced that there are no unasserted or floating ideas, he abandoned the claim that what is denied in a negative judgment is an ideal content that is merely "suggested." All ideal contents, he came to believe, must be asserted. The problem this poses is that many negative judgments do not seem to deny actual judgments. If I judge that the tree is not yellow, I need not have previously judged that it was yellow. Judgment, as Bradley says, implies belief, and I need not ever have believed what I now deny (PL 115). Bradley meets this difficulty by a further modification of his position. He no longer treats reality, the subject of all judgments, as an undifferentiated whole.[6]

Differentiating reality allows Bradley to distinguish between the whole of reality that forms the subject of all judgments and the special realities that form the explicit subjects of judgments (e.g., PL 625).[7] Bradley does not give instructions for identifying the special subjects. His remarks in *Essays on Truth and Reality*, however, suggest that in most cases they will be the subjects of judgments in the ordinary sense of the term "judgment," "where we have a distinct predicate and subject taken one as applied to the other . . ." (ETR 32).[8] By differentiating the subjects of a judgment,

Bradley can now say that what he previously called "the suggested synthesis" is asserted and so is not a floating idea after all. But this idea need not be asserted of the differentiated portion of reality that is the special subject of the negative judgment. Thus I need not have judged of a particular tree that it is yellow in order to judge that it is not yellow. But Bradley thinks that I do have to have at least implicitly judged that some tree is yellow. I have to have done this because "This tree is yellow" must be meaningful in order for me to deny it. But because there are no floating ideas, it is meaningful for me only if I have at least implicitly asserted it. So in the judgment "The tree is not yellow," the suggestion that the tree is yellow is asserted. But it is not asserted of the special reality that forms the explicit subject of the judgment. Consequently, it seems reasonable to say that the special reality in "The tree is not yellow" is the tree.[9] This judgment now has two subjects. It asserts that its contents are true both of reality as a whole, but also, more particularly, of a specific portion of reality, this tree. Denying that reality as the subject of all judgment is an undifferentiated whole thus enables Bradley to retain his commitment to (1) and his belief that I can deny contents I have never affirmed, while abandoning his belief in floating ideas.

Bradley's second thesis about negative judgments is that (2), they presuppose "a positive ground" (PL 114). His meaning is best explained by reference to thesis (1). According to (1) a negative judgment asserts that another judgment is false.[10] Schematically, "~p" asserts that "p" is false. Reality thus determines the truth of a negative judgment by determining the falsity of the judgment it denies. The quality of reality that determines the falsity of "p" is what Bradley describes as "the positive ground" of "~p." This is his solution to the problem of how a reality that is not negative can determine the truth of negative judgments.

This solution raises the obvious question "What quality determines the falsity of 'p'?" Bradley answers by saying,

> Every negation must have a ground, and this ground is positive. It is that quality *x* in the subject which is incompatible with the suggested idea. A is not B because A is such that, if it were B, it would cease to be itself. . . . And we can not deny B without affirming in A the pre-existence of this discrepant quality. (PL 117)

An example will perhaps be helpful. If "the tree" replaces "A" and "yellow" replaces "B," then "A is not B" becomes "The tree is not yellow." Suppose that this judgment is said of a particular tree and that it is true. Then the tree has some quality, call it "*x*," that precludes its being yellow. This quality *x*, which is not explicit in the judgment, is its positive ground.

By means of it a nonnegative reality determines the truth of a negative judgment.

But it does so only if "The tree is not yellow" affirms that the tree has *x*. It rests, that is to say, on the assertion that the tree has a quality *x* that is incompatible with its being yellow. Bradley makes this quite clear. "The basis of negation," he says, "is really the assertion of *a quality that excludes* [i.e.,] (*x*)" (PL 116–17). Bradley adds this because it is in virtue of making an assertion that a judgment is true or false. For "The tree is not yellow" to be true, it must be an assertion. What it asserts, Bradley thinks, is that the tree has an otherwise unspecified quality *x* that makes "The tree is yellow" false. Because many qualities could stand in for *x*, Bradley concludes that negative judgments rest "on an undetermined contrary" (PL 124). Not all negative judgments are as simple as "The tree is not yellow," but Bradley maintains that (2) holds for all of them.

Bradley thinks that (1) and (2) are sufficient to show that negative judgments are inferences, but his first edition explanation of why they are is very brief. He merely describes logical negation as an inference using terms strikingly similar to those he used to describe the supposal made in a conditional. Logical negation, he says, is a process that "takes place in the unsubstantial region of ideal experiment" (PL 120). That is, "~p" is asserted on the basis of a thought experiment. The experiment consists in assuming that "p" is true. One attributes the ideal content of "p" to reality (or, according to the account in the second edition, the special reality that is the subject of "~p") with a view to determining whether reality will accept it. The experiment reveals that reality will not accept the ideal content of "p." It has some undetermined quality that is incompatible with it. The experiment thus provides a ground for asserting "~p."

This description conforms to Bradley's account of the elements of an inference. He writes,

> Every inference combines two elements; it is in the first place a process, and in the second place a result. The process is an operation of synthesis; it takes its *data* and by ideal construction combines them into a whole. The result is the perception of a new relation in that unity. (PL 256)[11]

In negative judgments the process is the ideal experiment of attributing an ideal content of the form "p" to reality. The ideal content is the datum, and combining it with reality is an operation of synthesis. The result is the perception of a new relation, namely, the relation of incompatibility between an undetermined quality of reality and the ideal content of "p."

So Bradley's description of the process of logical negation shows negative judgments to be abbreviated inferences.

Bradley never explicitly says what the form of these inferences is. But what he thinks it is becomes apparent in "Terminal Essay VI," "The Negative Judgment," and in the notes added in the second edition. The most revealing passage occurs in "Terminal Essay VI" where he summarizes his revised view of negative judgments. He begins by distinguishing between reality as the subject of all judgments and the special realities that are the explicit subjects of judgments. Next, he points out that selecting the special reality involves distinguishing it from something else. In doing so he refers to the special reality as "this" and what it is distinguished from as "that." Then he says,

> Hence, in asserting "this," you in effect deny that it is "that," and you thus affirm a universe in which there are two differences, each one of which, you find, excludes the other. Thus every judgment is in essence, though not explicitly, both negative and disjunctive. And disjunction within a whole is the one way in and by which in the end negation becomes intelligible. (PL 662)

The key to his view of the form of inference a negative judgment abbreviates is found in the last sentence. Negation, he says, depends on disjunction. This claim, taken with his account of the positive ground of a negative judgment, indicates the form of inference negative judgments abbreviate. They abbreviate an inference of the form *modus ponendo tollens*:

A is b or c.
A is b.
Therefore, A is not c.[12]

To see this, let "the tree" replace "A" and "yellow" replace "c" in Bradley's *modus ponendo tollens* inference schema. Then the conclusion of the inference is the judgment "The tree is not yellow." Let "b" represent the undetermined quality *x* of the tree that is incompatible with its being yellow. The resulting inference now is:

The tree is *x* or yellow.
The tree is *x*.
Therefore, the tree is not yellow.

If the word "or" in the first premise is interpreted exclusively, then the first premise expresses the incompatibility of *x* and yellow. The second premise expresses the ground of the negative judgment, the fact that the tree has an undetermined quality incompatible with its being yellow.

From this it follows that the tree is not yellow. In this way negative judgments abbreviate inferences of the form *modus ponendo tollens*. This is how Bradley incorporates negative judgments into his system of logic, a system in which the truth-conditions of judgments are determined by the inferences they abbreviate. But it is not the end of the story. To defend this account, Bradley needs to defend the validity of *modus ponendo tollens*, and this requires him to defend an exclusive interpretation of disjunction. This is one of his goals in Chapter IV.

II

Despite the fact that Bradley's accounts of negative and disjunctive judgments are closely related, the latter is much less accessible. It seems unnecessarily complex, the arguments for it are unusually intricate, and Bradley's insistence on adopting the exclusive interpretation of "or" is puzzling. As elsewhere, the notes added in the second edition of *The Principles of Logic* compound the difficulties. In discussing it I will concentrate on two issues: first, why Bradley thinks that disjunctive judgments abbreviate inferences and, second, why he interprets "or" exclusively.

A convenient starting point for Bradley's explanation of why disjunctive judgments abbreviate inferences is his summary statement of "the essence of disjunctive judgment":

> It first takes a predicate known within limits, and defined by exclusion, and then further defines it by hypothetical exclusion. It rests on the assumption that we have the whole field, and that by removing parts can determine the residue. It supposes in short a kind of omniscience. Its assertion again, if not quite categorical, is certainly not quite hypothetical. It involves both these elements. And it implies, in addition, a process of inference which will give us cause for reflection in the future. (PL 137)

An initial problem is that the point of view from which this analysis proceeds is unclear. This problem arises in part because Bradley uses "A is *b* or *c*" as a schema for disjunctive judgments.[13] In explaining this schema he says that "A" represents the ultimate subject of a disjunctive judgment. In conformity with his claim that reality is the ultimate or logical subject of all judgments, "A" must represent reality. However, in his examples illustrating the schema, "A" represents the grammatical subject of the judgment instead. It is as if his analysis proceeds at two different levels simultaneously. This difficulty can be avoided by treating "A" as representing the special reality that is present as a subject in every judgment. Bradley introduces the special reality only in the second edition of *The*

Principles of Logic, but it is needed in both editions to render his theory consistent with his illustrations of it.[14] By interpreting "A" in Bradley's schema as referring to this special reality, I will be treating his account of disjunctive judgments from a point of view somewhere between those he distinguishes in Chapter II in the first edition of *The Principles of Logic*.

Bradley develops his account of disjunctive judgments, in effect, by explaining how his definition of judgment accommodates them. Like other judgments, disjunctive judgments assert an ideal content of reality, and it is in virtue of this that they are true or false. This content is not, Bradley says, that "A is *b* or *c*" is a fact. "How in the world," he asks, "can a *fact* exist as that strange ambiguity '*b* or *c*?'" (PL 46–7). Without further argument, he rejects the view that it does. He replaces it with his own view, which has two parts. First, he claims that the content of a disjunctive judgment is that A exists and has a quality *x* that is shared by both *b* and *c*. That is, "A is *b* or *c*" asserts that A has a quality *x* shared by both *b* and *c* and not by anything that is neither of them. To use Bradley's example, "That man is a fool or a rogue"[15] asserts that A has a quality common to both rogues and fools and not to anything else. Further specification of the quality *x* is left open. It is in virtue of being specified as common to nothing other than rogues and fools that Bradley describes the quality *x* as "defined by exclusion." This is the quality Bradley describes when he says that disjunction "first takes a predicate known within limits and defined by exclusion . . ." (PL 137). He refers to it as "the ground" of the disjunction.

Second, Bradley claims that disjunctive judgments further specify the quality *x* "by hypothetical exclusion." To put this schematically, "A is *b* or *c*" specifies that as a result of having the quality *x*, *b* or *c* must qualify A, where "or" is interpreted exclusively. By asserting that *b* and *c* are the only possibilities, the judger is assuming a knowledge of all possible specifications of the quality *x*, and this is what Bradley means by saying that disjunctive judgments assume omniscience. Bradley further expresses the fact that *b* and *c* are the only possibilities by saying that a disjunctive judgment erects hypotheses on its ground. These hypotheses are pairs of conditional judgments. In other words, "A is *b* or *c*" asserts "(i) If A is *b* it is not *c*, and If A is *c* it is not *b*, (ii) If A is not *b* then it is *c*, and If A is not *c* then it must be *b*" (PL 136). This is what he means by saying that the ground of a disjunction is further specified by hypothetical exclusion.

This closely parallels Bradley's treatment of conditionals. On his theory they assert that a dispositional quality holds of reality, a quality in virtue of which universal lawlike conditionals hold. In virtue of making an assertion about reality, conditional judgments are categorical as well

as conditional. They are conditional or hypothetical because they do not assert either their antecedents or their consequents. Similarly, disjunctive judgments categorically assert that an unknown quality *x* holds of reality. Because *x* is further defined by two pairs of conditionals, it must be the quality in virtue of which they hold of reality. It must, that is, be a dispositional quality. Because the relation between the disjuncts is hypothetically defined and because neither the antecedents nor the consequents of the hypothetical judgments defining them are asserted, disjunctive judgments are also conditionals. This is why Bradley describes them as a "union of hypotheticals on a categoric basis" (PL 131). They assert the conjunction of two pairs of conditionals that are asserted to hold in virtue of the same unknown quality *x* that characterizes reality.[16] Because each of these conditionals is an abbreviated inference, all disjunctive judgments are abbreviated inferences as well.[17]

This explains why Bradley thinks that disjunctive judgments are abbreviated inferences, but it presupposes rather than explains his interpretation of "or" as exclusive. His reasons for interpreting "or" exclusively are difficult to understand, especially in view of recent arguments against the existence of an exclusive "or" in English (Barrett and Stenner 1971; Jennings 1994, 43–70). Bradley gives two explicit reasons for adopting this interpretation, neither of which is conclusive.[18] I take his real reason for defending this interpretation to be that it accords with his view of the organization of knowledge.

A preliminary clarification is necessary before proceeding to Bradley's arguments. He is not arguing that "or" is to be interpreted as an exclusive, truth-functional, propositional connective. As truth-functional connectives, inclusive disjunction and exclusive disjunction are binary, defined for two disjuncts. Punctuation is necessary in cases where there are three or more disjuncts, although in practice this is often ignored because both forms of disjunction are associative. But in cases of more than two disjuncts, a truth-functional exclusive disjunction will be true whenever there is an odd number of true disjuncts (Jennings 1994, 52–3). This is not Bradley's view of the conditions under which disjunctive judgments are true. He thinks a disjunctive judgment is true if and only if one of the disjuncts is true and all of the others are false. So his exclusive "or" is not the familiar truth functional connective. Only in the absence of a suitable alternative description will I continue to say that Bradley interprets "or" exclusively.

Bradley's first reason for interpreting "or" exclusively is inconclusive. "Or," he says, stands for choice between alternatives (which need not be

limited to two). To make a choice is to accept one alternative while rejecting the others. Choice, in other words, is exclusive. Because "or" stands for choice, it is likewise exclusive (PL 137–8n1; 139n8). One problem with this argument is that "or" does not seem to stand for choice. The idea that individual words acquire meaning by denoting items in experience is one that Bradley's holism undermines. As a result, this argument fails to establish its conclusion.

Bradley's second reason is that the alternatives in a disjunctive judgment are incompatible. This is clearly the case in some disjunctive judgments, but obviously not the case in all of them. To defend this claim he tries to show that the cases in which the alternatives are compatible are in some way problematic. As he puts it, "in every instance that can be produced, we have either a loose mode of common speech, or else the "or" denotes incompatibility . . ." (PL 135). An example will illustrate Bradley's procedure. Consider the sentence "That man is a fool or a rogue."[19] Bradley admits that the man referred to in this sentence could be both a fool and a rogue and that the sentence, as normally understood, does not exclude this possibility. He admits, that is, that in this case the alternatives are compatible. But this mode of speech, he continues, represents "a slovenly [habit] of expression" (PL 131). He explains why by treating the sentence as part of an inadequate explanation of the man's behavior. Suppose I am trying to explain the man's conduct and I assume that he is either a fool or a rogue. Then, says Bradley, if I subsequently convince myself that he is a rogue, I may conclude that his conduct is deliberately selfish (PL 132). If, however, he is a rogue *and* a fool, it may be that his conduct is better explained by his foolishness. I have been led into error by not considering the fact that being both is a third alternative and that it is different from the other two. My error, in other words, consists in not considering all the possible alternatives. Had I done so, I would have recognized that the disjuncts were exclusive. So by expressing my judgment using compatible disjuncts, I have been speaking loosely (PL 131–2). "It is not," Bradley concludes by saying,

> worth while to multiply illustrations. In every instance that can be produced, we have either a loose mode of common speech, or else the "or" denotes incompatibility, whether that lie in the simultaneous use of alternative names or in the facts themselves. (PL 135)

The problem with this argument is that there is an alternative explanation of why convincing myself that the man is a rogue may lead me to conclude that his behavior is deliberately selfish. It is that I have mistakenly

interpreted "or" exclusively. Moreover, it is only on this interpretation of "or" that I am entitled to conclude that because the man is a rogue he is not a fool and to explain his behavior in terms of his selfishness. Bradley's argument thus begs the question.

Although inconclusive, this argument hints at what seems to me to be Bradley's real reason for interpreting "or" exclusively. In explaining a case cited by Jevons (in favor of interpreting "or" inclusively), Bradley says, "I confess I should despair of human language, if such distinctions as separate 'and' from 'or' could be broken down" (PL 134). This seems to me to indicate his real reason for interpreting "or" exclusively. He thinks that interpreting "or" inclusively blurs a crucial logical distinction, namely, the one between conjunction and exclusive disjunction. The problem is to determine why this distinction is crucial.

My suggestion is that Bradley thinks that "and" and "or" are essential relations in the system of thought that yields knowledge of objects. The idea that thought forms a system was widespread in the nineteenth century and by no means confined to idealists. Here, for example, is Jevons's statement of it:

> General terms arise . . . from classifying or mentally uniting together all objects which agree in certain qualities. . . . In forming such classes or general notions, we overlook or abstract the points of difference which exist between the objects joined together, and fix our attention only on the points of agreement. But every process of thought may be said to have its inverse process, which consists in undoing the effects of the direct process. Just as division undoes multiplication, and evolution undoes involution, so we have a process which undoes generalization, or the operation of forming general notions. This inverse process will consist in distinguishing the separate objects or minor classes which are the constituent parts of any wider class. (Jevons 1958, 66)

Jevons then identifies the relation that undoes generalization as the alternative or disjunctive relation.

Now it is certainly not necessary to regard this relation as exclusive (Jevons himself did not),[20] but it is necessary given a certain conception of knowledge, one typical of nineteenth-century idealists. It was set forth by Kant in his account of reason. For Kant, the function of the faculty of reason is to organize knowledge by finding a priori principles from which all empirical knowledge may be inferred. Each of these principles provides a different way of conceptualizing the absolute ground of knowledge that Kant called "the unconditioned." Because Kant thinks that only three forms of inference (categorical, hypothetical, and disjunctive syllogisms, respectively) exist, he pairs a distinct conceptualization of

the unconditioned with each form. In the case of disjunctive syllogisms, Kant calls the conceptualization of the unconditioned an ideal of reason. He identifies this ideal with "*the sum-total of all possibilities*" (Kant 1929, A572/B600).

Kant explains the application of this principle as follows: Every possible thing, Kant says, is subject to the principle of complete determination. According to this principle, if all possible predicates are paired with their contradictory opposites, then one member of each pair must belong to each thing. Because the sum total of all possible predicates is not empirically given, this sum total is an idea of reason. This idea can be used to determine each individual thing by limiting it to one and only one predicate from each pair of contradictory predicates. Kant identifies this limitation with inferences from disjunctive syllogisms. He says,

> The complete determination of any and every thing rests on the limitation of this *total* reality, inasmuch as part of it is ascribed to the thing, and the rest is excluded – a procedure which is in agreement with the "either-or" of the disjunctive major premise and with the determination of the object, in the minor premise, through one of the members of the division. (Kant 1929, A577/B605)

The inferences Kant is describing here are *modus ponendo tollens* and *modus tollendo ponens*.[21] Kant accepts them as valid in his *Logic* (1992, 623–4) and uses them here to show how reason aspires to determine the nature of each thing. He thinks of disjunction in the way the Stoics may have – as a relation between incompatible predicates. The determination of an object by either one entails the exclusion of the other. This requires interpreting "or" exclusively in disjunctive judgments. Accordingly, this interpretation of "or" plays an essential role in Kant's idea of a system of knowledge.

For Kant, the systematic knowledge of particular things is only an ideal. It rests on an a priori concept, the sum total of all possibilities, which has no empirical application. Even if it did have an empirical application, it could not provide a knowledge of empirically given things. These things are appearances and as such are intuitively as well as conceptually determined. Only things-in-themselves could be entirely determined conceptually (1929, A263–4/B319–20).

Kant thinks that the proper use of reason is to organize into a system the knowledge provided by the understanding. But it also generates "natural and inevitable illusions." In the case of disjunctive reasoning, Kant associates these illusions with transcendental theology. He intricately argues that the sum total of all possibility is conceived as an individual object

that is regarded as the ground of all reality and personified as God. He then criticizes speculative attempts to prove the existence of such a being by arguing that there are only three ways of proving the existence of God and that all three are fallacious.

Hegel accepts Kant's account of the rational determination of individuals through disjunctive syllogisms but rejects Kant's claim that reason does so only in a regulative capacity. Reason as described in Hegel's *Logic* constitutes reality. Hegel's account of the determination of individuals by reason occurs in his discussion of the categories of traditional logic, categories he adapts to his ontological purposes. These categories, "the categories of the notion," are found in the third part of his *Logic*, "Subjective Logic." Hegel argues that they are necessary in order to render the previous set of categories, the categories of essence, coherent. In their full development the categories of essence conceptualize reality as a causal system of law-governed regularities between reciprocally interacting individuals. Hegel finds this defective because the categories of essence fail to explain why reality must manifest itself as a causal system of this kind. In order to provide an explanation, Hegel introduces the categories of the notion. By conceptualizing reality as thought, these categories explain why reality must manifest itself as a causal system of reciprocally interacting objects. Part of this explanation is provided by the categories of traditional logic. These categories, Hegel argues, must manifest themselves in the world of causally interacting individuals.

In this argument Hegel treats the kinds of terms, judgments, and inferences recognized by traditional logic as successive stages in the determination of reality by reason. Each stage removes a defect in the previous stage. The crucial and final stage is "The Disjunctive Syllogism." Like Kant, Hegel takes a disjunctive syllogism to be either of two argument forms, *modus ponendo tollens* and *modus tollendo ponens*. This requires him to interpret disjunction exclusively.[22] On his account the disjunctive premise of an inference *modus ponendo tollens* exhaustively divides the subject matter referred to by its subject term into exclusive and exhaustive categories. The second premise predicates one of these categories of the subject, and this entails the exclusion of the other as stated in the conclusion. In principle, this form of reasoning is capable of providing a complete determination of any particular thing. It thus is capable of beginning with the sum of all possibilities, eliminating half of them, and thereby completely determining any particular by the remainder. Because Hegel thinks that the difference between an abstract and a concrete thing lies

in the fact that concrete things are completely determined, this shows how, by starting with the sum of all possible predicates, reason limits that sum and so constitutes concrete or empirically real things. This, in fact, was what James Hutchinson Stirling called "the secret of Hegel." Hegel uses the category of the disjunctive syllogism to derive the category of objectivity from subjectivity. By treating this derivation as an example of the ontological argument, Hegel, like Kant, connects the sum of all possible things with God.[23] He thus treats individual things as determined by the real employment of reason.

Despite their disagreement about the proper employment of reason, Kant and Hegel both conceive of knowledge as a systematic unity organized by reason. Operating through the judgments and inferences recognized in traditional logic, reason either regulatively or objectively determines all objects completely. One of the important inferences it relies on to do so is *modus ponendo tollens*, the validity of which requires an exclusive interpretation of "or" in disjunctive judgments. As I have been arguing, Bradley's concern is to adjudicate the issue between the Kantian and the Hegelian conceptions of the rational determination of objects. Bradley accepts the idea, common to both, that reason organizes knowledge into a system that determines individuals. This acceptance is embedded in his accounts of negative and disjunctive judgments. He thinks that disjunctive judgments are true if they attribute to reality a pair of mutually exclusive predicates and if reality is further determined by one or the other. This further determination is by means of an inference *modus ponendo tollens*. The disjunctive premise exhaustively divides reality into mutually exclusive predicates. The second premise asserts that one of these predicates holds of reality by holding of the special subject of the judgment (which will usually be the grammatical subject). By so doing it provides a logical ground for the conclusion, which is a negative judgment. This account of negative judgments rests not merely on Bradley's exclusive interpretation of "or" in disjunctive judgments but also on an idealistic view of logical systems as determinative with respect to reality. This is why he says,

> Negation in short implies at its base a disjunction which is real, and its goal is to set before us reality as a *systematic and explicit totality of complementary differences.* (PL 666, my italics)

His account takes disjunctive judgments as providing a complete specification of reality, a kind of specification that requires interpreting "or" exclusively.

In this way disjunctive judgments provide a focus for Bradley's central concern of whether thought determines reality or merely the knowledge of reality. This is the issue on which Kant and Lotze disagreed with Hegel. For Kant, this determination is always incomplete and ideal. Thought, even embodied in reason, does not constitute reality. Lotze agreed. Hegel dissented, holding that by means of disjunctive syllogisms, thought constitutes reality. In Book I, "Judgment," Bradley is positioning himself to address this issue in Books II and III where he examines determination by reason – that is, inference.

III

Bradley abandons the discussion of forms of judgments in Chapters V and VI, turning to system-wide concerns. He discusses logical principles in Chapter V and a number of topics related to the quantity of judgments in Chapter VI. In Chapter VII he returns to analyzing different forms of judgment by discussing modal judgments and judgments of probability. His procedure with these forms of judgment is the same as it is with other forms. He tries to explain how they fit his definition of judgment. He does this by identifying the ideal content they predicate of reality. Because on his account they are species of conditional and disjunctive judgments, they are also abbreviated inferences. His reason for postponing discussion of them until Chapter VII seems to be that they almost explicitly involve reasoning (PL 236) and so form a natural transition to inference, the subject of the remaining two books of *The Principles of Logic*.

Bradley confines his consideration of modal judgments to the three alethic modalities: actuality, necessity, and possibility. Like Kant, he refers to them as "assertoric judgments," "apodictic judgments," and "problematic judgments." Because he represents their contents in each case as "S-P," they can be schematized as "It is true that S-P is actual," "It is true that S-P is necessary," and "It is true that S-P is possible." Putting matters this way indicates that his treatment of modality is at what Quine refers to as the first grade of modal involvement (1966, 156–7). Bradley treats modalities as predicates of the names of sentences and therefore as *de dicto*.

This metalinguistic schematization of modal judgments dovetails nicely with Bradley's metalinguistic treatment of conditionals because he treats modal judgments as conditionals. He begins his account with assertoric judgments. Of these he says,

> We have here in a veiled and hidden shape the distinction of categorical and hypothetical assertion. The possible and the necessary are special forms of the

hypothetical; and between the assertorical and the categorical there is no difference whatever. (PL 198)

Assertoric judgments, in other words, are simply categorical judgments. Consequently, at the ultimate level they are conditionals that predicate a quality indirectly of reality. They are abbreviated inferences in the same way that conditionals are. They raise no new issues and Bradley spends very little time discussing them (PL 199).

The analysis of problematic and apodictic judgments is not, however, so straightforward. This is in part because they are species of conditionals, but it is also because Bradley treats them in an entirely abstract and schematic way. He fails to give even a single example of how a problematic or apodictic judgment can be reduced to a conditional. Instead he operates throughout with either the judgment schema, "It is true that S-P is necessary (or possible)," or with a judgment introduced by the words "It must be so" and then elaborates his view of what these judgments involve. His strategy is to present his case for the reduction of apodictic judgments to hypothetical judgments first and then to modify it to fit problematic judgments.

Predictably, Bradley's discussion of apodictic judgments is more complex in the first edition of *The Principles of Logic*. Here he gives two arguments for the reduction of apodictic judgments to conditionals. The first is from principle while the second is from usage (PL 201). Taken by themselves, neither is satisfactory. The first depends on a hastily sketched account of the relation between judgments and fact. Bradley never clarifies this relationship in *The Principles of Logic*, and it emerges as a main issue in *Appearance and Reality*. In addition, the argument depends on the existence of floating ideas and so Bradley rejects it in a second edition note (237n9). The second argument assumes too much of Bradley's view to be independently convincing. So it seems best to regard Bradley's two arguments as collapsing into two considerations supporting his account of apodictic judgments.

The first consideration is Bradley's claim that "necessity carries with it the idea of mediation, of dependency . . ." (PL 199). Bradley illustrates this in his argument from usage. Suppose, for example, I am told that S is P. I am likely to accept such a statement at face value without further doubt. Now suppose I am told that S must be P. I may well wonder why S *must* be P. This illustrates the fact that apodictic judgments raise doubts in a way that assertoric judgments do not. They suggest a reason for their necessity that they do not provide. In this respect, Bradley says, they are dependent on something else.

The second consideration is that the dependence apodictic judgments suggest is not factual dependence. In Bradley's vocabulary it is ideal rather than real. Bradley illustrates this with the counterfactual judgment "If two were three, then four must be six." Contrary to what Bradley thinks, it does not seem to me that this judgment is true. However, this is not particularly important because there are true conditionals with impossible antecedents and consequents. (For example, "If negative numbers were greater than positive numbers, then −6 would be greater than 6.") In these cases neither the antecedent nor the consequent could state a fact. Consequently, the relation between them, a necessary relation, does not hold between two facts. It is not, therefore, a factual relation. In these cases Bradley thinks the only alternative is that it be an ideal relation, specifically the relation between the ideal content of two judgments. Bradley takes such relations to be relations of logical consequence. "For logic," he says, "what is necessary is nothing beyond a logical consequence" (PL 200).

From these considerations Bradley draws the conclusion that apodictic judgments assert that a relation of logical consequence holds between their explicit contents and some further, unstated contents on which they depend. If these further contents were simply assumed to be true, then apodictic judgments would assert their contents subject to a condition. They would then be conditionals with their implicit necessity made explicit, and Bradley would have made his case. The only problem is that apodictic judgments do not seem to be conditional in this way. If I say "My bank balance must be $264," I am not simply saying that this is my bank balance *if* some further conditions hold. I am declaring that the requisite conditions do hold. I am implicitly but categorically asserting that they do. Even so, on Bradley's analysis apodictic judgments will be conditionals. Categorical judgments are conditionals, so the assertion that their contents are true is at a deeper level conditional. As a result, apodictic judgments will be conditionals and so abbreviated inferences, just as conditionals are.[24] In judgments of the form "It is true that S-P is necessary," "S-P" will be the consequent of the conditional and the antecedent will be what it is assumed to follow from.

Bradley gives the same basic account of problematic judgments, varying it only to cover a basic difference between them and apodictic judgments. The difference, he says, is that

> For S-P to be possible all the conditions which make S-P necessary must be supposed, but only a part of them need be assumed to exist. It is implied that a part

of the antecedent exists, but as to the other part we are left in ignorance. Thus the *partial* existence of the conditions of S-P is the *differentia* which separates the species "possible" from the genus "necessary." (PL 202–3)

In other words, problematic judgments are like apodictic judgments in asserting that their explicit contents are logical consequences of other judgments. Where apodictic judgments differ is in asserting all of these other judgments. For example, if I judge that it is necessary that it rain tomorrow, I am asserting that it is necessary under certain conditions and that these conditions obtain. But if I judge that it is possible that it will rain tomorrow, I am asserting that there are certain conditions under which it will rain tomorrow. I am also asserting that some of these conditions obtain. But I am not asserting that they all do. On this analysis problematic judgments, like apodictic judgments, are conditionals and so abbreviated inferences.

IV

Judgments of probability pose the same problem for Bradley as other complex forms of judgment. As Bradley puts it, "No statement we make about probabilities can, as such, be true of the actual facts" (PL 217). Suppose, for example, I judge that there is a 60 percent chance of rain tomorrow. Neither its raining tomorrow nor its not raining tomorrow is sufficient to determine the truth value of this judgment. Yet according to Bradley's definition of judgment, judgments of probability must refer an ideal content to reality in virtue of which they will be true or false. The problem, once again, is to say what this ideal content is in the case of judgments of probability. This can be restated as a problem about the interpretation of the calculus of probability. The calculus of probability is a formal system in which the only undefined term refers to probability. The problem is to provide an interpretation of probability by mapping it onto reality. To solve this problem, Bradley needs to explain the conditions under which judgments of probability are true or false.

His explanation amounts to a version of the classical account of probability in which probability is defined as the ratio of favorable cases to equally possible ones. Bradley explains this by applying his views on other forms of judgment to judgments of probability. Here is his summary of the result:

The calculation of chances, in a word, must be based on a disjunctive judgment, and the hypothetical assertions, which represent the chances, take place within

> the bounds of that judgment. But disjunction, as we know . . . implies a categorical foundation. This basis of fact is the condition of our assertions about the chances. (PL 217)

Judgments of probability, in other words, depend on disjunctive judgments. It will again be convenient to schematize these as "A is *b* or *c*." They will be categorical insofar as they assert a quality of the special reality that is referred to by their grammatical subjects. In the foregoing quotation, Bradley calls this "the condition of our assertions about the chances." This quality will be common to *b* and *c* and nothing else. It will be further specified by pairs of hypothetical judgments of the form "(i) If A is *b* it is not *c*, and If A is *c* it is not *b*, (ii) If A is not *b* then it is *c*, and If A is not *c* it must be *b*" (PL 136). If, for example, I judge that "The flipped coin will land as heads or tails," then I am asserting that the special reality in this judgment, the coin, has a quality common to both landing as heads and landing as tails and to nothing else. Furthermore, this quality is such that the coin must land as heads or as tails but not both.

Disjunctive judgments that serve as the basis of judgments of probability have an additional feature. In Bradley's words, "there is no more to be said for one [disjunct] than there is for another" (PL 218). That is, they are equally probable. This is Bradley's version of the Principle of Indifference. It gives him a way of saying that "A is *b*" and "A is *c*" are equally probable without explicitly using the term "probable." He needs to avoid this term because using it would render his account circular. The Principle of Indifference allows him to say, for example, that the alternatives in the judgment "The flipped coin will land as heads or as tails" are equally likely. On this basis he proposes the following calculation of probabilities:

> Since we have the same ground to think every possibility true, the probability of each is just the same quantity. . . . The reality then we represent as unity, and each alternative possibility we represent by a fraction, of which the denominator is the number of equal alternatives, and the numerator is one. (PL 219)

In the case of the flipped coin, I calculate the probabilities of its landing as heads and landing as tails as $^1/_2$, where 2 is the number of alternatives. This is the classical interpretation of probability, where the probability of an alternative is found by dividing the number of favorable cases by the total number of cases. Because this is a ratio, determining it involves a calculation or, as Bradley puts it, an inference. The classical interpretation of probability thus gives Bradley a way to treat judgments of probability as abbreviated inferences.

V

With the exception of Chapters V and VI and some sections scattered through the other chapters, Book I of *The Principles of Logic*, "Judgment," is reasonably well unified. Bradley states his definition of judgment in Chapter I, then in the remaining chapters shows how it fits singular and universal categorical judgments; negative, disjunctive, and modal judgments; and judgments of probability. His particular concern in the later chapters is to show how different forms of judgments are true or false in virtue of ideal contents that they refer to reality.

The primary obstacle Bradley faces in carrying out this project is that it is difficult to see how the content that judgments of these forms refer to reality determines their truth or falsity. Counterfactual conditionals are a good example of this. Their truth or falsity seems to be determined by the relation between their antecedents and consequents rather than by any ideal content they refer to reality. Bradley meets this difficulty by distinguishing between the logical and grammatical forms of judgments. In their logical form, he argues, counterfactual conditionals do attribute a quality to reality. Bradley connects this quality with the relation between their antecedents and consequents by treating it as the quality that guarantees their connection in reality. In order to do this, he treats the connection as inferential and counterfactual conditionals as abbreviated inferences.

Bradley follows the same strategy with all other forms of judgments. Despite their grammatical appearances, all of them attribute a quality directly to reality, the quality in virtue of which they are true or false. This quality either guarantees an inferential connection between components of the judgment or, in the case of negative judgments, is asserted of reality in one of the premises of the inference. As a result, there are no simple judgments. All judgments depend for their truth or falsity on other judgments, the judgments that are premises in the inferences they abbreviate. In this respect judgments form a system. They are true if the inferences they abbreviate are sound, and this requires that they be true in groups, not individually. But because the premises of these inferences can never be fully and unambiguously specified, no judgments will be absolutely true. Judgments will be true only to a degree.

Despite Bradley's insistence that judgments form a system, his account of how they do so is decidedly unsystematic.[25] This is made very clear by Bradley's use of different levels of analysis. He treats categorical judgments at both an ultimate level and from a lower point of view. He

treats disjunctive judgments at some level between these two. But even though his accounts of these forms of judgment proceed at different levels, they are interdependent. Negative judgments depend on disjunctive judgments. Disjunctive judgments incorporate conditionals. Yet nowhere are the relationships between judgments explained at one single level. Instead, they are explained through two interrelated patterns. All judgments, as he says in Chapter II and frequently repeats in his later works, are conditionals. This sets up one pattern in relations of dependence between judgments. Categorical judgments depend on conditionals that, as abbreviated inferences, have categorical premises, and so on. But he also says that "every judgment is in essence, though not explicitly, negative and disjunctive" (PL 662). Here a different pattern is indicated. Bradley does not explain the relation between these patterns. His goal in *The Principles of Logic*, as he admits in the preface, is not to provide a system of logic.

He never states what his goal is, but the contents of his book reveal it. It is to decide whether thought is identical with reality. In order to deal with this issue he needs to explain how reality determines the truth or falsity of judgments. He has now argued that in every case the truth of a judgment depends on the soundness of the inference it abbreviates. This naturally leads to the question "Under what conditions are inferences sound?" This question may be divided into two others. The first is "Under what conditions are the premises of inferences true?" Bradley answers this question in his theory of judgment. This answer is not independent of his answer to the second question, but it is still an answer. That leaves the second question, "Under what conditions are inferences valid?" Contemporary logicians answer this question by designing formal systems that are sound and complete. They do this by defining two notions of logical consequence, one semantic, the other syntactic. Then they prove that when one relation holds, the other does as well. These systems specify the conditions under which inferences are valid.

This answer was not available in 1883 when Bradley wrote the first edition of *The Principles of Logic* and so laid down the main lines of his views about logic. The only model he had of a formal system that claimed to answer the question was traditional logic, which treated all inferences as reducible to syllogisms. Bradley quite properly denied that all inferences could be so reduced (e.g., PL 248). As a result, he denied that there was any formal way to specify the conditions under which inferences are valid.

So he approached the question in a different way by asking for the conditions under which it is possible for one judgment to be true because

others are true. This is a version of the Kantian question "How are *a priori* synthetic judgments possible?" (Kant 1929, B19). This is made explicit by Bradley's fellow idealist Bernard Bosanquet. Bosanquet describes inferences as judgments made on the basis of other judgments. He writes,

> We are at once met with the old question, "How are synthetic judgments *a priori* possible?" The qualification *a priori* adds nothing to the qualification "true" which is claimed by all judgments as such. The question therefore is in plain English "How can one content claim to be true of Reality on the strength of another content distinct from the first?" (1968b, 2:1–2)

This quotation assumes that the conclusion of a valid inference does not merely restate its premises. Its conclusion contains something useful, new information. This assumption was famously challenged by John Stuart Mill, who argued that all valid deductive inferences are circular. So to answer the question of how valid inferences are possible, Bosanquet needs to explain how the conclusion of a valid inference can contain new and useful information. This is Bradley's problem as well. He calls it "the essential puzzle of inference" (PL 599). Solving it is the main task of his theory of inference. To do so, he explains how the conclusions of valid inferences can assert things not asserted in their premises. This is his way of specifying the conditions under which inferences are valid. It is his answer to the Kantian question "How are synthetic a priori judgments possible?"

This answer naturally raises a further question: "Do the conditions under which it is possible for one judgment to be true on the basis of others ever obtain?" This is the question Bradley addresses in the final two chapters of *The Principles of Logic*. He argues that in one important sense they do not and that as a result, thought is not identical to reality. Bradley bases this conclusion on his theory of inference, which is the subject of the next two chapters of this book.

6

The Problem of Inference

In his essay "The Justification of Deduction," Michael Dummett describes what might be called the problem of deduction:

> The existence of deductive inference is problematic because of the tension between what seems necessary to account for its legitimacy and what seems necessary to account for its usefulness. For it to be legitimate, the process of recognizing the premisses as true must already have accomplished whatever is needed for the recognition of the truth of the conclusion; for it to be useful, a recognition of its truth need not actually have been accorded to the conclusion when it was accorded to the premisses. Of course, no definite contradiction stands in the way of satisfying these two requirements: recognizing the premisses as true involves a possibility of recognizing the conclusion as true, a possibility which will not in all cases be actualized. Yet it is a delicate matter so to describe the connection between premisses and conclusion as to display clearly the way in which both requirements are fulfilled. (Dummett 1978, 297)

This succinctly states a problem many nineteenth-century philosophers faced. Though sympathetic to deductive logic, they still smarted from the modern anti-Aristotelianism voiced in John Locke's complaint that traditional logic is not "the proper instrument" of reason (1975, 670). Locke admitted that all legitimate reasoning could be reduced to forms of the syllogism, but he thought those forms unnecessary "cumbersome Fetters . . . that clog and hinder the Mind" (1975, 672). Though he thought syllogisms legitimate, he did not find them useful. Nineteenth-century philosophers responded to Locke's complaint by arguing that deductive inference was both legitimate and useful.

This issue was confronted in the most memorable fashion by John Stuart Mill in his *System of Logic* when he asked how valid syllogisms, which

in his opinion must be circular, can be useful. In his answer, Mill defended deductive logic by subordinating it to inductive logic and then subordinating both to inferences from particulars to particulars. The issue was also confronted, much less memorably, by Hegel in his *Logics* as part of his attempt to derive the forms of valid inference from the unity of consciousness. The fact that in one form syllogisms were circular showed, Hegel thought, the need for syllogisms of other forms in which this defect was corrected. Syllogisms of these forms, Hegel thought, reveal the conditions under which legitimate and useful deductive inferences are possible. Hegel's discussion of the issue is complicated by the role it plays in his logic. Because he identified the unity of consciousness with spirit, his derivation of the categories of traditional logic is also a derivation of the categories of reality. This is why Hegel said, "Everything is a Syllogism" (1892, 314, sec. 181). His concern with ontology has tended to obscure the fact that he and Mill, in their different ways, confronted the same logical problem.

This fact was, of course, recognized by Bradley, who called the problem "the essential puzzle of inference," a name that indicates its significance for him (PL 599). Bradley does not explicitly discuss Hegel's solution, and he differs from Hegel by refusing to introduce syllogisms of other forms in his own solution. He also pointedly declines "to supply a direct examination of the well-known chapter in J. S. Mill's *Logic*" where Mill gives his solution (PL 348). Yet Bradley's concern with Mill and Hegel is obvious in the content and even in the peculiar structure of his *Principles of Logic*. Bradley divides his theory of inference into two parts (Books II and III), each of which has itself two parts, the first mainly expository, the second mainly critical. Book II is a preliminary version of the theory, while Book III is a more complex version. The main target for criticism in the first (Book II, Part II) is Mill, while in the second (Book III, Part II) it is Hegel. Bradley's theory of inference is designed to defend the independence of deductive logic against Mill so as to confront the identity of thought and reality in Hegel.

Bradley's discussion of the problem, like his entire theory of inference, is complicated by the fact that he states his theory using a vocabulary that is neither that of traditional or contemporary logic, nor is it the vocabulary used by either Mill or Hegel. It is further complicated by being embedded in a system of logic that Bradley frequently alludes to but never fully explains and by the role it plays in Bradley's rejection of the identification of thought and reality. When combined with Bradley's attempt to give a nonformal account of the conditions under which inferences are valid,

these complexities make it difficult to appreciate or even understand his theory of inference. They reflect the fact that the context in which he constructs his theory of inference is no longer familiar.

I will deal with these complexities in the present chapter by reconstructing the context of Bradley's theory. To do this I will begin with Mill's formulation of and solution to the problem. This was the canonical statement of the problem for Bradley. Next, I will consider Hegel's much more difficult formulation and solution, a solution that presupposes the identity of thought and reality. I will conclude the chapter by discussing Bernard Bosanquet's system of logic, the system Bradley eventually commended to his readers (PL 620), and by explaining how Bosanquet's solution to the problem is embedded in it.

Because Bradley prepared the first edition of *The Principles of Logic* before Bosanquet had published any of his logical writings, examining Bosanquet here may appear anachronistic. There are, however, two reasons for considering Bosanquet's solution before turning to Bradley's. First, Bradley gives his explicit solution in the second edition of his *Principles of Logic*, an edition he prepared with the aid of Bosanquet's comments. Moreover, the relationship between their logical writings is complex. The first edition of *The Principles of Logic* appeared in 1883, the same year in which Bosanquet published his first important paper, "Logic as the Science of Knowledge," a paper containing no references to Bradley. Two years later, in 1885, Bosanquet published an essay on Bradley's logic, "Mr. F. H. Bradley on Fact and Inference," and *Knowledge and Reality*, a study of some themes in Bradley's logic. In 1888 Bosanquet published the first edition of his *Logic or the Morphology of Knowledge* (second edition, 1911), and in 1895 he published a simplified version of his logical system, *The Essentials of Logic*.[1] While most of these works were indebted to *The Principles of Logic*, Bosanquet argued that Bradley's logic contained "reactionary" elements of which it needed to be purged (1968a, v–vii). Bosanquet also pointed out that while in the first edition of *The Principles of Logic* Bradley had rejected analyzing all inferences as syllogistic subsumptions, he had offered no substitute for this analysis (1968a, 314). This was something Bosanquet attempted to provide in his *Logic*. Bradley's failure to provide this substitute analysis is directly related to his failure in the first edition of *The Principles of Logic* to make explicit his solution to the problem of inference. He made it explicit in the second edition of *The Principles of Logic* only after reflecting deeply on Bosanquet's logical writings.

The second reason for considering Bosanquet's solution before Bradley's is that Bosanquet's solution, as well as the system of logic in

which it is embedded, is an idealistic logic in the sense that it presupposes that thought is identical with reality. Although this system of logic was first elaborated by Bosanquet, the idea behind it is older. It is present in T. H. Green's *Lectures on Logic*, where it provides the linchpin of his alternative to Mill's inductive naturalism.[2] If, as I have been arguing, Bradley's purpose in writing *The Principles of Logic* was to question the identification of thought and reality, then he was also questioning the idealistic alternative to Mill that presupposed it. Bosanquet's system of logic thus represents the position Bradley wrote his *Principles of Logic* to challenge, and in this way it helps to define the context in which Bradley worked out his solution to the problem of inference. Accordingly, I will devote this chapter to the solutions to the problem of deductive inference proposed by Mill, Hegel, and Bosanquet. In the next chapter I will discuss Bradley's solution and why it leads him to deny the identity of thought and reality.

I

Mill's treatment of this problem depends on his identification of deductive reasoning with syllogistic reasoning. Following Aristotle, valid syllogisms in traditional logic were divided into perfect and imperfect ones. Perfect syllogisms were thought to be self-evidently valid, while imperfect ones were shown to be valid by being reduced to perfect syllogisms. Because perfect syllogisms are syllogisms in the first figure, Mill takes as his example of deductive reasoning the following "syllogism" in the first mood of the first figure:

> All men are mortal.
> Socrates is a man.
> Therefore, Socrates is mortal.[3]

In order for this syllogism to be useful, Mill thinks, it must provide new knowledge. That is, it must be the case that those who know the premises acquire knowledge they did not previously have by inferring the conclusion. The knowledge contained in the conclusion must augment the knowledge contained in the premises.

The problem is that Mill also thinks that for a syllogism to be valid, there must be nothing in the conclusion that was not already asserted in the premises. In other words, Mill thinks that

(1) If an inference is legitimate, then its conclusion is asserted in its premises.

But it is also true, he thinks, that

(2) If the conclusion of an inference is asserted in its premises, then the inference is circular.

Finally, he thinks that

(3) If an inference is circular, then it is not useful.

From these premises he concludes (by two hypothetical syllogisms) that

(4) If an inference is legitimate, then it is not useful.[4]

Mill supports this conclusion by arguing that those who know the premises of valid syllogisms to be true also know their conclusions to be true. How, he asks, could anyone know that the major premise, "All men are mortal," is true? He answers that this could be known only by knowing that each individual person, including Socrates, is mortal. Mill here interprets general propositions as conjunctions of singular propositions.[5] If this is correct, then one who knows that a general proposition is true will thereby also know that the singular propositions of which it is the conjunction are true. But one who knows this will already know the conclusion. Accordingly, if a deductive inference is legitimate, then it is useless (1973–4, 183–7).

At this point it is tempting to say something like – here Mill quotes Richard Whately – the object of reasoning is "merely to expand and unfold the assertions wrapt up, as it were, and implied in those with which we set out, and to bring a person to perceive and acknowledge the full force of that which he has admitted" (Mill 1973–4, 185, quoting Whately 1973, 216). To this Mill replies that Whately "does not, I think, meet the real difficulty requiring to be explained, namely, how it happens that a science, like geometry, *can* be all 'wrapt up' in a few definitions and axioms" (1973–4, 185).

Mill's solution to this problem is ingenious. He denies (1) to solve the problem, but then denies (3) to defend the value of deductive logic. He supports his denial of (1) by claiming that the conclusion of a syllogism is not an inference *from* the major premise but only an inference *according to* the major premise. Mill holds this view because he thinks that general propositions are inferred inductively from singular propositions. All knowledge, he thinks, is derived from experience, and the knowledge experience gives is knowledge of particulars. From such knowledge it is possible to infer, inductively, the truth of general propositions. While these propositions carry no more epistemic weight than the singular

propositions from which they are inferred, they are convenient repositories of past inductions. To use Mill's term, they each serve as a "register" of past inductions by compressing each of these inductions into a single proposition. This, in effect, allows them to serve as substitutes for the inductions supporting them. So the real inference to the conclusion of a syllogism is from the singular propositions that the major premise abbreviates. The inference a syllogism contains is inductive, not deductive.

Furthermore, this inference need not involve a general proposition at all, because general propositions have no more epistemic weight than the singular propositions from which they are inferred. In fact, they are less certain. They can therefore be replaced by the singular propositions from which they have been inductively inferred. The inference that a syllogism contains thus need not contain a general proposition at all. The inference is from singular propositions to a singular proposition. In such inferences the conclusion is not asserted in the premises. So (1) is false.

This in turns allows Mill to defend the value of formal logic. He does this by denying (3). Syllogisms are legitimate, he says, because they assert their conclusions in their premises. Those who know the premises already know their conclusions, but this does not prevent the conclusions from being useful. They are useful because they conveniently summarize the knowledge contained in the inductive inferences supporting their general premises. This extension is made possible by the fact that the real inference is from particulars one knows to particulars one does not know. Mill thus preserves the importance of deductive logic as a subject by subordinating it to inductive logic. In summary, then, Mill thinks that deductive inference is not a source of knowledge. It is, however, valuable as a way of using the results of real, inductive inferences.

II

Mill's discussion of this issue in his clear, graceful prose is as well known as anything in his account of deductive logic. Much less well known, but more insightful from the perspective of most British idealists, is Hegel's discussion of the same problem. Like Mill, Hegel denies (1). But Hegel's reason for denying (1) is quite different from Mill's, for Hegel thinks he can explain how the conclusion of an inference is "wrapt up" in its premises without denying either the necessity or the usefulness of deductive inference. Hegel's solution requires the identification of thought and reality.

Hegel incorporates his discussion of the problem into his own distinctive philosophical project of deriving the categories constitutive of reality. This includes a derivation of the categories of thought necessary for conceptualizing the role of thought in constituting reality. As the first stage in this derivation, Hegel purports to derive the categories of traditional logic from thought or, more specifically, from the unity of consciousness. He took this project from Kant. Kant thought that knowledge required applying concepts to intuitions to form judgments. This was not, Kant thought, a simple, empirical operation. What makes such combinations possible is the unity of consciousness that Kant labeled "the transcendental unity of apperception." Consciousness supplies the a priori concepts, the categories that unify concepts and intuitions into judgments. Kant thought there were twelve such categories, one for each of the twelve different forms of judgment Kant identified in Aristotelian logic. Hegel regarded Kant's recognition of the need for a transcendental unity of apperception as "one of the profoundest and truest insights to be found in *The Critique of Pure Reason*" (1969, 584). But he objected to Kant's procedure in determining the different forms of unity. Rather than borrow them from Aristotelian logic, Hegel tried to derive them from the unity of consciousness. In the sections of his *Logics* concerning subjectivity, Hegel began with the category of the unity of consciousness, a category he referred to as "the notion," and tried to derive the different forms of this unity. Unlike Kant, he did not confine this derivation to concepts. He tried to derive the forms of judgments and inferences as well.

Nor are these merely categories of thought. Throughout his *Logics* Hegel presupposes the result of his *Phenomenology*, that thought is identical to reality.[6] The categories of logic are consequently also categories of things. They are not merely ways of conceptualizing things, but determinations of the things themselves. This determination is made possible by the highest category of "Subjectivity," the category of the disjunctive syllogism.[7] If all predicates are paired with their contradictory opposites and one of each pair of opposites is eliminated by means of a disjunctive syllogism, then the resulting set of predicates will fully define a concrete thing. Because the mark of a concrete thing is being fully determined in this way, Hegel concludes that the category of the disjunctive syllogism is the category by means of which thought constitutes things. By following Kant in likening the sum of all possible predicates to God, Hegel treats the constitution of things by disjunctive syllogisms as a version of the ontological argument. It shows why the categories of logic systematically define a world of existing objects.

Hegel begins his derivation of the categories of traditional logic by saying that consciousness unifies the manifold using concepts or, in the usual translations, "notions." To unify the manifold, Hegel claims, a concept must have a criterion for applying it to individuals. So concepts for Hegel involve three things: the concept itself, its criterion of application, and something to which it is applied. Hegel calls these elements "universality," "particularity," and "individuality" respectively. So understood, concepts presuppose another conceptual structure, a category in which they are actually applied to individuals. This category is the judgment. It unites individuals with universals by means of their distinguishing qualities. "Particularity" is the name Hegel uses for these qualities, and he frequently treats them as defining a genus (e.g., 1892, 327, sec. 191). This application in turn requires a conceptual structure capable of justifying it, and this is the category of inference or syllogism.[8]

Hegel agrees with Kant that Aristotle described all of the essential forms of the syllogism (Hegel 1892, 318, sec. 183Z). But Hegel also thinks that neither Aristotle nor Kant ordered these forms to reveal their common ground in the concept of thinking about objects in general. So in deriving these different forms Hegel reclassifies them yet again. He divides syllogisms into three types that he calls "qualitative syllogisms" or "syllogisms of existence,"[9] "reflective syllogisms," and "syllogisms of necessity." Each of these types has several subtypes. He formulates his version of Mill's problem in discussing "reflective syllogisms" and gives his solution in discussing "syllogisms of necessity." The essential background for his solution, however, is found in his discussion of qualitative syllogisms.

Qualitative syllogisms and reflective syllogisms are not formally distinct. Their difference is one of content. In qualitative syllogisms the middle term is "any quality whatever of the subject" (1892, 319, sec. 184). There is no essential connection between it and the subject. The subject is "contingently united through the syllogism with *any quality* through *any* middle term" (1969, 697). Hegel discusses three figures of this syllogism; they are the traditional figures of Aristotelian logic, although Hegel's second figure is traditionally called the third figure, and his third is traditionally called the second. Hegel gives one example of a qualitative syllogism, and it is in the first figure:

Red is a color.
This rose is red.
Therefore, this rose is a colored object (1892, 317–18, sec. 183Z).

He describes this syllogism as having the form I-P-U because in it an individual (this rose) is connected with a universal (color) by means of a particular or specification of the universal (red). In this case the particular is the middle term of the syllogism. It mediates between the major and minor terms, which are "colored object" and "this rose" respectively.

Hegel's reason for thinking that the categories of judgment require the categories of syllogisms is that syllogisms are necessary to justify the application of concepts, which are universals, to individuals. But he thinks qualitative syllogisms in the first figure fail to do this for two reasons. His first reason does not seem to me to be a good one. He claims that because the selection of terms in qualitative syllogisms is arbitrary, syllogisms about the same subject can have true premises but contradictory conclusions. Hegel seems to have Kant's antinomies in mind (1969, 671), but the examples he provides are unsatisfactory.[10] His second criticism is more important. It is that syllogisms justify their conclusions only provided their premises are justified. A qualitative syllogism does not justify its own premises, so these must be justified. But if justification is linear (so that it is passed from a justified proposition to an unjustified one), this gives rise to an infinite regress. If justification always proceeds by qualitative syllogisms in the first figure, then they will in turn need to be justified and so forth *ad infinitum* (1969, 672–3). Hegel thinks this shows that some other form of justification, and hence some other form of syllogism, is necessary.

He tries to provide the justification by turning to qualitative syllogisms in the second and third figures. He thinks syllogisms in these figures justify the premises of first figure qualitative syllogisms. To use Hegel's example, the major premise, "Red is a color," connects a particular ("red," the middle term) with a universal ("color," the major term), while the minor premise, "This rose is red," connects an individual ("this rose," the minor term) with a particular (again "red," the middle term). Hegel's second figure has the form U-I-P where an individual is the middle term that justifies the connection between a universal and a particular. This is the connection made in the major premises of first figure syllogisms. The third figure has the form P-U-I in which a universal is the middle term that justifies the connection between a particular and an individual. This is the connection made in the minor premise of the first figure. So Hegel proposes to avoid the infinite regress of justifications by means of different figures of syllogisms. The conclusions of syllogisms in the second and third figures justify the premises of first figure syllogisms. Likewise, the conclusions of first and third figure syllogisms justify the premises of syllogisms in the second figure, and the conclusions of first and second

figure syllogisms justify the premises of syllogisms in the third figure. The three figures of the syllogism, Hegel says, form "a circle of mediations which in turn pre-suppose each other" (1892, 323, sec. 189).

Hegel thinks this shows that inferences justifying the application of a universal to a particular (i.e., qualitative syllogisms in the first figure) cannot justify their conclusions if their premises relate arbitrarily selected terms. They justify their conclusions (e.g., "This rose is a colored object") only because qualitative syllogisms in other forms show that the universal is the particular and that the particular is the individual. Another way to put this is to say that syllogisms are justified if there is an identity between the terms in the premises and those in the conclusion. Hegel calls this identity a "reflective unity" and with this moves to discuss reflective syllogisms.

Hegel confronts Mill's problem with his first kind of reflective syllogism, "the syllogism of allness." The allness is the reflective unity required to resolve the problem with qualitative syllogisms. He begins with a familiar example:

All men are mortal.
Gaius is a man.
Therefore, Gaius is mortal.

He then says:

> But "*all*" are "*all individuals*"; therefore in the major premiss the individual subject already immediately possesses this predicate and *does not obtain it first through the syllogism.* Or to put it otherwise the subject obtains through the conclusion a predicate as a consequence; but the major premiss already contains this conclusion within it; *therefore the major premiss is not correct on its own account*, or is not an immediate, presupposed judgment, but *already presupposes the conclusion* whose ground it was supposed to be. (1969, 688)

For Hegel this is remarkably straightforward. His observation is the same one that Mill makes, that if the judgment "All men are mortal" is taken as a conjunction of singular judgments, then the syllogism presupposes the truth of the conclusion. Thus it is circular. Hegel calls this a "defect" (1892, 325, sec. 190), and it is the same defect that Mill notices.

Because a "syllogism of allness" is circular, its major premise does not provide even part of a justification for its conclusion. In fact, rather than being the ground of the conclusion, it must itself be derived by means of the conclusion (or so Hegel says). He takes this to mean that it presupposes another form of the syllogism, one in which the premise "All

men are mortal" is itself derived. Hegel examines other syllogisms of reflection, but he finds them all to be unsatisfactory in other ways. None of them is both deductively valid and noncircular. This leads him to discuss another class of syllogisms, syllogisms of necessity.

Hegel claims to solve Mill's problem with the first form of this type of syllogism, which he calls "the categorical syllogism." He does not provide an example of a categorical syllogism in either of his *Logics*. I take the following example (slightly simplified) from G. R. G. Mure:

> Gold is a metal.
> Metals are elements.
> Therefore, gold is an element. (1950, 220)[11]

This corresponds to what Hegel says about categorical syllogisms. They contain two categorical judgments (1969, 696–7), judgments in which the nature of the subject is at least partially specified by the predicate (1892, 310, sec. 177). Because of this *essential* connection between subject and predicate, Hegel classifies these judgments as judgments of necessity. The conclusion of a valid syllogism of this kind will attribute an essential attribute to its subject. To use Hegel's expression, it will "further determine it."

In so doing, Hegel says, it will avoid circularity. Here is his explanation of why:

> Further, this syllogism does not, as does a syllogism of reflection, presuppose its conclusion for its premises. The terms, in keeping with their substantial content, stand in a relation to one another which is *in and for itself* identical; we have here *one* essential nature pervading the three terms, a nature in which the determinations of individuality, particularity, and universality are merely *formal* moments. (1969, 697)

The key to this solution is Hegel's further restriction of the content of the middle term and a new interpretation of its import. In categorical syllogisms this term is required to indicate an essence (more familiarly, a natural kind), something that is indicated by both of the other terms of the syllogism as well. However, each term indicates this essence with a different degree of specificity. Hegel's universal term, "element," is the least specific; his particular term, "metal," more specific; and his term for an individual, "gold," the most specific. The essence common to these three terms in their different degrees of specificity is what Hegel refers to as their "substantial content." The fact that the terms in categorical syllogisms share a "substantial content" is part of what distinguishes them

from syllogisms of allness. The terms in Hegel's example of a syllogism of allness – "Gaius," "men," and "mortal" – do not share a "substantial content" in this way.

The fact that the middle term is an essence allows Hegel to give a new interpretation of the premises in which it is contained. They are no longer interpreted extensionally, because an essence is not a class of individuals. Rather, for Hegel an essence is a conceptual structure that manifests itself in the three moments of universality, particularity, and individuality. As a universal, the essence of elements requires instances to which it can be applied. Because Hegel is assuming the identity of thought and reality in his *Logics*, the essences he is discussing are guaranteed to have instances. In this case, gold is supposed to be such an instance. But to have instances, individuals must have defining qualities (i.e., they must fall into genera), in this case the genus specified by "metals."

This interpretation of the middle terms of categorical syllogisms as essences allows Hegel to give a metaphysical solution to Mill's problem. Taken without reference to its necessary manifestation in individuals, a universal such as an element is "in-itself." Taken as manifested in individuals (e.g., gold), it is "for-itself." Taken as a universal applied to individuals that manifest it, it is "in-and-for-itself," and this requires the individuals manifesting it to fall into a genus defined by their distinguishing qualities (i.e., particularity). Hegel's solution is thus to say that the conclusion is implicit in the premises not because it is asserted in them but because of the way objects must be conceived. They are conceived so that they define themselves through the different moments of universality, particularity, and individuality. So Hegel's solution is to say that deductive inference is possible because objects must be conceived as self-determining.[12] Furthermore, because they must be so conceived, they are self-determining. Hegel's solution thus requires the identity of thought and reality.

III

Although Hegel's solution to the problem of inference has rarely been cited in discussions of "the functions and logical value of the syllogism," its central feature, that concepts determine the nature of particulars falling under them, was absorbed by a number of subsequent philosophers, including T. H. Green. Green's main concern was to relieve the religious anxiety of his age by showing that both knowledge and nature are made possible by a nonnatural or a priori principle, an eternal consciousness,

that he identified with God. In the course of defending this view, Green argued that empiricist explanations of knowledge, explanations requiring only natural principles, fail to show how knowledge is possible. This led him to criticize not only the classical empiricism of Locke and Hume but also the empiricism of his near contemporary, John Stuart Mill. Because Mill's confessed motive in writing his *System of Logic* was to show that knowledge requires no a priori principles (1981, 233), his account of inferential knowledge was one of Green's natural targets. Green argued that in giving this account Mill not only repeated many of Hume's mistakes but also that he had a flawed conception of inference. Drawing heavily on the work of William Whewell, Mill's great midcentury opponent, Green argued that inference is not generalization from experience but a rather different operation involving the imposition of concepts on feelings.[13] In the course of defending this alternative, Green criticized Mill's solution to the problem of inference. But despite doing so, Green failed to explain his conception of inference in detail or to provide an idealistic solution to the problem of inference. That task was taken up by Bernard Bosanquet. Following Green's lead, Bosanquet systematized Green's conception of inference by arguing that inductive inferences are incomplete and invalid deductive ones. Surprisingly, this led him to attempt to solve the problem of inference by denying (2) rather than (1).

This solution, however, is quite difficult to extract from Bosanquet's writings, in part because Bosanquet incorporates into the organizational structure of his *Logic* the Hegelian idea that thought determines reality. The result is a very unusual logic, an idealistic logic, with idiosyncratic content. Bosanquet takes logic to be the study of the "essential phases and the ideals of knowledge" as they are embodied in different types of judgments (1883, 67). He refers to these phases and ideals collectively as "the form of knowledge," but this is somewhat misleading because form, as he conceives it, is supplied by thought. This sort of form is not logical form as it is usually understood but rather a form by means of which the components of a judgment or an inference are unified through the imposition of a concept on them. Bosanquet takes form to be provided by an act of colligation or by an act analogous to it. Following Green, he borrowed the concept of colligation from William Whewell.

Colligation for Whewell plays an essential role in induction. In contrast to Mill, Whewell insisted that the hypothetical-deductive method is *the* method of science and that no additional inductive methods are required.

"The doctrine which is the hypothesis of the deductive reasoning," he declared,

> is the *inference* of the inductive process. The special facts which are the basis of the inductive inference are the conclusion of the train of deduction. And in this manner the deduction establishes the induction. The principle which we gather from the facts is true, because the facts can be derived from it by rigorous demonstration. (1858, 114)

According to this view, induction is the formulation of the hypothesis from which the facts to be explained may be deduced. If they are so deduced, then the hypothesis and therefore the induction are successful. "Every step of Induction," Whewell stated, "must be confirmed by rigorous deductive reasoning, followed into such detail as the nature and complexity of the relation . . . render requisite. If not so justified by the supposed discoverer, it is *not* Induction" (1858, 115).

Whewell insisted that induction, so understood, involved two processes: the explication of concepts and the colligation of facts. The explication of concepts is involved because for Whewell science is the interpretation of facts. But facts, he thought, always have two components. One component is given in sensation, while the other is a conceptual component imposed by the mind. These two components, Whewell thought, are ultimately indistinguishable because all facts contain both. Science is able to interpret facts successfully when it is able to supply conceptual components sufficiently precise for hypotheses containing them to have clearly true or false observational consequences. Arriving at such conceptions, often through controversies between scientists, is what Whewell meant by the explication of concepts. But a second process is also required. Successful hypotheses, Whewell claimed, impose or superinduce a new concept on observed facts and so allow those facts to be seen from a new point of view (1858, 71). Such a concept, imposed on apparently unrelated facts, unifies these facts by revealing a new and precise relation between them. To use one of Whewell's favorite examples, Kepler superimposed the concept of an ellipse on the observed positions of Mars to reveal a precise connection between them – they are points on an ellipse. This conception, Whewell said, was supplied by Kepler, and it enabled him to see these observed positions from a new point of view. He thereby "colligated" the facts, to use Whewell's term (1860a, 253–6).

What makes colligation particularly important for Bosanquet is that Whewell used it to insist that scientific induction, understood in his way, is capable of establishing necessary truths that have empirical content.

This is possible, Whewell thought, because successful hypotheses – that is, colligations – always contain a new concept that unifies previously unrelated facts by revealing a precise connection between them. In order to do so, previously observed facts must be redescribed using the new superinduced concept. This redescription, in turn, introduces a new predicate into the observation language of science, and in this respect observation is theory laden (Butts 1993b, 240). So in the case of successful inductions – that is, colligations – the superinduced concepts come to partially "constitute" the observed facts. These facts then become the basis for further observations and generalizations. Because the sciences are made possible by precise connections between facts, and because colligations that are fundamental to a particular science make it possible by in part constituting the facts, colligations make their respective sciences possible. For this reason, the existence of these sciences presupposes the truth of their fundamental colligations, because even attempts to disprove them would rely on data that they partially constitute (Butts 1993a, 197–203). Whewell speaks of such colligations as necessary truths in the sense that their contraries cannot be distinctly conceived. Emphasis here needs to be placed on the word "distinctly," because being able to conceive scientific concepts distinctly requires education and effort. Only those who meet these qualifications are able to see (or "intuit" in Whewell's vocabulary) that the possibility of the science in question depends on colligation. They are thereby able to see the inconceivability of the contraries of fundamental colligations and hence to see their necessary truth (Whewell 1860b, 463–4). Thus for Whewell the existence of scientific knowledge presupposes necessary truths with empirical content.

Bosanquet accepts this view of scientific knowledge. The method of science, he thinks, is the hypothetical-deductive method, and it is capable of establishing necessary truths with empirical content. "'All science,'" he says, "'may be rightly described as progressive "colligation of facts" through superinduction of conceptions'" (1968b, 2:155, quoting Green 1886, 228). He further accepts, and this is crucial for his conception of logic, Whewell's view that judgments expressing fundamental colligations are necessarily true. "A synthetic judgment *à priori*," Bosanquet writes, "would be a judgment, not tautologous, but yet so determining the whole arrangement and cohesion of our experience that if it were untrue we should have to give up the pretension to connected intelligence" (1883, 72). Synthetic a priori judgments, in other words, have empirical content because they organize – that is, colligate – experience. Their necessity

results from the way in which they do this. "In order to see the necessity of any judgment," Bosanquet says,

> we must understand the terms. This means no less than that we must master a certain system in which the judgment which we are to apprehend is bound up, and then we shall perceive how unintelligible that part of our world, or it may be our entire world, would become if we denied that judgment. This is excellently illustrated by Whewell's account of coming to feel that the contradictory of certain judgments is inconceivable. (1883, 71)[14]

But while Bosanquet accepts Whewell's account of induction, he is unwilling to treat colligations as fundamental to their respective sciences in the way that Whewell requires. For Whewell, fundamental colligations function as axioms of the system of scientific knowledge, a system that increasingly approximates a deductive system as it progresses. Bosanquet does not think that fundamental colligations function in this way. This is because he follows Hegel in rejecting the conception of inference implicit in axiomatic systems. According to this conception, the truth of the axioms of the system guarantees the truth of their logical consequences, but the truth of these consequences does not in any way support the truth of the axioms. Inference on this conception is an asymmetrical relation between premises and conclusions. Bosanquet calls inference, so conceived, "linear inference" (1968c, 24). His alternative is to conceive of inference as "implication." According to this conception, a hypothesis is verified by "the agreement of its deduced consequences with observed facts" in which case "the truth of the premisses follows from the truth of the conclusion" (1883, 99). The relations between premises and conclusions in implications are thus to one extent or another symmetrical, and this means that at the very least it is misleading to describe the system of knowledge as an axiomatic system. Bosanquet is willing to say that the organization of the system of knowledge is "in form" deductive, but he prefers to describe the system itself it as "organic."

This has a surprising consequence. Although some judgments may be designated as axioms of the system, this does not imply that they guarantee the truth of the rest of the system. They have this designation only as an abstract way of expressing features of the system (Bosanquet 1968b, 2:208–9). They serve both as premises and conclusions of inferences, and in this respect they are like every other judgment in the system. Because Bosanquet's model for inference is inductive inference as Whewell conceives it, this means that all judgments contain a colligation or something

analogous to one. They unify their components, either previous judgments or unconceptualized feelings, by imposing concepts on them. In this respect they all contain some principle of unity, or what Hegel called a "notion." Bosanquet admits that this may not be explicit, but he insists that the explicit unity found in a colligation is at least implicitly present in every judgment (1968b, 1:83–4). This unity is what he describes as the "form" of knowledge, and it constitutes the subject matter of his logic. "To understand this unity," he writes, "in its different but kindred manifestations, to appreciate the demands which in its various phases it makes upon its material, and to formulate these demands as the logical ideal of knowledge, is what we understand by the function of logic as a science" (1883, 72).

This conception of form provides the rationale for the organization of Bosanquet's *Logic*. In order to study the shapes of this unity, Bosanquet focuses on the fact that knowledge grows over time as it progressively revises and enlarges itself. As it does so, it becomes more unified and more closely approximates the ideal form of an organic system. This is reflected in the different forms of judgments employed in the sciences. So, for example, in a rudimentary phase a science will be descriptive and so consist of mostly singular categorical judgments. In a more advanced phase it will be more explanatory and so include universal categorical judgments from which singular judgments may be deduced. Bosanquet gives his study of this development a quasi-Hegelian pattern by examining the ways in which the defects of more rudimentary judgments are remedied by more complex judgments and finally by judgments that are inductively inferred as necessary truths.[15] This, of course, incorporates inferences into the developmental structure of his logic. It also allows him to describe the project of his *Logic* by saying, "The whole course of the present work has been an attempt to trace the progressive determination of feelings, or of facts imperfectly understood, by conceptions which may be regarded as hypotheses in course of development and proof" (1968b, 2:155). Logic for Bosanquet is thus a study of the stages or "essential phases" by means of which the knowledge of finite thinkers increasingly approximates the ideal of an organic system of knowledge.

Bosanquet is fond of illustrating the form of knowledge found in inference using a story of Thackeray's. In this story an

> Abbé, talking among friends, has just said, "Do you know, ladies, my first penitent was a murderer"; and a nobleman of the neighborhood, entering the room at the

moment, exclaims, "You there, Abbé? Why, ladies, I was the Abbé's first penitent, and I promise you my confession astonished him!" (1968c, 26n)[16]

The unity in this inference is the concept of the nobleman who, as the inference progresses, is also revealed to be the Abbé's first penitent. The fact that the individual referred to by the concept has both properties (or is an "identity in difference" in Bosanquet's vocabulary) is what enables the conclusion to be drawn. Bosanquet describes this concept as a "concrete universal." As aspects of thought, concrete universals must to some extent be abstract. But as knowledge develops through new forms of judgments and inferences, universals of thought become more fully determined and more fully constitute the particulars falling under them. This is the progressive determination of feelings by conceptions (Bosanquet 1968b, 2:155). The ideal limit of the determination of feeling by thought, a limit that finite individuals cannot experience, is reached when universals become fully determinate and fully constitute the particulars falling under them. At this point they cease to be merely aspects of thought and become reality.[17]

In keeping with this view of logic as the progressive determination of reality by thought, Bosanquet takes enumerative induction to be incomplete deduction. Bosanquet's goal in his treatment of inference is to show how the form of unity contained in inference evolves as enumerative inductions develop into successful colligations of observed facts.[18] Bosanquet uses variants of the three forms of the Aristotelian syllogism to mark stages in the evolution of knowledge from enumerative inductions to colligations. Here is one of his examples of the first phase of inference, an enumerative induction analogous to a third figure syllogism.

> *a, b, c, d*, are rational;
> *a, b, c, d*, are men;
> [Therefore,] Are men rational? or, Men may be rational. (1968b, 2:51)

That this is a speculation is indicated by the peculiar form of its conclusion – the disjunction of a question and a problematic judgment. Its form reflects Bosanquet's idea that initially inferences are suggested explanations of observations. This is why the premises are enumerations of cases. The named individuals referred to in the first premise are conceptualized as men in the second premise. But the properties of men are not completely enough specified to guarantee that men are rational. By representing this enumerative induction as a syllogism, Bosanquet indicates that it represents the starting point rather than the termination of

an investigation. It suggests that being rational is connected with being human, but it does not show it to be so.

The only example Bosanquet gives of an enumerative induction advancing through several stages to a deduction is in his *Essentials of Logic*. While it is not a representative example of a "third figure" syllogism (because it enumerates only one case), following its development helps explain Bosanquet's account of inference. In its "third figure" form this syllogism is

> Yesterday it rained in the evening.
> All yesterday smoke tended to sink.
> The smoke sinking may be . . . a sign of rain. (1895, 147)

Here the induction is made on the basis of only one instance, the one that occurred yesterday. On that day smoke sank all day and then it rained. So on the basis of the joint occurrence yesterday of rain and sinking smoke, the suggested conclusion is that these two phenomena may be linked.

Like Hegel, Bosanquet thinks that enumerative inductions become more adequate inferences as they develop into other forms of inference, a development that he thinks diverges along two different tracks (Bosanquet 1968b, 2:54–5). The more important track leads to arguments that are analogous to syllogisms in the second figure.[19] Because the foregoing inference is still inadequate as a justification of its conclusion, the next step in the investigation is to analyze the individual referred to by the implied middle term (in this case "what occurred yesterday"). This represents an attempt to strengthen the link between rain and sinking smoke. Bosanquet thinks that the link must be a universal common to both rain and sinking smoke. Because the suggested connection in the third figure syllogism requires a concrete universal to be present in sinking smoke and rain, the search for it transforms the middle term in the first figure syllogism into a general term (1968b, 2:86–7). Bosanquet represents this transformation by the "second figure syllogism":

> Smoke that goes downwards is heavier than air.
> Particles of moisture are heavier than air.
> [Therefore,] Particles of moisture may be in the descending smoke. (1895, 147)

Although formally defective, this syllogism represents intellectual progress in defining the link between sinking smoke and rain. But as its modal conclusion indicates, it is still inconclusive. Further determination requires the use of hypotheses to identify the middle term connecting

sinking smoke with rain. The result is the following "first figure syllogism," where the first premise represents a successful hypothesis.

> All particles that sink in the air in damp weather more than in dry are loaded with moisture when they sink.
> Smoke that descends before rain is an example of particles that sink in the air in damp weather more than in dry.
> [Therefore,] Smoke that descends before rain is loaded with moisture when it descends (and therefore in sinking is not accidentally a sign of rain, but is really connected with the cause of rain). (1895, 149)

Here the necessity of the inference finally becomes explicit. The inference articulates the universal connecting the premises and the conclusion. In this case that universal is the cloud of particles that remain the same in the different manifestations of sinking smoke and rain. These manifestations, as Bosanquet likes to say, are differences of the same universal. This universal with its differences is the systematic ground of the inference.

In the course of elaborating this deductivist account of the growth of scientific knowledge, Bosanquet confronts the problem of reconciling the legitimacy and the usefulness of deductive inferences. His clearest statement of the problem is found in his *Essentials of Logic*. "The Problem of Inference," he says there,

> is something of a paradox. Inference consists in asserting as fact or truth, on the ground of certain given fact or truths, something which is not included in those data. We have not got inference unless the conclusion, (i.) is necessary from the premises, and (ii.) goes beyond the premises. To put the paradox quite roughly – we have not got inference unless the conclusion is (i.) in the premises, and (ii.) outside the premises. (1895, 137)

This formulation reflects both aspects of the problem. The first concerns how the truth of one judgment depends on the truth of another. The problem here is to find a bridge between the premises and the conclusion that serves to justify inferring the latter from the former. It is the problem of showing that the inference is legitimate. The second problem is to show how legitimate deductive inferences can be useful. It must allow for the conclusion of a deductive inference to be in some sense "outside" the premises.

Despite this clear statement of the problem, Bosanquet provides no clear solution in *The Essentials of Logic*. He does, however, point in the direction of his solution by saying that "in a sense" formally valid syllogisms

are intended to be circular, although he fails to explain in *what* sense they are (1895, 149). I take his solution to depend on his interpretation of inference as colligation. Inference so understood unifies its data by redescribing them using a new concept. The imposition of this concept is informative. Its legitimacy is shown by deducing the redescribed data from it using syllogisms.[20] For Bosanquet this deduction is not, however, the inference, but its analysis. Bosanquet is quite explicit about this. "I have always understood the Syllogism," he says, "as considered in logical theory, to be an analysis of inference, itself subsequent to the inference, and bound to exhibit the actual nexus of reasoning which we are able to take as having been employed" (1968a, 314). This is also true of premises, and here again Bosanquet is explicit. "Data are materials of proof," he writes, "premises are its analysis" (1968a, 315). To see what this means, consider again Mill's example

> All men are mortal.
> Socrates is a man.
> Therefore, Socrates is mortal.

This is an analysis of an inference.[21] It organizes the terms of the terminal judgment of the process of inference into premises and a conclusion. By so doing, it explains the necessity of the inference. But because the conclusion is contained in the major premise, it is, as Bosanquet recognizes, circular (1895, 149). For this reason he accepts (1), if an inference is legitimate, then its conclusion is asserted in its premises. But he denies (2): If the conclusion of an inference is asserted in its premises, then the inference is circular. The premises and conclusion of a syllogism are part of the analysis of the inference. The circularity of a syllogism does not show that the inference of which it is the analysis is circular. Showing this would require demonstrating that the data with which the inference began contained the conclusion. This will not be the case if inferences are colligations that superinduce concepts on their data. They will not be circular, and for this reason Bosanquet denies (2).[22]

Bosanquet had not developed his system of logic or presented his solution to the problem of inference when Bradley wrote the first edition of *The Principles of Logic*. But the idea of an idealistic logic, one incorporating a deductivist rather than an inductivist account of scientific method, had been voiced Green's *Lectures on Logic*, and Bosanquet's system was itself available to Bradley by the time he published the second edition of his book. His many references to Bosanquet in this edition testify to the importance he attached to many of the details in Bosanquet's logic. But

Bradley's logic was not an idealistic logic in the sense that Bosanquet's was. He presupposes neither the identity of thought with reality nor the existence of synthetic a priori judgments. While he was a sharp critic of Mill, his goal in *The Principles of Logic* was to solve the problem of inference while questioning rather than accepting a "cheap and easy" identification of thought and reality.

7

The Validity of Inference

In Book III, Part II, Chapter III, 560 weary pages into the *Principles of Logic*, Bradley confronts his readers with the question "Is inference valid?" On the basis of the arguments in the final two chapters of the *Principles of Logic*, he concludes that it is not and delivers his answer with words that gained his inclusion in *The Oxford Book of English Prose* (Quiller-Couch 1925, 911–13):

> Unless thought stands for something that falls beyond mere intelligence, if "thinking" is not used with some strange implication that never was part of the meaning of the word, a lingering scruple still forbids us to believe that reality can ever be purely rational. It may come from a failure in my metaphysics, or from a weakness of the flesh which continues to blind me, but the notion that existence could be the same as understanding strikes as cold and ghost-like as the dreariest materialism. That the glory of this world in the end is appearance leaves the world more glorious, if we feel it is a show of some fuller splendour; but the sensuous curtain is a deception and a cheat, if it hides some colourless movement of atoms, some spectral woof of impalpable abstractions, or unearthly ballet of bloodless categories. Though dragged to such conclusions, we can not embrace them. Our principles may be true, but they are not reality. They no more *make* that Whole which commands our devotion, than some shredded dissection of human tatters *is* that warm and breathing beauty of flesh which our hearts found delightful. (PL 590–1)

This pronouncement, delivered in the penultimate paragraph of the first edition of *The Principles of Logic*, is Bradley's answer to the question he pursues throughout the book: Is thought identical to reality? His answer is a firm "no." "Our principles may be true," he says, "but they are not reality."

The principles that are particularly important in this context are the principles of inference that Bradley identifies in his diffuse, 350-page examination of how inference is possible. These principles provide the basis of Bradley's solution to the problem of inference that exercised Mill, Hegel, and Bosanquet. They are his way of explaining the conditions under which valid inferences are possible, and they provide him with a basis for solving the problem of inference by denying premise (1), "If an inference is legitimate, then its conclusion is asserted in its premises." His solution, moreover, opens the way to asking the question of whether these conditions ever actually obtain. His surprising answer is that they do not, and it is on this basis that he denies the identity of thought and reality.

In this chapter I will first survey Bradley's theory of inference and then, against the background of this survey, explain his formulation of the problem of inference and his solution to it. Finally, I will rely on the account of inference contained in his solution to explain why he rejects the identification of thought and reality.

I

Because Bradley's solution to the problem as well as his formulation of it is buried, at times deeply, in his idiosyncratic examination of intuitively acceptable inferences, it will be useful to approach his solution by surveying his 350-page discussion of inference. Rather than summarizing his data and then developing a theory to explain how valid inferences are possible, Bradley proceeds in a more indirect way. He describes his procedure by saying,

> Instead of going at once from the facts to the truth, and from that to the removal of erroneous theories, I shall aim at reaching an easy vantage-ground, from which we may disperse the mass of mistakes which bar our progress and harass each movement. This will be the object we shall try to gain first. Secure in our rear, we may then proceed upon the final position. (PL 243)

These two stages in his exposition, finding "an easy vantage-ground" and proceeding to "the final position," correspond to Books II and III of *The Principles of Logic*.

Bradley begins Part I of Book II by listing three criteria for identifying inferences. They are (1) What is inferred is not merely observed; (2) Inferences have conclusions that are based on something (i.e., on premises, although he mentions this fact only later); and (3) These

conclusions must contain new information. He then gives eight examples of intuitively valid inferences (he calls them "palpable inferences") and says, "The fact that they are [palpable inferences] is much stronger than any theory of logic" (PL 246). Notable among them is (viii): "Man is mortal, John is man, therefore, John is mortal" (PL 246). Taken in conjunction with his third criterion for identifying inferences, that the conclusion of an inference contains new information, this example shows that Bradley is challenging Mill's treatment of syllogisms as registers of inferences rather than as inferences themselves.[1] He is also committing himself to taking syllogisms as legitimate, useful inferences. Like Bosanquet, he is defending deductive logic against Mill. As a result, his incipient theory of inference almost immediately confronts what I have been calling "the problem of inference."

Rather than dealing with this problem immediately, however, Bradley uses his criteria and examples to reject a number of "erroneous views" of inference (e.g., that all valid inferences can be reduced to syllogisms) and to give a general, though provisional, characterization of inference. "Every inference," he says,

> combines two elements; it is in the first place a process, and in the second place a result. The process is an operation of synthesis; it takes its *data* and by ideal construction combines them into a whole. The result is the perception of a new relation within that unity. We start with certain relations of elements; by virtue of the sameness of two or more of these elements we unite their relations in one single construction, and in that we perceive a fresh relation of these elements. (PL 256)

Using this characterization as a guide, Bradley provisionally identifies several principles of reasoning. These principles explain how inferences are possible. They do so by describing ways of combining premises and thus creating the whole within which a new relation appears. They are not, however, rules of inference. They do not specify the conclusions that can legitimately be inferred from premises. They simply describe different ways of synthesizing or combining premises and the sorts of conclusions that emerge from these different combinations. Among the principles Bradley mentions here is "Synthesis of Identity" (PL 265). An example of an inference involving this principle is "Coin A has the same inscription as coin B, and coin B as coin C, therefore A as C" (PL 265). Here the premises ("Coin A has the same inscription as coin B" and "Coin B has the same inscription as coin C") are joined by the fact that they have a common element – both contain the term "coin B." Joining

the premises by their common element, the term "coin B," constructs a whole. According to the principle of synthesis of identity, "where one term has one and the same point in common with two or more terms, there these others have the same point in common" (PL 265). So the principle describes how a specific way of combining premises reveals a new relation, the relation between coin A and coin C. This relation is asserted to hold in the conclusion.

Using this provisional characterization of inference, Bradley identifies two necessary conditions of valid inferences. (1) "It is impossible to reason except upon the basis of identity" and (2) "It is impossible to reason unless at least one premise is universal" (PL 285). These conditions are illustrated in inferences like the one mentioned previously. According to Bradley's preliminary characterization of inference, all inferences involve an ideal construction that combines their premises. Combining any two premises requires a term common to both. In the foregoing example, the common term is "coin B." As Bradley puts it, "A construction of given premises is not possible unless each pair of premises has a common point. And this common point must be an identical term" (PL 287–8). This is what condition (1) requires. But for the inference to be informative, there must be additional terms in the premises, namely, "coin A" and "coin C." These additional terms are brought into relation by means of their separate relations to "coin B." This is where Bradley's condition (2) comes into play. This condition requires every inference to contain at least one universal premise. In this inference, both premises are universal, but only in Bradley's idiosyncratic sense. "A universal judgment," he says, "is one that holds of any subject which is a synthesis of differences" (PL 295). Coin B is in fact such a subject. In the premises of the inference it is asserted to have two different attributes, namely, its relation to coin A and its relation to coin C. These are two of the differences unified or synthesized in coin B. Coin B thus synthesizes differences and is consequently what Bradley calls a "concrete universal" (e.g., PL 188). Because both premises contain a term for a concrete universal, the term "coin B," they count as universal premises. This enables "coin A" to be related to "coin C" so that the inference is informative. Guaranteeing this is the point of condition (2). Bradley puts this succinctly by saying,

> The term [in this case "coin B"] must be shared by both the premises. It is a single content in two different contexts. But, since thus it is universal, at least one premise must have the same character [i.e., be universal]. (PL 294–5)

This is what (2) requires.

For Bradley, then, as for Bosanquet, valid inference is made possible by a concrete universal common to the premises. This universal is the unity that relates the additional terms in the premises, thereby allowing a relation between their referents to be asserted in the conclusion. To put this Bradley's way, the concrete universal develops its content through the construction that combines the premises so that a new relation can be perceived. In the conclusion, this relation is then asserted to hold. Bradley later characterizes an inference as "the ideal self-development of a given object taken as real" (PL 598), and this characterization is already implicit in his provisional account of inference. With this account Bradley has reached his goal of "reaching an easy vantage-ground" from which he can "disperse the mass of mistakes" in other theories of inference. This is what he proceeds to do in Part II of Book II by criticizing the theories of inference of Mill (his principal target) and Jevons.[2] But this is not all that he does in this part of Book II. As he makes clear in a footnote (PL 346n1), this part of Book II contains another idea that is essential to his theory of inference: that relations of association hold between logical ideas – that is, universals or meanings – rather than between their psychological bearers, which are fleeting particulars. This allows him to use his versions of the laws of association to explain the logical process of inference while distinguishing between logical and psychological consequence. Logical consequences are relations between universals, while psychological consequences are relations between mental particulars.

After giving the provisional version of his theory in Book II and thereby rejecting Mill's account of inference, Bradley elaborates a more comprehensive version of his theory in Part I of Book III. This is preliminary to settling his accounts with Hegel in Part II of Book III. He begins Part I with "fresh specimens of inference" that are not covered by the provisional version of his theory. They include, for example, inferences with only one premise. Conditional judgments illustrate what Bradley has in mind here. Consider the judgment "If this is A then it is C."[3] Although this may not be an explicit inference, Bradley treats it as an abbreviated inference. It asserts the existence of a general law of nature and the existence of circumstances such that if the object designated by "this" is supposed or assumed to be A, then it follows that it is also C. The reason it may not be an explicit inference is that a person asserting it may not be aware of the relevant general law. Bradley thinks that in such a case the general law does not operate as a premise. This is why conditional judgments need only one premise, the supposal that "this is A." In such

cases Bradley treats the general law as a "function" (e.g., PL 407). By this he means that the process in the inference, in this case the synthesizing of "A" and "C," takes place without the general law that is assumed in its operation ever coming to full consciousness.[4] In this respect the general law is not *given* as a premise – that is, it is not in full consciousness. Inferences of this type do not involve a synthesis based on the identity of given "terminal points," because one of the terminal points is part of a function and so is not given as a premise. Consequently, inferences with only one premise are not covered by the provisional form of Bradley's theory.

Bradley admits that treating some of his fresh specimens of inference as inferences "is a matter not of principle, but of choice and convenience" (PL 397). Because many of these specimens are no longer palpable inferences, Bradley proposes a new criterion for identifying inferences, namely, that they contain necessary truths (PL 395–6). He then offers a new characterization to cover his fresh specimens. Inference, he says, is always an operation. "This operation," he continues, "is an ideal experiment upon something which is given, and the result of this process is invariably ascribed to the original *datum*" (PL 431). Bradley still regards this datum as a concrete universal, but now he claims that it need not develop by being a common term in synthesized premises. It may also develop through the operation of a function. This revised account of inference brings him closer to Hegel, because it allows him to treat what he calls "the Dialectical Method" as a form of reasoning. In fact, in his Terminal Essay I, "On Inference," it emerges as the ideal form of inference (PL 602).

With this revised conception of inference in hand, Bradley proceeds to wrap up his theory by offering a further classification of inferences, by describing the universal that develops through the inference in more detail, and by summing up the revised version of his theory in a chapter entitled "The Final Essence of Reasoning." In that chapter Bradley explains how legitimate inference is possible by listing its principles. He writes,

> If, considering once more the processes we have surveyed, we ask for the principles which underlie them, we discover first of all the Axiom of Identity. . . . And when, advancing from this, we approach our array of ideal operations, we see that they fall under analysis and synthesis. These, if we take in that other principle of movement, by which we go from the possible to the actual, seem to cover the ground of all our material. (PL 470)

These principles, he claims, cover all of his specimens of valid inference. Although there is a further chapter in this part of *The Principles of Logic* (i.e., in Book III, Part I) that deals with the origin of inference, Chapter VI, "The Final Essence of Reasoning," summarizes the full theory of inference of the first edition of *The Principles of Logic*.

This theory provides a general solution to Mill's problem of inference by treating inference as a form of self-development (PL 492–4). Inferences are legitimate when the development of their premises is necessary, yet they are still useful because their conclusions advance beyond their premises. But this remains a general solution because it fails to explain how the syllogism Mill used to set forth the problem can be both legitimate and useful. As a result, it also fails to explain the flaw in the argument Mill used to define his problem of inference. Only in the second edition, an edition revised at many points as a result of Bosanquet's criticisms, did Bradley explicitly address Mill's problem. He did so in the course of adding a large number of revisions in his footnotes as well as an extremely useful, condensed, and slightly modified account of his theory in Terminal Essay I, "On Inference." Both the modifications and revisions are chiefly the result of his rejection of the existence of floating ideas. But they leave most of his previous theory intact. In Terminal Essay I he explains this theory as a response to the problem of inference, assesses the adequacy of different types of inferences, and discusses once again why thought is not identical to reality. As a result, Terminal Essay I provides both a useful précis of Bradley's theory and a convenient though compressed introduction to it.

II

Because Bradley's two-part exposition of his theory in Book I is neither straightforward nor complete, I will rely on Terminal Essay I as a guide to his treatment of the problem of inference. Bradley opens this essay with a few introductory remarks, then proceeds to define inference as "the ideal self-development of a given object taken as real" (PL 598). He explains this definition by means of the problem of inference. Here is his statement of the problem, which he calls "the essential puzzle of inference":

> If, on the one hand, the object does not advance beyond its beginning, there clearly is no inference. But, on the other hand, if the object passes beyond what is itself, the inference is destroyed. Its progress and every step in its advance are

necessary, since apart from a continuous "must" and an unfailing "because" we have failed to infer. And yet the inference is ruined if anywhere we pass beyond the limits of our given object. (PL 599)

Although Bradley's wording of the problem is his own, the problem itself is the one engaging Mill, Hegel, and Bosanquet. If on the one hand there is no "advance" – that is, if the conclusion does not contain new information – then there is no inference, so certainly not a useful one. The result is already asserted in the premises. On the other hand, if the conclusion is not necessitated by the premises, then the inference is not legitimate. Bradley's problem, like that of other nineteenth-century philosophers, is to reconcile the legitimacy and usefulness of inference.

Here is his only explicit statement of his solution:

The general solution of the problem raised by the essence of inference is found, I think, so far as logic is concerned, in the double nature of the object. Every inference, we saw, both starts with and is confined to a special object. Now this object, like all objects, is taken, we may say, as referred to Reality, the real Universe; or, to speak more correctly, the object is taken as in one with this Reality. Hence the object not only is itself, but is also contained as an element in a whole; and it *is* itself, we must add, only as being so contained. And the difference of the object from, and its essential identity with a whole beyond itself – a whole which logic takes as a system both ideal and real – is the key (so far as logic is concerned) to this puzzle of self-development. On the one side the special object advances to a result beyond the beginning, and yet its progress throughout is nothing beyond the intrinsic development of its proper being. For that which mediates and necessitates its advance is implied within its own self. (PL 599–600)

Bradley's description of his solution as the key to "this puzzle of self-development" ties it directly to his characterization of inference in the first edition as a form of self-development (PL 492–4). Beyond this, however, Bradley's statement of his solution conveys very little. It is not clear what the object of an inference is, why it has a double nature, or how one side of its nature, "the special object," develops ideally. In order to understand Bradley's solution, these ideas require clarification.

The fundamental idea is that of the object of an inference. This, unfortunately, is something Bradley seldom discusses. His most straightforward statement of what he takes such objects to be is in one of his notebooks. In a series of entries reconsidering the first edition of *The Principles of Logic*, he describes an inference as "the necessary ideal self-development of a given object." Then he says, "The object [of an inference] is an ideal content referred to reality . . ." (CW3 143).[5] Because an ideal content is

an idea, and because what is referred to reality is predicated of it, the object of an inference is an idea predicated of reality.

This object has a double nature in virtue of being predicated of reality in two different ways. In Terminal Essay II, "On Judgment," Bradley describes the two natures as follows:

> In Judgment the Reality to which in fact we refer is always something distinguished. It *is* Reality, as our whole world, but, at the same time and none the less, it is also *this* reality. It is a limited aspect and portion of the Universe, it is some special and emphasized feature in the total mass. (PL 629)

That is, the idea which is the object of an inference is predicated of the whole of reality and of a limited portion or "emphasized feature" of reality. Elsewhere Bradley refers to this "emphasized feature" as a "special reality" (PL 426n24), or as a "special object" (PL 600). The two natures of the object are thus the idea predicated of a limited portion of reality and the idea predicated of the whole of reality. As one might expect, Bradley indicates that this distinction is not absolute. The emphasized feature, he goes on to say, is "in one with the unbroken Reality" (PL 629).

These two natures are required by Bradley's treatment of negative and disjunctive judgments in the second edition of *The Principles of Logic*. Consider, for example, the judgment "This tree is not yellow." According to Bradley (in the first edition of *The Principles of Logic*), "This tree is not yellow" asserts that the unasserted ideal content, "This tree is yellow," is false. As an unasserted ideal content, "This tree is yellow" is a floating idea. But according to the second edition of *The Principles of Logic*, there are no floating ideas, so "This tree is yellow" must somehow also be asserted of reality. Bradley reconciles these claims by saying that the two judgments, "This tree is yellow" and "This tree is not yellow," are true of different objects. The object of which "This tree is yellow" is true is the whole of reality. Here the referent of the subject of the judgment, the tree, is taken as one with the whole of reality. What is then denied in the negative judgment "This tree is not yellow" is that "This tree is yellow" is true of a selected portion of reality, namely, the portion of reality normally understood as the referent of the grammatical subject of the judgment, "this tree." Negative judgments thus deny that affirmative judgments are true of specific portions of reality. These portions of reality are Bradley's "special realities." Bradley thus requires the object of a judgment to have two aspects in order to accommodate his treatment of negative judgments.

He invokes the same distinction in his theory of inference. For Bradley, an inference is the ideal development of the special object – that is, of an ideal content referred to a limited portion of reality. By describing it as ideal, Bradley indicates that it is the *idea* applied to reality that develops. The conclusion of an inference thus contains an expansion of the idea present in the premises, and this is what enables inferences to be informative. In order to explain how this is possible, Bradley falls back on the fact that because ideas are mental, inferences are mental developments. As such, they are governed by the laws of development covering all mental life. In classical British psychology these laws were called "the laws of association." The law of contiguity, for example, held that ideas initially experienced together tended to be associated. Later experience of one of them would tend to lead to one's recalling the other. These laws purported to describe the association of mental particulars. The most obvious examples of these particulars are Hume's impressions and ideas. Bradley accepts the fact that his objects follow laws of association, but as ideas his objects are universals, not particulars. Accordingly, he proposes new laws of association, laws governing universals. He calls his fundamental law the "Law of Individuation":

> Every mental element (to use a metaphor) strives to make itself a whole or to lose itself in one, and it will not have its company assigned to it by mere conjunction in presentation. Each struggles to develop itself by the weapon of identity, which gives strength by coalescence and enlargement by recall. (CE 212)

Bradley claims that this law cannot be derived from any more basic law. It is, he says, "a standard for thought and feeling and will, according to the special conditions of these processes" (CE 230–1).[6] It operates through two secondary laws, the Law of Redintegration[7] and the Law of Blending or Coalescence or Fusion. The Law of Redintegration is that "Every mental element when present tends to reinstate those elements with which it has been presented" (CE 210).[8] The Law of Blending or Coalescence or Fusion is that "Where different elements (or relations of elements) have any feature the same, they may unite wholly or partially" (CE 211). These laws cover all mental elements, including Bradley's special objects of inferences.

It should be noticed that while it is true that inferences are governed by these laws, not everything governed by them is an inference. This is because inference is a logical rather than a psychological development. Bradley is quite firm about this, although his way of distinguishing logic from psychology varied over the years (Blanshard 1939, 1:445–57). What

he came to see as the fundamental contrast is that psychology is concerned with causal sequences of events existing in space and time in the minds of individuals (CE 364–7), while logic is concerned with ideas, contents abstracted from these existing events (PL 611–13). These contents are Bradley's objects of inference. As he succinctly says, "Association becomes logical by its use for, and subordination to, a logical end; where, that is, it is controlled, for the purpose of truth, by the identity and individuality of an object" (PL 346n6). So by treating inference as the *ideal* development of an *object*, Bradley is distinguishing logical applications of the law of individuation from psychological ones. Logical ones are concerned with relations between ideal contents. Bradley takes these relations to be independent of the factual relationships of concern to psychology, and this, he thinks, preserves the independence of logic from psychology.

He relies on his principles of logic to explain how inference, the ideal self-development of a special object, is possible. His fundamental principles are analysis and synthesis. In its basic form Bradley treats synthesis as combining the premises of the inference to form the ideal construction that marks its essence.[9] He uses "synthesis" as a generic term to cover a number of more specific operations.[10] At one point he lists five kinds of synthesis (PL 265–7); at another he categorizes different forms of synthesis in terms of whether the synthesized whole is constructed *out of* the datum of the inference or *beyond* the datum (PL 454–5). Despite these complexities, what he means by "synthesis" is relatively straightforward. It is the operation of combining the terms in the premises into a new relationship. To take a simple example, he says that "from A-B B-C we go by synthesis to A-B-C" (PL 450). All inferences with multiple premises require this operation.

Analysis, by contrast, consists in eliminating some of the terms in the relationship to form a new relation. Like synthesis, it has multiple forms (e.g., PL 455), but examining them is not necessary in order to explain the development of the special object of inference. Consider, for example, the inference "A is *b* or *c*, A is not *c*, therefore it is *b*" (PL 412–13). Here analysis begins where synthesis leaves off. Synthesis combines "A," "*b*," "*c*," and "not *c*" into a single relation, "A is *b* or *c* and not *c*." The operation of analysis then eliminates part of the construction, namely, "*c* and not *c*," to yield the result "A is *b*."

Bradley claims that analysis and synthesis are parts of the same operation, which is his way of indicating that they presuppose each other. The reason is that ideal objects are abstracted from experience and, because

there are no floating ideas, referred to reality. Because abstraction is a form of analysis and referring ideas to reality is a form of synthesis (PL 73), the very existence of ideas requires both analysis and synthesis. For another illustration of their interdependence, consider the "act of analysis in which A becomes (A) *bcd*" (PL 470). The analysis identifies three elements in A and by so doing analyzes them as parts of A. But as parts of A they stand in some relationship, and this relationship, Bradley says, is the result of an act of synthesis. This, of course, is in conformity with Bradley's view that relations are not given but constructed. The same is true in reverse. Consider, Bradley says, the act of synthesizing A-B and B-C into A-B-C. This constructs a new whole (i.e., synthesizes it) and treats A, B, and C as parts of it. But by treating them as parts of the newly synthesized whole, it analyzes that whole. From this Bradley concludes that

> [a]nalysis is the synthesis of the whole which it divides, and synthesis the analysis of the whole which it constructs. The two processes are one. (PL 471)

This, however, does not prevent Bradley from referring to synthesis and analysis separately, depending on which aspect of the entire operation is more prominent.

Synthesis and analysis are the two fundamental operations required in drawing inferences. Bradley's descriptions of the combining of premises and the seeing of new relationships within the combined whole and his talk of inference as the ideal self-development of an object can be straightforwardly described by these operations. They are constantly present in Bradley's treatment of particular inferences. This is not true of his third, unnamed principle. Bradley formulated this principle in several ways, one of which is "All suggested ideas, we assume, are real, unless they are excluded" (PL 414). He employed it only to explain disjunctive inferences and then only in the first edition of *The Principles of Logic*. By the time he wrote the second edition he had abandoned his belief in the existence of floating ideas, holding that all ideas are predicated of reality. Consequently, he no longer needed a principle to guarantee that nonexcluded ideas are predicated of reality, and so in the second edition he eliminated this principle from his theory of inference. For this reason it plays no role in his solution to the problem of inference.

In addition to the operations of analysis and synthesis, Bradley's solution to the problem requires an additional principle of inference, one he refers to as "the Axiom of Identity."[11] Bradley's description of it leaves

much to be desired. Not only does he state it in several not obviously equivalent ways, he even calls it by different names. Besides calling it "the Axiom of Identity," he also refers to it as "the Principle of Identity" (e.g., PL 431) and "the Axiom of the Identity of Indiscernibles" (e.g., PL 288).[12] This last name is misleading because it immediately suggests Leibniz's axiom of the same name. This is not what Bradley has in mind. Still, the name "the Axiom of the Identity of Indiscernibles" is revealing. It literally describes one statement of the axiom: "What *seems* the same *is* the same" (PL 288). But Bradley also states the axiom as "*What is true in one context is true in another*" (PL 143).

Bradley admits that this axiom, taken in its traditionally stated form as "A is A," can be interpreted in at least three different ways: (1) It can be interpreted to require that the subject and predicate terms of a judgment be syntactically identical. So interpreted, the axiom is false. For a judgment to be significant, Bradley says, its subject and predicate terms must be syntactically different. (2) It can be interpreted to require that the subject and predicate terms assert a connection within a whole – that is, a concrete universal. With the axiom so interpreted, Bradley thinks it is true, but this is not the interpretation he chooses to emphasize. (3) The interpretation he chooses to emphasize is the one I have quoted previously in its different formulations. The point of it might be put in still another way by saying, "Truth is independent of context" (Sprigge 1993, 327). It is in this form that Bradley takes the axiom of identity to be a principle (PL 141–5).

Bradley specifies two things that assuming the axiom does in the process of inference. First, it allows treating terms in different premises as tokens of the same type (PL 72–3; 284–8). Consider again the inference "A is to the right of B, B is to the right of C, therefore A is to the right of C." The process involved in this inference begins with the synthesis of the premises to form a linear order. What makes this synthesis possible is the fact that the terms "A" and "C" are both related to the term "B." The occurrences of "B" are syntactically the same in both premises, so the axiom allows them to be treated as semantically the same – to have the same semantic content despite the fact that they occur in different contexts. It thus licenses treating the two "B's" as tokens of the same type. Without assuming the axiom, there would be no basis for combining the two premises in an act of synthesis.[13]

This is a crucial axiom for any analysis of inference. Identifying inference proceeds under the assumption that syntactically identical terms in different premises are identical in semantic content. Without this

assumption there will be counterexamples to any inference pattern. Consider, for example, the inference

Everything is such that if it is a nut then it grows on trees.
Something that is a nut has threads.
So, something that has threads grows on trees.

The invalidity of this inference does not serve as a counterexample to the following valid inference pattern:

Everything is such that if it is (an) F it is (a) G.
Something that is (an) F has H.
So, something that has H is G.

The reason it does not is that the term "nut" in the argument does not have the same semantic content in both of its occurrences. Yet it is a presupposition of logic that inference holds only on the assumption that terms which occur more than once retain the same senses. In the absence of this assumption, the above counterexample would show the inferential pattern to be invalid.[14]

This, however, is only one of Bradley's applications of the axiom of identity. There is another. Inferring a conclusion requires combining premises, detaching the conclusion from them, and asserting it in its own right. Once again, this assumes that the conclusion remains the same whether combined with the premises or disconnected from them. The axiom of identity guarantees that it does and thus allows for the detachment of the conclusion (PL 431).

To summarize, Bradley defines inference as the ideal self-development of a given object. A given object is a portion of immediate experience that has been abstracted from its given context to form an ideal content. This content is then predicated of a limited portion of reality. In the course of the inference this content develops as the premises are synthesized and analyzed on the assumption that they have a common term. This development reveals new qualities or relations in the ideal content, qualities or relations that are then predicated of the limited portion of reality singled out in the premises.

To see how this describes an actual inference, consider again

All men are mortal.
Socrates is a man.
Therefore, Socrates is mortal.

Commenting on this inference, Bradley says "Sokrates [*sic*], that is, develops [*sic*] himself into mortal because he is in one with a whole which owns certain connections" (PL 603). I take this to mean that Socrates is the special object of the inference.[15] By means of what seems to be (and hence according to the axiom of identity therefore is) the common term "man," Socrates is synthesized with a larger whole. As a result, Socrates is connected to the attributes of humanity, specifically mortality. Analyzing this whole reveals a new quality of Socrates, mortality, thus yielding the conclusion that Socrates is mortal.

Seeing how describing the inference in these terms is supposed to solve the problem of inference requires focusing on Bradley's claim that the double nature of the object is the key. After describing this double nature, he says,

> And the difference of the object from, and its essential identity with a whole beyond itself – a whole which logic takes as a system both ideal and real – is the key (so far as logic is concerned) to this puzzle of self-development. On the one side the special object advances to a result beyond the beginning, and yet its progress throughout is nothing beyond the intrinsic development of its proper being. For that which mediates and necessitates its advance is implied within its own self. (PL 600)

What this means can be seen by connecting it with Bradley's analyses of the premises of the inference. As a universal judgment, the first premise, "All men are mortal," is a universal conditional. It does not assert that all existing men are mortal. It asserts that if something is a man, then that thing is mortal. Synthesizing it with the second premise in effect instantiates it as a judgment about Socrates and transfers the connection between humanity and mortality to Socrates. This, of course, presupposes that the common term in the two premises, "man," has the same semantic content. The connection between Socrates and mortality thereby becomes a necessary one. This is because conditional judgments are abbreviated inferences. They assert the existence of a relevant law of nature and of circumstances in which the law applies, and they are true if the inferences they abbreviate are sound. Treating judgments in this way requires taking them as part of a system of judgments, and this, as Bradley says, is part of the key to his solution. So if Socrates is a man, then, necessarily, he is mortal. Treating the first premise as part of a system of judgments and joining the second premise to this system explains the legitimacy of the inference.

It also explains its usefulness. By treating universal categorical judgments as conditionals, Bradley denies that they categorically assert anything about their instances. Accordingly, the first premise does not assert mortality of each and every human. It merely asserts that *if* something is human, then it is mortal. It is only when combined with the premise "Socrates is human" that it yields the conclusion that Socrates is mortal. As a result, the conclusion, "Socrates is mortal," is not asserted in the premises of the argument, and hence (1), "If an inference is legitimate, then its conclusion is asserted in its premises," is false.[16]

This completes the first part of Bradley's project in *The Principles of Logic*. He has now defended the usefulness and legitimacy of deductive inference against Mill. His solution requires distinguishing between the logical and grammatical forms of judgments, and it requires that judgments be part of a system of judgments. As might now be said, it requires holism. But Bradley exploits holism differently from either Hegel or Bosanquet. His holism and his defense of inference are not, at least at this stage, primarily metaphysical. In his view, logic as a special science only "takes" reality as a system which is ideal and real. His next question is whether reality is indeed such a system. This is the question of whether his logical principles are indeed objective, a question he addresses under the heading of the validity of inference.

III

Having described inference as a transformation of ideal contents through analysis and synthesis, Bradley now faces a problem that is part of the legacy of Kant. In his *Critique of Pure Reason*, Kant argued that the faculty that draws inferences, the faculty of reason, follows necessary rules in reaching its conclusions. As far as Kant is concerned, however, the use of these rules does not guarantee the validity of the inferences they are used to draw, for while all of these rules are necessary, not all of them have what Kant calls "objective necessity." Some of them are only subjectively necessary. The proper function of subjectively necessary rules is to organize existing knowledge, not to increase knowledge nor to extend it beyond the limits of possible experience. Nevertheless, Kant thinks that reason has a natural and unavoidable tendency to employ subjective rules as though they were objective, and hence to use them to draw conclusions about objects, especially those that transcend the limits of possible experience. Because this procedure, Kant thinks, gives rise to "transcendental illusions," the faculty of reason needs to be subjected to a critique.

Kant's way of viewing inference provided the general framework within which many nineteenth-century philosophers confronted the problem of the validity of inference. The problem is that the necessity of a Kantian inference need not guarantee that it correspond to anything objective. Hermann Lotze puts it this way:

> [The skeptical mind] has, it will acknowledge, a profound belief that there is some absolutely valid truth; and again it will grant that necessary laws of thought rule all our enquiries and all our doubts: the question which troubles it is whether the two – the truth and the laws of thought – coincide. Just because we know that there must be truth, and therefore that there may be error, how are we to be sure that those necessary laws which exist in our mind may not belong to the side of error, and everything therefore be quite different in itself from that which by the laws of thought it necessarily appears to us? (Lotze 1888, 2:179)

This statement of the problem also shows that the word "valid" was not used by nineteenth-century philosophers as it is used by philosophers today. Lotze's use of the term was part of the ontological doctrine that different types of things are real in different ways: Things are, events occur, and true propositions hold.[17] The verb used of real propositions, "*gelten*" (translated as "hold"), has as noun forms "*das Gelten*" and "*die Geltung*" (both translated as "validity") (Dummett 1991, 108–9). Lotze thinks that holding or being valid cannot be further explained. However, because he says that validity is independent of the act of thinking of it (1888, 2:209–10), validity is roughly the same thing for him as objectivity (Sluga 1977, 232–3). This is important because Bradley says that he uses the word "validity" "much in the sense in which it was made current, I believe, by Lotze" (AR 503n).[18] Bradley goes on to say that used this way, "validity" partially coincides with what is meant by the Greek word "*δόξα*." I take this to mean that what is valid is an appearance and so has a degree of reality, but not the highest degree. Bradley repeatedly says that logic is a special science, and this requires that it not even purport to provide ultimate truth (cf. PL 616).

Bradley takes up the validity of inference in the last two chapters of the first edition of *The Principles of Logic*, Chapters III and IV of Book III, Part II. He introduces the topic by asking whether "a process of reasoning is correct" (PL 551). He then divides this question into two questions corresponding to the two main senses in which he claims that an inference may be said to be valid. In Chapter III he asks whether an inference is valid in the first sense – that is, whether "the conclusion really comes from the unhelped premises" (PL 553). What Bradley is asking here is whether the ideal content in the premises of an inference, a content predicated

of a limited portion of reality, develops of itself into the conclusion. If it does, then the premises alone ("unhelped") are responsible for the conclusion. Bradley sometimes refers to the ideal content of the premises as the "special object" of the inference. So if this ideal content by itself develops into the conclusion, the conclusion is solely a development of the *ideas* in the premises. It is then a development of the *special object* of the inference and is in this respect objective. It is a logical consequence of its premises and the inference is valid, both in Bradley's first sense and in the contemporary sense. If, on the contrary, the conclusion is not the ideal development of the premises alone – that is, if they require help to generate the conclusion – then the conclusion is not a logical consequence of the premises. If this is so, then the inference is not objective in the foregoing sense and so it is not valid, either in Bradley's first sense or in the contemporary sense.

In answering this question, Bradley concerns himself with whether the mental activities associated with inferring "help" the premises reach their conclusions. He admits that anyone engaged in inferring is active. But on the strength of two assumed postulates, he denies that these activities help premises generate their conclusions. Bradley's first postulate is that "mere attention . . . is not an alteration" (PL 555). In order to be aware of the development of an ideal content, the inferer must attend to it. The postulate justifies holding that the ideal content in the premises develops independently of the attention. Bradley's second postulate is that "some processes do not modify their consequence" (PL 559). He uses this postulate to defend inferences of comparison, distinction, arithmetic, construction, and geometry. For example, by comparing ABC and DBF, inferers may conclude that they are alike in B (PL 406). In order to be aware of the likeness, inferers must compare their ideas of ABC and of DBF. But this process of comparison makes no difference to the likeness that develops from their ideas. In such cases the activities of inferers modify their perceptions of the likeness. But the likeness is present independently of those perceptions. From this Bradley concludes that if these two postulates hold, then it is possible for inferences to be objective and so valid in his first sense.

That Bradley gives this answer to his first question about validity is no surprise. One expects a 700-page treatise on logic to hold some inferences to be valid. What is surprising is his negative response to his second question about validity, "If in argument we possess a strict counterpart of the nature of things, if our mental operation truly represents any actual process" (PL 551). What concerns Bradley here is whether the development

of the ideal contents of inferences corresponds with fact. That is, he envisions the possibility that inferences could have true premises and could be valid in his first sense, in the sense that their premises generate their conclusions, and yet those conclusions might not be true. This would be the case if the necessary development of their ideal contents did not correspond with reality. This is the possibility raised by Lotze: that the laws of thought are not true. If they are not, then the conclusions of valid inferences (in Bradley's first sense) that have true premises might not be true of the limited portions of reality that they are about. In this case inferences would lack objectivity in a new sense and they would be invalid in the contemporary sense of that term. Furthermore, if they are invalid in this sense, if the laws of thought are not true, then Hegel was certainly wrong in thinking that thought is identical to reality. So by denying that inference is valid in this second sense, Bradley is answering the outstanding question for idealists of his time: Is thought identical to reality?[19]

Bradley's discussion of this question has three convoluted parts followed by a conclusion. In the first he considers three answers and rejects two of them. In the second he defends the remaining answer. In the third he further supports this answer with metaphysical considerations. In examining the three answers in the first part, Bradley assumes a commonsense conception of reality. According to this conception what exists is present in space and time.[20] This allows him to reject two of the answers because they require quite different conceptions of reality. The three answers in this part are: (a) thought and reality are identical because the process of inferring constitutes fact; (b) thought and reality, while not identical, are parallel to each other; and (c) thought and reality are not identical because the process of inference has no counterpart in reality. Bradley rejects (a) on the basis of Chapter II of Book III, Part II, "The Cause and the Because." Here he argues that while processing the premises of an inference in the appropriate way provides a reason for believing that the conclusion is true, it does not cause the conclusion to be true. Consider, for example, the inference, "A is identical to B, C is identical to B, therefore A is identical to C." If I draw this inference, then my way of combining the premises provides me with a reason for believing that A is identical to C. But my reason, the "because" in my inference, does not *cause* A to be identical to C. The ideal process I perform in drawing the inference may justify the inference, but it does not cause its conclusion to be true. In this respect it does not correspond with reality. It is nothing, Bradley says, but an arbitrary act (PL 580–1). This

effectively eliminates the first alternative, unless reality is quite different from what it is commonly believed to be. Because for the purposes of this argument Bradley assumes that it is not, he rejects the first answer.

According to the second answer, (b), thought and reality are not identical, but they are parallel because of some form of preestablished harmony. Bradley argues that the existence of such a harmony would again require a very different conception of reality from that entertained by common sense. The reason is that the process of inference is a process of change. One infers a conclusion from premises and as a result acquires new beliefs. So if there is a preestablished harmony between thought and reality, then the process of inferring must be paralleled by an identical process in reality. The problem here is that there must be some cause or condition for this change in thought that is different from the change in reality. Otherwise the two processes would be identical and not merely parallel. But this gives rise to a dilemma. If there is a condition for this change in thought that is not in reality, then the parallel breaks down. But if the condition is in reality, then, once again, reality is quite different from what it is ordinarily thought to be (PL 593n11).

This leaves Bradley with (c), thought and reality are not identical because the process of inference has no counterpart in reality. This is the answer he defends in the second part of Chapter IV of Book III, Part II. Here Bradley bluntly announces that the process of inferring *never* eventuates in a true conclusion and *never* corresponds to reality. He summarizes his reason for saying this as follows:

> . . . inference must in principle so diverge [from fact], because it is discursive and consists in an ideal process. Now an idea, as an idea, is not an event, and an ideal process of content is not itself a sequence of events – though on its psychical side it may, or rather must, imply such a sequence. Thus, as ideal, an inference leaves out the detail which makes facts what they are, and again it depends on conditions which it can not say exist actually in the facts. Hence, as a process, it is not the same as any process which is "real." (PL 594n15)

There are two lines of reasoning here, one of which builds on the other. The first essentially repeats one of Bradley's earlier arguments. It is that if judgments are taken as copies of fact – that is, as categorical – then they are never true. Here he summarizes it by saying that inference is "discursive." Bradley uses this term in the way that Kant does. Kant says, "From the side of the understanding, human cognition is *discursive*, i.e., it takes place through representations which take as the ground of cognition that which is common to many things, hence through *marks* as such." He

goes on to say that "All our *concepts* are marks, accordingly, and all *thought* is nothing other than a representing through *marks*" (Kant 1992, 564). That Bradley accepts this is clear from his treatment of logical ideas, the ideas that form the ideal contents of judgments. He regards these ideas as universals abstracted from really existing psychical contents. In being abstracted they lose their particularity and for this reason fail to copy particular facts. This is the basis of his claim that unless singular categorical judgments are interpreted as conditionals, they are false. Putatively categorical judgments thus leave out details they "ought to have copied" and depend on details that do not exist (PL 584). As a result, putatively categorical judgments are all false if taken as copies of reality. So if the conclusion of an inference is taken as such a copy, as a categorical judgment corresponding to a particular fact, then it is false. Consequently, judgments fail to copy reality because their ideal contents are discursive or universal. Because the conclusions of inferences are always judgments, it follows that these conclusions are always false. As a result, inferences are always unsound. Except for its application to inference, this repeats the argument of Book I, Chapter II. It is part of Bradley's reason for treating putatively categorical judgments as conditionals. As universal conditionals, their truth or falsity depends not merely on given fact, but on reality as a whole. The idea behind this line of reasoning might be summarized by saying that for Bradley "conceptual thought presupposes nonconceptual awareness" (Sprigge 1993, 301). Bradley sometimes treats it as sufficient by itself to show that thought is not identical to reality (e.g., AR 145–6). At other times, however, Bradley considers the possibility that this defect in thought might be overcome. It might, he thinks, be the case that while individual judgments fail to copy reality, systems of judgments succeed in doing so (e.g., AR 319). Bradley pursues this issue in the second part of his chapter with a new line of reasoning.

This line of reasoning consists in drawing a further consequence from the fact that judgments are discursive. This consequence is that the process of inference does not copy fact. Because judgments are discursive, their ideal contents are universals. They have been abstracted from particulars given in the series of phenomena – that is, in space and time. Bradley takes existence to be "presence in the series of phenomena" (PL 584).[21] It is because of their presence in space and time that Bradley describes particulars as existing. "Ideality" he defines as "the separation of content from existence" (AR 143). This is because ideal contents abstracted from particulars (as all ideal contents are), lose their presence – that is, their locations – in space and time. They become universals.

Now, in the process of inference, these universals develop from premises to conclusion. But because these universals lack locations in space and time, their development cannot correspond to any existing development. It depends on principles rather than facts. As a result, no process of inference corresponds to any process involving existing objects. Because systems of judgments are inferentially ordered, they cannot therefore correspond with any arrangements of existing objects – that is, with facts. In virtue of lacking a correspondence with fact, inferences are not compelled to hold by the facts, and in this sense they are not objective. So while they may be "valid in the sense of serving" (PL 583), they are not valid in Bradley's second sense.

This point might be made in a different way, a way only hinted at by Bradley, by saying that one of the principles on which inferences depend fails to correspond with fact. This principle is the axiom of identity. According to his theory of judgment, every judgment contains only one distinct idea. The premises of inferences, however, are judgments, and in his theory of inference Bradley treats these judgments as containing more than one distinct idea. Consider, for example, the inference "A is to the right of B, B is to the right of C, therefore A is to the right of C." According to Bradley's theory, this inference proceeds by synthesizing "A," "B," and "C" into a linear order to reveal a relation between A and C. This requires treating each judgment as containing at least two and perhaps three distinct ideas depending on how the relation of being to the right of is treated. It would thus seem that either Bradley's theory of judgment or his theory of inference must contain a mistake. However, this problem is avoided if inference assumes a principle that fails to correspond with reality. In the foregoing inference this principle is the axiom of identity. According to this principle what seems the same is the same. Now the semantic content (which for Bradley is the ideal content) of "B" in the first premise seems to be the same as the semantic content of "B" in the second premise. Therefore, the axiom licenses treating them as the same and so allows synthesizing "A," "B," and "C" into a linear order. But if judgments contain only one distinct idea, then the semantic content of "B" in the first premise is not identical to the semantic content of "B" in the second premise. Neither premise has independent semantic contents. So in virtue of licensing the treatment of different semantic contents as identical, the axiom is false. This allows inferences to be necessary, while failing to correspond with fact. Bradley only hints at these difficulties with the Axiom of Identity, but they offer an alternative way of explaining why he thinks inference fails to be objectively valid.[22]

Bradley further supports his view of the relation between thought and reality in the third part of this chapter. Here he ceases to assume the correctness of the commonsense view of reality,[23] and his argument takes a metaphysical turn. He claims that even if the process of inferring corresponds to the series of phenomena present in space and time, it still fails to correspond to reality. His reason for saying this is that the phenomenal series present in space and time is not given in immediate experience. Rather, it is inferentially reconstructed from what is given by means of synthetic judgments of sense. So if reality is identified with what is given in immediate experience, then the phenomenal series is not real. Consequently, even if the process of inferring corresponds with the phenomenal series, it still fails to correspond with reality (PL 594n20).

Two conclusions emerge from these reflections on the validity of inference. The first and most obvious is that thought is not identical to reality. This is the conclusion emphasized in Bradley's concluding purple passage quoted at the beginning of this chapter. Because thought is clearly some part of reality but not identical to it, it follows that reality transcends thought. This is the sentiment behind Bradley's famous statement

> [t]hat the glory of this world in the end is appearance leaves the world more glorious, if we feel it is a show of some fuller splendour; but the sensuous curtain is a deception and a cheat, if it hides some colourless movement of atoms, some spectral woof of impalpable abstractions, or unearthly ballet of bloodless categories. (PL 591)

But there is also a second conclusion, one important for the development of twentieth-century philosophy. It is that truth is not by nature correspondence with reality. Throughout most of *The Principles of Logic* Bradley assumed the truth of the correspondence theory. But in the course of developing his theory, Bradley argued that there are no categorical judgments – that is, that no individual judgments correspond with reality as it is given in immediate experience. This is an attack on a simple way of understanding truth as correspondence, namely, as a relation between the explicit ideas in judgments and the external facts they name. Bradley takes this to be the empiricist way of understanding truth. A good example of this is provided by Locke. "*Truth*," Locke states, "then seems to me, in the proper sense of the Word, to signify nothing but *the joining or separating of Signs, as the Things signified by them, do agree or disagree with one another*" (Locke 1975, 574). Furthermore, in denying the validity of inference Bradley has now argued that the process of inference

does not correspond with reality. From this it follows that the system of judgments, ordered inferentially, does not correspond with reality. This is an attack on a more complex way of understanding truth as correspondence, namely, as a relation between systems of judgments and reality. Bradley takes this to be the idealistic way of understanding truth. Hegel provides a good example of this. In the smaller version of his *Logic*, he states that "In the philosophical sense of the word . . . truth may be described, in a general and one-sided way, as the agreement of the subject matter of thought with itself" (1874, 43).[24] The correspondence here, as Hegel goes on to say, is between the concept of the object and the existence of the object. This way of conceiving truth plays an important role in *The Phenomenology of Spirit*. As described by Hegel, the goal of *The Phenomenology* is to reach knowledge, and this can be found only in a form of consciousness where "the Notion [of the form of consciousness] corresponds [*entspricht*] to object and object to Notion" (1977, 51). So by rejecting truth as the correspondence of a system of judgments with reality, Bradley concludes – and this is the third point in his final chapter – that if reality is given to the senses, then truth is not by nature correspondence.

There is, he thinks, a way to avoid this conclusion. It is to deny that reality is given to the senses. Denying this would enable one to hold that despite appearances, reality is inferential. This possibility results in a dilemma. "And in the end," he says, "we are forced to hold one of these conclusions: our reality is *not* that which appears to our senses, or else, if *truth* is to present us with *facts*, our reasonings are every one of them false" (PL 588). Accepting the first alternative would require him to abandon his theory of judgment according to which all judgments refer to reality as it is immediately given. Bradley rejects this alternative, saying, "We can not at the end of these toilsome marches accept the failure of our whole expedition" (PL 589). This leaves him with the second alternative. This alternative is conditional. If the antecedent of the conditional is taken as true, if truth is by nature correspondence, then inferences are all false. The paradox in this conclusion can be avoided by accepting the conditional but denying the antecedent, that truth is correspondence with fact. This is what Bradley does.

Throughout *The Principles of Logic* Bradley has been concerned with two views of the relation between thought and reality, the nineteenth-century empiricist view and the idealist view. Both of them, he suggests in his conclusion, have assumed that truth is correspondence. It is "one stem of deceit" (PL 590) in these rival philosophies. Bradley's sympathies are

obviously with the idealists. But their belief that truth is correspondence with fact, that thought and reality are identical, cannot

> stand before an inquiry into logic. The parallel series of sense and of thought, phenomena presented by simple observation and reasoning that retraces the chain of presentation, may both be banished to the region of illusions. (PL 591)

This is one respect in which *The Principles of Logic* makes good on Bradley's desire to provide a skeptical examination of first principles. This examination leads Bradley to deny what had seemed a truism since Aristotle, that truth is correspondence with fact. In doing so he began the contemporary debate about the nature of truth. I will say more about this in the following chapter.

8

Truth

Bertrand Russell made numerous remarks about F. H. Bradley. They were frequently inaccurate and seldom complimentary, but they were often cute and sometimes memorable, so many of them have become well known. Here is one of his comments on a consequence of Bradley's theory of truth, that truth has degrees:

> If no partial truth is quite true, it cannot be quite true that no partial truth is quite true; unless indeed the whole of truth is contained in the proposition "no partial truth is quite true," which is too sceptical a view for the philosophy we are considering. Connected with this is the difficulty that human beings can never know anything quite true, because their knowledge is not of the whole of truth. Thus the philosophy with which the view in question is bound up cannot be quite true, since, if it were, it could not be known to idealists. (1966, 133)

Russell directed these criticisms against Joachim, who said some seemingly paradoxical things about degrees of truth. But Russell also managed to implicate Bradley indirectly by implying that Bradley's view was identical to Joachim's.[1] This was hardly fair. But quite apart from the intellectual merits of Russell's criticisms, which were considerable, his treatment of Bradley succeeded in giving an air of paradox to one of Bradley's more obscure views. Because error is generally preferred to confusion, Russell's dismissal of degrees of truth along with the rest of Bradley's theory of truth has been widely accepted.

This acceptance has been further strengthened by the immensely successful logical apparatus Russell developed in *Principia Mathematica* and by subsequent formal developments including Tarski's theory of truth. These developments make no use of the concept of degrees of truth, and

it is hard to see how they could.[2] Even philosophers, such as F. P. Ramsey, who have explored degrees of belief, have regarded the very idea of degrees of truth as nonsense.[3] Many philosophers are now convinced that the very idea of degrees of truth cannot be made intelligible.

This easy dismissal of degrees of truth and the consequent rejection of Bradley's theory of truth as unintelligible seem to me to be a mistake. "Degrees of truth" has a strange ring to it, and when it is connected to degrees of reality, it has as many extravagant metaphysical implications as any of Bradley's positivist opponents could wish for. But even if Bradley's development of it finally becomes exotic, his view has intelligible roots in his criticism of the correspondence theory of truth, a criticism with which he ended *The Principles of Logic*. The full range of Bradley's theory of truth is a large subject in itself, one deeply entwined with the central ideas of his metaphysics. Rather than embarking on a study of that here, I will merely sketch Bradley's theory of truth and its growth from its implicit beginning in *The Principles of Logic* through its emergence as an explicit theory in *Essays on Truth and Reality*. To do this I will first outline Bradley's account of the relation between truth and reality as he presents it in *Appearance and Reality* and say why it is, implicitly, a theory of truth. Next, I will explain how this implicit theory grounds his doctrine of degrees of truth and reality. I will conclude by describing how Bradley's implicit theory became explicit. It did so by precipitating a three-way controversy about the nature of truth among idealists, pragmatists, and realists, a controversy that marked the beginning of the contemporary debate about the nature of truth.

I

Of the two conclusions Bradley drew at the end of *The Principles of Logic*, much more attention was initially paid to his rejection of the identity between thought and reality than to his criticism of the correspondence theory of truth. This was undoubtedly because this rejection was in part a critique of monism, then the rising British philosophy. But it was the two conclusions taken together that were troubling. If thought is not identical to reality, and if thought does not copy reality, then reality would seem to have features that cannot be thought. To this extent reality must be unknown, an "Other" to thought, as Bradley sometimes said (e.g., AR 154). But this seemed inconsistent with Bradley's rejection of the intelligibility of Kantian things-in-themselves. If things-in-themselves are unintelligible, as Bradley said they were, then they cannot meaningfully be said to exist. It would be like saying, "Since all my faculties are totally

confined to my garden, I cannot tell if the roses next door are in flower" (AR 111). Yet Bradley now seemed to be saying this very thing about reality, a fact not lost on his critics.[4] To resolve this seeming contradiction, Bradley needed an account of the relation between thought and reality, one that would allow reality to be sufficiently knowable in order for its otherness to thought to be intelligible.

Providing that account was the main purpose of *Appearance and Reality*, although, of course, the book contains a great deal more. It is a generalization of the critique of ordinary thought found in *The Principles of Logic*, followed by a constructive metaphysics. Bradley famously began *Appearance and Reality* by criticizing the adequacy of familiar ontological categories. His metaphysical conclusions emerge from these criticisms. Most of these criticisms are found in Book I, where he argued that as described by many ordinary ideas, the world is contradictory and hence appearance, not reality. The most important ideas he criticized were relation and quality. Bradley argued that they presuppose each other, yet are mutually inconsistent. His two arguments supporting this conclusion are his most famous, and one or the other of them is usually what philosophers have in mind when they refer to "Bradley's regress." The first, the "internal diversity argument" (Mander 1994, 88), begins from the fact that qualities depend on relations for their existence. But if this is the case, then every quality has at least two distinguishable aspects: It is and it is related. Each of these aspects must in its turn be and be related, and so on *ad infinitum*, a result he regarded as fatal to the unity of any quality (AR 26–7). The second argument, the "chain argument" (Mander 1994, 92), asserts that if a relation R relates its terms A and B, then there must be additional relations between R and A and R and B and so on *ad infinitum* (AR 27–8). This argument is a generalization of the regress Bradley used against T. H. Huxley in *The Principles of Logic*. By treating both regresses as vicious, Bradley concluded that relations and qualities are inconsistent and so appearance and not reality. Even though he examined a number of additional ideas in Book I, including space, time, motion, causation, activity, things, and selves, he advised any readers who had grasped "the principle of this chapter" that they would "have little need to spend . . . time on those [in Book I] that succeed it." They "will have condemned, almost without a hearing, the great mass of phenomena" (AR 29).

In Book II Bradley built his constructive metaphysics on his criticisms, which, he said, presuppose a criterion of reality. The criterion he proposed was "Ultimate reality is such that it does not contradict itself"

(AR 120). This criterion has the form of a negative judgment. It asserts that it is not the case that reality contains contradictory characteristics. In *The Principles of Logic* Bradley had argued that a negative judgment is true if and only if the special object it refers to has a characteristic incompatible with what the negative judgment predicates of it. He relied on that view in *Appearance and Reality*. Because the negative judgment "It is not the case that reality contains contradictory qualities" is true, Bradley concluded that reality must have a quality that is incompatible with containing contradictory characteristics. He called this quality "consistency." This cannot be formal consistency, because formal consistency is a relation between judgments rather than a characteristic of a single thing. To avoid confusion, which Bradley only sometimes did, he called this nonformal consistency "harmoniousness" (AR 121–3).[5] Because relations are not independently real and because what appears in some sense is real, Bradley concluded that reality has the form of a whole including as its matter all appearances, blended harmoniously. The content of this harmonious whole is experience (AR 124–7). This experience is not, however, the familiar subjective experience that people have and rocks do not. As Bradley's criticisms in Part I of *Appearance and Reality* show, part of the point of his metaphysics is to deny reality to any of the ordinary ontological categories employed in practical, day-to-day knowledge. In view of these criticisms, Bradley's notion of experience must, like that of the neutral monists, possess a kind of ontological neutrality. Neither subject nor object in itself, it is that from which all subjects and objects are constructed (Stock 1998, 17–18). He defended this position in the remainder of *Appearance and Reality* by asking whether anything fails to find a place in this system of reality. Through examining such topics as nature, body and soul, and goodness, he concluded that nothing did.

In the course of this defense Bradley confronted the problem created by his conclusion to *The Principles of Logic*, "the great problem of the relation of Thought to Reality" (AR 492). He described his solution to it as "the main thesis" of *Appearance and Reality* (AR 495). The problem has the form of a dilemma:

> There is a difference between on the one side truth or thought (it will be convenient now to identify these), and on the other side reality. But to assert this difference seems impossible without somehow transcending thought or bringing the difference into thought, and these phrases seem meaningless. Thus reality appears to be an Other different from truth and yet not able to be truly taken as different; and this dilemma to myself was long a main cause of perplexity and doubt. (AR 492)

One horn of this dilemma, that thought is not different from reality, results from the position Bradley reached at the conclusion of *The Principles of Logic*. If thought does not copy reality and is yet different from reality, reality must contain features that cannot be objects of thought. Yet judging this to be the case seems tantamount to thinking about these objects. This is contradictory. Consequently, given Bradley's insistence that thought does not copy reality, it is difficult to see how reality can be separate from thought. The other horn is the requirement, found both in common sense and in Bradley's theory of judgment, that thought and reality be different. This difference seems to be a matter of common sense. My judgment – say, that the great spiral galaxy, M31, is in the constellation of Andromeda – seems obviously different from the nebula's being in Andromeda. In *The Principles of Logic* Bradley relies on this difference to explain why judgments are true. It is because something independent of them compels them to be true, and in order to exercise compulsion, this thing must be real.

The exact nature of the difference between thought and reality plays an important role in Bradley's theory of judgment and, eventually, in his solution to the dilemma. In his account of judgment, Bradley defines judgments in terms of their ideal contents and defines these contents as ideal by contrasting them with the real. The fundamental contrast he draws between the ideal and the real is that the ideal is abstract, while the real is concrete. The term "abstract" is particularly significant here. To say that what is ideal has been abstracted from something real is to say that it has been constructed from something real by eliminating some of the qualities of that real thing.[6] In this way, for example, Bradley distinguishes the ideal contents of judgments from the real psychological images from which they have been abstracted (PL 8). So by being "abstracted" from the fact of which it is a part, an aspect of reality becomes an ideal content (AR 145). In the process these contents lose the qualities that particularize the real things from which they have been abstracted. This is why Bradley describes them as "fragmentary parts" of real things (PL 6), as "parasite[s] cut loose" (PL 8), and as facts with their contents "mutilated" (PL 45). This way of defining ideal things allows Bradley to emphasize a further fundamental characteristic of real things: Not only do they have locations in space and time, they have a full range of other qualities as well. They are complete, or as Bradley prefers to say, individual (PL 45). Two characteristics define the sort of individuality he has in mind: harmoniousness and all-inclusiveness. Bradley deduces the presence of these characteristics from his criterion for distinguishing

between appearance and reality: "Ultimate reality is such that it does not contradict itself . . ." (AR 120). This criterion requires reality to be harmonious. Now Bradley thinks that nothing is harmonious unless it is also all-inclusive, for if something is not all-inclusive, then it is in some way limited and so will have the characteristic of being related to what limits it. But because Bradley holds all relations to be contradictory, he concludes that any limited thing will have a contradictory characteristic and so will not be harmonious. By transposition, anything harmonious will be all-inclusive. This entails some form of monism, because to be all-inclusive is somehow to have all qualities. Only reality as a whole is harmonious and all-inclusive, so it is the only genuinely real thing.

The contrast between the real and the ideal can now be expressed by saying that as the subject of all qualities, the real is complete. By contrast, ideal contents always lack certain qualities, so they are incomplete. This contrast can be sharpened by means of the law of bivalence. To use Church's notation for functions (also used for property abstracts), where P is a predicate, an object a is incomplete if and only if for some P, a does not have $(\lambda x)(Px)$ or its complement $(\lambda x)(\sim Px)$.[7] This fits Bradley's distinction between real objects and ideal contents exactly. For him, the defining characteristic of the ideal is being abstract.

On the basis of this distinction between the real and the ideal, Bradley arrives at his solution to the dilemma about the relation between thought and reality. Because reality is a harmonious and all-inclusive whole whose content is experience, thought is one aspect of reality. The difference between thought and reality thus becomes a difference between an abstract aspect of experience and the harmonious, all-inclusive whole of experience. This is Bradley's first step toward his solution. His second step is to note that there is nothing in this whole that cannot be made an object of thought – that is, abstracted as an ideal content. Bradley is quite firm about this (AR 155). But whenever something is abstracted as an ideal content, it loses some of the features accompanying it in immediate experience. It thus becomes incomplete. But whatever is incomplete fails to be all-inclusive, so by Bradley's criterion of reality, the ideal contents of thought are not real. They are appearances, not reality. In this respect thought is different from reality. Because Bradley's criterion of reality is internal to thought, it is possible to judge that thoughts are appearances of a harmonious, all-inclusive reality. To make this judgment is simply to envision what these contents would be like if they were made harmonious and all-inclusive. They would be like immediate experience with all of its richness, but none of its limitations. Reality, then, is simply an

ideal content – that is, thought as it is in ordinary experience, with its contradictions removed.

This is the key to Bradley's solution to the dilemma. Thought as presently experienced is different from reality. Its contents are ideal and therefore incomplete appearances of reality. But in its completed, harmonious form, thought is identical to reality. This preserves both horns of the dilemma. To think of anything requires abstracting an ideal content from a fuller experience, an experience that forms an other for thought. Everything in this fuller experience can be made into an object of thought except the fuller experience as a whole in all of its details. Bradley thus defines reality as an other for thought that is not completely outside of thought, and this saves him from embracing a contradiction. By this means he attempts to go between the horns of his dilemma.

Although Bradley describes this issue as "the great problem of the relation of Thought to Reality," it can also be described as a rudimentary theory of truth. This can be seen by recalling Aristotle's truism "To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true" (Aristotle 1984b, 1011b 26–7). Theories of truth first provide an explanation of this truism by specifying what it is that is said – a proposition, a statement, a judgment, or whatnot – and by specifying what is: a fact, a state of affairs, or whatever. They also explain the relation between the two. What Bradley calls "the copy theory" attempts to do this by explaining the relation between thought (what is said) and fact (what is) as a relation of correspondence. In the form in which Bradley discusses it, the copy theory is not a clearly formulated, well-defended philosophical theory but rather part of what Bradley took as the popular view of the relation between thought and reality, a view markedly influenced by the British empiricists. In calling it a theory, Bradley transformed it from a truism into a subject for philosophical reflection. This allowed him to reject it for the reasons he gives in *The Principles of Logic*.

What he is offering as his solution to "the great problem of the relation of Thought to Reality" can be seen as an implicit alternative to the copy theory. For in dealing with his great problem, Bradley explicitly identifies thought with judgment (AR 144) and then further identifies thought with truth. As he says in his statement of the great problem, "There is a difference between on the one side truth or thought (*it will be convenient now to identify these*), and on the other side reality" (AR 492, my italics). His solution to his great problem thus depends on his account of what

is true, namely, a judgment, and what is, namely, reality. It also specifies a very novel relation between a true judgment and reality. The relation is identity. At its ideal limit – that is, in its complete form – a judgment is made true by reality which is identical to it.[8] But judgments cannot in principle be completed. Insofar as they are judgments, they contain ideal contents that are abstract. So judgments are never identical to reality and have at most a degree of truth depending on how close they are to reality. Truth, in other words, is a matter of degree.

II

Bradley's implicit identity theory of truth thus provides a basis for making sense of degrees of truth, a doctrine adumbrated and even required by his arguments in *The Principles of Logic*. Now it has sometimes been denied, principally by Anthony Manser, that in the first edition of *The Principles of Logic* Bradley held truth to have degrees. Manser takes Bradley's later metaphysics, including the idea that truth has degrees, to have been added in the second edition. Citing Bradley's statement "There are no degrees of truth and falsity" (PL 197), he declares that the coherence theory of truth and its usual attendant doctrine of degrees of truth are not found in *The Principles of Logic* (Manser 1983, 106). I am sympathetic with Manser's interpretation of Bradley and I agree that we should not read Bradley's later metaphysics into the first edition of *The Principles of Logic*. But I think there are two reasons why the quotation with which Manser supports his interpretation does not settle the issue. First, the passage he cites can be given an alternative interpretation, and, second, Bradley's long argument in Chapter II of *The Principles of Logic* commits him to the view that truth has degrees.

Taking these points in order, Bradley's statement that there are no degrees of truth and falsehood occurs in the context of rejecting what he calls "an erroneous view" of modality. He describes this view as follows:

> Modality may be supposed to affect the assertion in its formal character, and without regard to that which is asserted. We may take for instance a content S–P, not yet asserted, and may claim for modality the power of affirming this content S–P, unaltered and unqualified, in several ways. S–P, it is supposed, may be asserted, for instance, either simply or problematically or apodeiktically, and may yet remain throughout S–P: and thus, though the content is unmodified, the assertion is modal. (PL 197)

In other words, the erroneous view is that modalities are different ways of asserting an independently specifiable content of a judgment. This content may be asserted simply, or possibly, or necessarily.

In his next paragraph Bradley criticizes this treatment of modality. He says,

> This doctrine rests on a misunderstanding. There are no degrees of truth and falsehood. If S–P is fact, it can not be more than fact: if it is less than fact, it is nothing at all. The dilemma is simple. S–P is affirmed or it is not affirmed. If it is not affirmed, it is not judged true at all. If it is affirmed, it is declared to be fact, and it can not be more or less of a fact. There clearly can be but one kind of judgment, the assertorical. Modality affects not the affirmation, but what is affirmed. (PL 197)

This criticism takes the form of a *modus tollens*. If the erroneous view is true, then there are different ways of affirming the same judgmental content. But, Bradley argues, the same content cannot be affirmed in different ways. Therefore, the erroneous view is false. In the context of this argument, Bradley's assertion that there are no degrees of truth and falsity is a slightly misleading way of saying that something cannot be more or less affirmed or judged true. This is why he proceeds as he does. His conclusion that modality is part of the content would not follow unless his claim about degrees of truth were a claim about affirming rather than about the affirmed content. This interpretation accords with the note Bradley adds in the second edition (PL 236n1).

The second problem with dismissing degrees of truth is that Bradley's argument that all judgments are conditionals requires it. The crux of the argument is the claim that analytic judgments of sense are not categorical but conditional. Bradley tries to show that if analytic judgments of sense are parsed as categorical judgments, then they are all false because they fall short of stating the whole truth. Because they are not all false, he infers that they cannot be parsed as categoricals. Bradley concludes that what they assert is not unconditional or categorical but conditional. This would conclude the argument, save for one thing: Judgments parsed as conditionals cannot on Bradley's account be true either. This follows from Bradley's analysis of conditionals. According to that analysis, conditionals are abbreviated inferences. They are true if the inference they abbreviate is sound – that is, if its premises are true, and if they entail its conclusion. The problem is that the premises themselves are conditional. So to determine whether they are true, it is necessary to determine the soundness of the inference they abbreviate. But because the premises of

that argument are conditionals as well, the same procedure will have to be repeated, and repeated again *ad infinitum*. Conditional judgments are essentially incomplete. As a result, because every conditional judgment falls short of stating the truth, no conditional judgment is true.

This quite obviously undermines the original argument for the conditional analysis of judgments. Its advantage over the categorical analysis was supposed to lie in the fact that the categorical analysis made all judgments false. But if the conditional analysis does that also, then there is no reason to prefer it. Bradley's recourse at this point is to fall back on the doctrine of degrees of truth. This allows him to argue for the superiority of the conditional analysis by maintaining that when judgments are analyzed as conditionals they are "more true" (PL 104).[9] This commits him to the view that truth has degrees.

That this is not an accidental feature of Bradley's argument becomes clear when he explains in *Appearance and Reality* why truth has degrees. The logical roots of Bradley's view are apparent in his initial summary of it in *Appearance and Reality*. He says,

> Any categorical judgement must be false. The subject and the predicate, in the end, cannot either *be* the other. If however we stop short of this goal, our judgement has failed to reach truth; while, if we attained it, the terms and their relation would have ceased. And hence all our judgements, to be true, must become conditional. The predicate, that is, does not hold unless by the help of something else. . . . (AR 319–20)

So far this is just a summary of the argument of Chapter II of *The Principles of Logic*. Bradley is repeating two of the main conclusions of that argument, viz., that all categorical judgments are false and that as a consequence all judgments are conditionals. Having made these points, he continues:

> Judgements are conditional in this sense, that what they affirm is incomplete. It cannot be attributed to Reality, as such, and before its necessary complement is added. And, in addition, this complement in the end remains unknown. . . . But with this we have arrived at the meeting-ground of error and truth. There will be no truth which is entirely true, just as there will be no error which is totally false. With all alike, if taken strictly, it will be a question of amount, and will be a matter of more or less. Our thoughts certainly, for some purposes, may be taken as wholly false, or again as quite accurate; but truth and error, measured by the Absolute, must each be subject always to degree. (AR 320–21; cf. ETR 233)

To understand the reasoning here it will be helpful to explain why Bradley regards singular categorical judgments as incomplete and then extend the point to conditionals. To see why he thinks that putatively

singular categorical judgments are incomplete, consider the judgment "Caesar crossed the Rubicon."[10] This purports to be a judgment about a particular individual, and Bradley implies that a person making it intends it to be about a particular individual (ETR 262). The reference to this individual is carried by the proper name "Caesar." On Bradley's analysis proper names are meaningful because they are associated with descriptions that are true of the intended individuals. Suppose, then, that the description "the man named 'Julius Caesar'" is associated with the proper name "Caesar." The judgment can now be interpreted as saying, "The man named 'Julius Caesar' crossed the Rubicon."[11] So understood, the judgment fails to denote a particular individual. On Bradley's analysis, singular terms and descriptions, whether definite or indefinite, range across possible worlds. Given his descriptivist account of singular terms, the description "the man named 'Julius Caesar'" denotes more than one individual. One might try to restrict the denotation by expanding the description. For example, one might take the associated description to be "the man named 'Julius Caesar' who died on the Ides of March." This also fails to denote a single individual, but it excludes some individuals denoted by the previous description. The ideal limit of this process of expanding the description to restrict the denotation would be a description that identified a single individual. Bradley, however, argues that this ideal cannot be reached. Descriptions always apply to more than one individual. As a result, he says,

> Our truth fails to reach beyond generality, and hence the opposite of our truth becomes also tenable. "Caesar crossed the Rubicon," we say, "or not"; but this "either-or" is only true if you are confined to a single world of events. If there are various worlds, it may be also true that Caesar never saw the Rubicon nor indeed existed at all. And, with this, obviously our truth has ceased to be absolute. (ETR 261–2)[12]

In this quotation Bradley is asserting that the judgment "Caesar crossed the Rubicon" is not absolutely true. This is because the description "fails to reach beyond generality." It fails, that is, to identify a single individual as its referent. Although the person making the judgment intends it as a judgment about a single individual, the judgment fails to identify that individual. It describes a number of individuals and this leaves open the possibility that it is true of some of them and false of others. As a result, the truth value of the judgment is ambiguous. "Without contradicting yourself," Bradley says, "you can at once affirm and deny that Caesar crossed the Rubicon" (ETR 263). That is, you can affirm that one Caesar crossed

the Rubicon while denying that another Caesar did. The truth value of the judgment "Caesar crossed the Rubicon" is therefore ambiguous.

The reason the judgment is ambiguous in truth value is that it is incomplete. The intention of the judger requires an individuating description, and the grammatically categorical form of the judgment suggests that it has been provided. But the ideal content of a description is inevitably general. The complement required to remove the ambiguity is not known by the person using the description, and it is impossible to provide in principle. But every description requires a complement to "reach beyond generality." Because these complements are in principle inadequate, "Caesar crossed the Rubicon" is in principle incomplete and for this reason ambiguous.

This point continues to hold when, as Bradley's analysis requires, "Caesar crossed the Rubicon" is interpreted as a conditional. In the absence of an explicit analysis by Bradley, take "Caesar crossed the Rubicon" to have the logical form of "If *x* is the man named 'Julius Caesar,' then *x* crossed the Rubicon." Here the ambiguity is that the definite description "the man named 'Julius Caesar'" is ambiguous. It denotes more than one individual. In order for its denotation to be a single individual, it needs to be restricted by adding a complement. But, by the same reasoning as used previously, whatever the complement, the description will remain ambiguous. The antecedent of the conditional will not include some of the conditions necessary to specify a unique individual (Levine 1998, 54). As before, the conditional will be incomplete and therefore ambiguous in truth value, being true of some Caesars and false of others.

This holds not only for indicative conditionals but also for counterfactuals. To see why, consider the pair of counterfactuals

> If Caesar were in command [in Korea] he would use the atom bomb.
> If Caesar were in command [in Korea] he would use catapults.[13]

Bradley can affirm or deny either of these counterfactuals depending on which Caesar is being described. Is it the modern Caesar with a twentieth-century military arsenal at his disposal? Or is it the ancient Caesar whose only weapons are those of his Roman legions? On Bradley's analysis each of these judgments is incomplete and therefore ambiguous in truth value because "Caesar" does not uniquely denote a single individual. They are ambiguous in the same way that "Caesar crossed the Rubicon" is.

But they are also ambiguous in a different way. Evaluating a counterfactual requires treating it as an abbreviated inference. It is true if the inference it abbreviates is sound. The premises of this inference are the

antecedent of the conditional (which is assumed to be true), a description of the circumstances in which the counterfactual holds, and a statement of the relevant laws of nature. The problem the foregoing pair of counterfactuals pose is that the premises describing the circumstances and the relevant laws of nature can be supplied in different ways. In some of these ways the first counterfactual will be true and the second false, while in the case of others the reverse will be true. For example, if I take the description of the circumstances to be that Caesar had a twentieth-century arsenal at his disposal and if in addition I judge Caesar to be thoroughly ruthless, then it is likely that the first counterfactual is true and the second false. But these premises are not explicit in the judgment itself and they can be replaced by other premises. The judgment itself is incomplete. It is true or false depending on which premises are supplied. On Bradley's analysis, this incompleteness is not simply a matter of the person asserting the counterfactual not making the conditions under which it holds explicit. It results from the fact that these conditions can never be explicit. The judgment will be true if the inference it abbreviates is sound. This requires its premises to be true. But they will be true only if the inferences they abbreviate are sound and so forth *ad infinitum*. Because for Bradley conditionals are always incomplete, they are always ambiguous in truth value.[14] Because for him all judgments are conditionals, he concludes that all judgments are ambiguous. As he puts it,

> If there is to be sheer truth, the condition of the assertion must not fall outside the judgement. The judgement must be thoroughly self-contained. If the predicate is true of the subject only by virtue of something omitted and unknown, such a truth is defective. The condition left out is an *x* which may be filled in diversely. And, according to the way in which the unspecified condition is actually filled in, either the judgement or its denial is true. The judgment therefore, as it stands, is ambiguous, and it is at once true and false, since in a word it is conditional. (ETR 252)[15]

Bradley connects this ambiguity with degrees of truth by means of his criterion for determining degrees of truth. That criterion is "Truths are true, according as it would take less or more to convert them into reality" (AR 321). This way of stating the criterion is somewhat misleading, because in fact it would take an infinite number of additional specifications to convert a true judgment into reality. Putting this complication aside for a moment, the criterion can be straightforwardly applied to judgments, or "truths" as Bradley calls them. The key to this application is Bradley's way of distinguishing the real from the ideal, which is

so important in Bradley's solution to his problem of the relation of true thought to reality: The real is concrete, while the ideal is abstract.

As a first approximation to what Bradley is saying, consider the ideal content of the proper name "Caesar" in the judgment "Caesar crossed the Rubicon." By itself "Caesar" is neither true nor false, but using it as an example will illustrate the sort of thing Bradley has in mind. The ideal content of "Caesar" is ambiguous because it "fails to reach beyond generality." That is, it fails to provide an individuating description of its object. This results from its being abstract. For at least one predicate P the ideal content is neither P nor $\sim P$. As a result, the ideal content associated with the name "Caesar" applies to at least two actual or possible Caesars, one having P, the other having $\sim P$. Adding either P or $\sim P$ to the content enriches it while restricting its extension. But because the content is still ideal, there will be some other predicate in virtue of which it is incomplete and so ambiguous. Adding this predicate or its negation to the ideal content will further restrict its extension. The ideal limit of this process would be a content that was complete. Such a content would uniquely describe a real object and so reach beyond generality. But in virtue of its completeness it would then cease to be ideal and become real. For any predicate P, it would either have P or $\sim P$. It would then *per impossibile* be Caesar. One might then say that Caesar's degree of reality is determined by the amount of supplementation the ideal content associated with the name "Caesar" would require to cease to be abstract and become complete (AR 493–4). This is only an approximation of Bradley's difficult doctrine of degrees of reality, but it indicates how his criterion might work with the ideal contents of descriptions.

Now extend this treatment to judgments – that is, to ideal contents capable of truth and falsity. To see how Bradley's criterion works in these cases, treat the judgment "Caesar crossed the Rubicon" as a conditional. To use the previous provisional analysis, say that it has the logical form "If *x* is named 'Julius Caesar,' then *x* crossed the Rubicon." This is ambiguous in two different ways. The first is that the definite description "the man named 'Julius Caesar'" is ambiguous. As a result, the antecedent of the conditional does not include some of the conditions necessary to specify a unique individual. The second is that as a universal judgment the conditional abbreviates an inference containing premises stating relevant scientific laws and premises describing the circumstances in which these laws are to be applied. But as the analysis of counterfactual judgments shows, these premises can be supplied in different ways. As they are filled in, the conditions under which the judgment holds become more

complete. The ideal limit of this process would be a judgment that is all-inclusive and harmonious. It would describe reality as a whole uniquely. But in so doing it would become complete, lose its ambiguity, and hence by Bradley's criterion would be no different from reality. It would *be* reality. In this situation the judgment would be made true by reality, which is identical to it.

If this limit were something that could be reached, then Bradley could say that the degree of truth of a judgment is proportional to the number of additional specifications that would be required to make it completely determinate. Its degree of truth would then be its degree of completeness, and at least in principle a numerical value could be calculated for it. This value would be its completeness percentage. This is where the complication alluded to previously becomes important. Because every judgment requires an infinite number of additional specifications to make it completely determinate, there is no way to calculate a completeness percentage for any judgment. There will always be an infinite number of additional specifications required to make any judgment complete.

What Bradley's criterion provides, then, is not a way of measuring the extent to which a judgment is true. Instead it is a criterion for comparing judgments. If one judgment is more determinate and less ambiguous than another, then by Bradley's criterion it is more true. Judgments are ambiguous for Bradley in two ways. The first, which I have so far emphasized in explaining why he thinks truth has degrees, is that judgments contain descriptions that fail to specify unique individuals. The second derives from the fact that as conditionals all judgments are abbreviated inferences, where the premises of these inferences state the relevant scientific laws and describe the circumstances in which they are to be applied. The ambiguity here is that these premises can be supplied in different ways. The operation of Bradley's criterion for determining degrees of truth can best be explained in terms of the second ambiguity. Consider again the judgment "If you had not destroyed our barometer, it would now forewarn us" (PL 87). Some of the premises in the inference abbreviated by this conditional can reasonably be thought of as implicitly understood by the person making the judgment. That this is Bradley's view is indicated by his comment about it: "In this judgment we assert the existence in reality of such circumstances, and such a general law of nature, as would, *if we suppose* some conditions present, produce a certain result" (PL 87). By describing the premises as things "we" assert, Bradley implies that they can be supplied by the person making the judgment. That person asserts

them. So far the conditional is not ambiguous. It becomes ambiguous because each of the premises itself is conditional and so an abbreviated inference. The person asserting the original conditional may implicitly understand the premises for its premises and so also for the premises of these further premises. But eventually the required premises will not be understood by the person making the judgment. This is where the judgment becomes ambiguous. The further required premises can be supplied in different ways because, to use Bradley's term, they are "unknown" (AR 320; ETR 252).[16] I take this to mean that these premises are unknown to the person making the judgment. If this is correct, then one judgment is less ambiguous than another if more of the premises in the inference it abbreviates (and in the inferences its premises abbreviate, etc.) are implicitly understood by that person. So the judgment is less ambiguous because of its interconnection with what the person making it knows. This also applies in the case of the first ambiguity, the ambiguity inherent in singular descriptions. "Caesar crossed the Rubicon" is ambiguous for Bradley because "Caesar" fails to denote a unique individual. But the ambiguity is lessened because some of the content of the description is understood by the person making it. How much is eliminated depends on how much the judger knows about Caesar. In either case, then, what Bradley's criterion comes to is this: One judgment is more true than another if it is more completely specified than the other in terms of what the person making it knows.

Bradley's view, expressed in this form, embodies a distinctive form of holism that bears comparison with Quine's holism. Quine describes his empiricism without dogmas as follows:

> The totality of our so-called knowledge or beliefs, from the most casual matters of geography and history to the profoundest laws of atomic physics or even of pure mathematics and logic, is a man-made fabric which impinges on experience only along the edges. Or, to change the figure, total science is like a field of force whose boundary conditions are experience. A conflict with experience at the periphery occasions readjustments in the interior of the field. Truth values have to be redistributed over some of our statements. . . . Having reevaluated one statement we must reevaluate some others, which may be statements logically connected with the first or may be the statements of logical connections themselves. But the total field is so underdetermined by its boundary conditions, experience, that there is much latitude of choice as to what statements to reevaluate in the light of any single contrary experience. No particular experiences are linked with any particular statements in the interior of the field, except indirectly through considerations of equilibrium affecting the field as a whole. . . . Any statement can be

held true come what may, if we make drastic enough adjustments elsewhere in the system. . . . Conversely, by the same token, no statement is immune to revision. (1952, 42–3)

This quotation gives the familiar figure of Quinean holism. Beliefs are not to be understood as containing discrete bits of information that can be matched against experience piecemeal, but rather they form a fabric that as a whole confronts experience. When there is a conflict, as, for example, when a prediction fails, beliefs need readjustment. Because the natural human tendency is to disturb the total body of beliefs as little as possible, this readjustment will generally take place along the edges. For example, minimal readjustment of the total fabric would be required to change my belief that the houses on Elm Street are made of brick. Much more would be required to revise my belief that the law of excluded middle holds in general or that the speed of light is a constant. Quine gives no precise account of ease of revisability or centrality in the conceptual scheme, but his remarks indicate how one might argue that certain things are more central than others. Here it is natural to speak of degrees of revisability (Putnam 1983, 127).

Bradley's doctrine of degrees of truth embodies a similar view. The higher the degree, the less revisable; the lower the degree, the more revisable. Bradley expresses this obscurely in a variety of places. For example, in the final chapter of *Appearance and Reality* he says that "the criterion of truth may be called inconceivability of the opposite . . ." (AR 476). He notes that inconceivability or, to use one of his equivalent terms, impossibility, comes in degrees (AR 476; 481). Then he comments,

The stronger, the more systematic and more fully organized a body of knowledge becomes, so much the more impossible becomes that which in any point conflicts with it. The greater the amount of knowledge which an idea or fact would, directly or indirectly, subvert, so much the more probably is it false and impossible and inconceivable. (AR 481)

In other words, judgments with higher degrees of truth are less ambiguous because the details in their antecedents are more fully known. But this is to say that they are better connected with the rest of what is known by the person making them and hence that revising them will require more disturbance of the field. On this one point, Bradleian and Quinean holism converge.[17]

III

In *Appearance and Reality*, Bradley's remarks on truth focus on the relation between thought and reality and on degrees of truth. But the implicit theory of truth contained in these remarks became explicit only in the course of Bradley's subsequent controversy with pragmatists (principally with F. C. S. Schiller and William James, but to a lesser extent with John Dewey) and pluralists (principally Bertrand Russell). In the process of doing so it played a role in defining what Russell called "*the* fundamental question" of philosophy, the question of the nature of truth (1966a, 114). For in confronting the pragmatists Bradley set forth his views on truth as an explicit theory of the nature of truth, while in his controversy with Russell he argued that the nature of truth is also a criterion of truth.

The starting point of the controversy was Bradley's account of the limitations of thought, of thought's inability to attain more than a degree of truth. This presented him with a new problem, and it presented his critics with an opening. The problem concerns Bradley's criterion of reality. This criterion, he says, is an "intellectual standard" (AR 134) in the sense that it is a criterion for satisfactory thinking. This is in conformity with his assumption, which he thinks can be neither proved nor questioned, that "the object of metaphysics is to find a general view which will satisfy the intellect" and "that whatever succeeds in doing this is . . . true" (AR 491). Because this criterion is intellectual, it takes no account of other forms of satisfaction such as satisfied feeling or satisfied willing. But if thought, limited as it must be, is merely one aspect of life, why accept its criterion of satisfaction as a criterion of reality? In *Appearance and Reality* Bradley not only raised this problem himself, he also provided, by way of an imagined objection to his view, an argument for saying that the criterion of reality should be a practical one. The objection was that all intellectual principles express impulses to behave in certain ways. In this respect they all involve willing and so are practical. Consequently, they should receive no special priority over other practical principles. Bradley met this objection by agreeing that intellectual principles express impulses to behave in certain ways. If an intellectual principle is not followed, the result is theoretical dissatisfaction. Unlike other practical impulses, however, the impulse expressed by Bradley's intellectual standard contains an assumption about reality that functions as an internal criterion of success. In this respect, Bradley said, it is a special impulse. This can be seen by contrasting it with a practical moral standard that says "*be* so or be dissatisfied" (AR 135). This practical standard does not contain an internal criterion

of reality. My dissatisfaction does not show that what I am dissatisfied with is unreal. By contrast, if my thinking fails to meet its internal standard, what I think is not so. From this, Bradley concluded that while the theoretical aspect of human nature is not superior to other aspects, it does provide a criterion of reality. In this respect, truth seeking is an "autonomous activity."[18] Bradley then proceeded to argue that intellectual satisfaction is incompatible with a balance of pain in the universe and in consequence to draw conclusions about other aspects of life from his seemingly intellectual criterion (AR 130–40).

The opening this presented was taken advantage of by one of Bradley's most industrious critics, F. C. S. Schiller.[19] In his 1902 essay "Axioms as Postulates," Schiller argued for the superiority of a practical criterion of reality. "The world," he said, "is always ambiguous. . . . All determinations [of the world] are acquired, all are ratified, by their working; nothing can be said to be absolutely exempt from modification and amendment by experience of its working" (1902, 56). This was in conformity with what Schiller initially took to be the heart of pragmatism, the idea that thought is purposive (1912, xiii).[20] Schiller further elaborated his pragmatism, or "humanism" as he called it, in his 1903 collection, *Humanism: Philosophical Essays*, a collection that has something of the manifesto about it. In this collection Schiller proposed to make philosophy useful by replacing what he saw as a popular but outmoded idealism with a vigorous pragmatism. The character of his attack on idealism may be conveyed by his announcement in the preface that

> [t]he ancient shibboleths encounter open yawns and unconcealed derision. The rattling of dry bones can no longer fascinate respect nor plunge a self-suggested horde of fakirs in hypnotic stupor. The agnostic maunderings of impotent despair are flung aside with a contemptuous smile by the young, the strong, the virile. (1912, xii)

Reacting as much to Schiller's rhetoric as to his humanism, Bradley replied in his highly rhetorical 1904 essay "On Truth and Practice."[21] In the course of it he defended the autonomy of truth, saying, "And this forced agreement of my ideas with a nature other than my volition is, I presume, that which in general we understand by truth" (ETR 79). This essay marked the beginning of Bradley's attempt to put forward his view of the relation between thought and reality as an explicit theory of truth.

G. F. Stout, then editor of *Mind*, sent prepublication copies of Bradley's essay to William James.[22] James's pragmatism was by this time well known, having been forcefully announced in his 1898 address before

the Philosophical Union at Berkeley, California, "Philosophical Conceptions and Practical Results," and anticipated in many of his previous essays. But in none of these essays was James concerned with the nature of truth.[23] His concern with this topic began with his essay "Humanism and Truth" (1975b), which was his response to Bradley's criticism of Schiller. In this article James opted for a general discussion of pragmatism that would, he thought, be more useful than a point-by-point reply to Bradley. In this discussion, which he admitted was "rambling in the extreme" (1975b, 59), James attempted to describe the pragmatic attitude, including its attitude toward truth. Here he made some pronouncements about truth that provoked a storm of controversy.[24] This eventually led him to attempt to systematize his conception of truth in Chapter VI, "Pragmatism's Conception of Truth," of his 1907 book, *Pragmatism* (1975a). This chapter is the main source for what has come to be called "the pragmatic theory of truth." Although "Humanism and Truth" mostly neglected Bradley's "On Truth and Practice," James defended his view of truth by contrasting it with the alternatives. Here he noted that Bradley's insistence that true thought "must correspond to a determinate being which it cannot be said to make" (James 1975b, 44) does not advance the discussion because the term "correspond" remains undefined. Bradley's article, he said, "throws . . . absolutely no useful light upon [its] subject" (1975b, 38).

Instead of directly answering James as he had originally intended,[25] Bradley tried to meet pragmatism in a much more constructive way by explaining his view of the relation between truth and reality as an explicit theory of the nature of truth. The result was his 1907 essay "On Truth and Copying," now Chapter V of *Essays on Truth and Reality*. Here he presented his account of the relation between thought and reality as an alternative to the correspondence theory of truth. In this essay Bradley defended his theory of truth as a way of overcoming the difficulties in the correspondence theory. Although he thought there were many difficulties in that theory (Sievers 1996, 85–7), he focused on what he saw as its central flaw. "Truth," he said,

> has to copy facts, but on the other side the facts to be copied show already in their nature the work of truth-making. The merely given facts are, in other words, the imaginary creatures of a false theory. They are manufactured by a mind which abstracts one aspect of the concrete known whole, and sets this abstracted aspect out by itself as a real thing. . . . Or (to put it from the other side) if there really is any datum, outward or inward, which, if you remove the work of the mind, would in its nature remain the same, yet there seems no way of getting certainly

to know of this. And, if truth is to copy fact, then truth at least seems to be in fact unattainable. (ETR 108)

This quotation contains two related objections separated by an ellipsis. The first is that there are no facts of the kind required by the correspondence theory, while the second holds that if the theory is true, then knowledge is impossible. Both objections depend on Bradley's belief that reality is encountered in immediate experience. As he said in *Appearance and Reality*, "What appears, for that sole reason, most indubitably *is*. . ." (AR 114). This leads Bradley to assume that the reality required by the correspondence theory (i.e., the facts) must be given in immediate experience. The givenness of facts is their mark of reality. Furthermore, the facts must be independent of the judgments that correspond or fail to correspond to them. Their independence is what enables them to compel judgments to be true or false. So Bradley takes the correspondence theory to require facts to be independently given.

Bradley's first objection to this theory contains two points. The first point is that the facts to which the theory appeals are not given. His reason for saying this is that the discrete facts required by the theory (i.e., the different facts required by different judgments) contain relations and qualities. For example, if the judgment "This bird is yellow" is made true by the fact that this bird is yellow, then the bird is related to the quality yellow in a particular way; it *has* the quality yellow. But on Bradley's account of immediate experience, qualities and relations are not given. They are abstracted from immediate experience. Because Bradley treats abstraction as an inference, he concludes that the discrete facts required by the theory are products of thought. This is his point in saying that they "show already in their nature the work of truth-making." That is, the facts required by the theory are not given but inferred.

By itself this is less than devastating. It acquires its force from Bradley's second point: that these inferred facts are imaginary and not real. His reason for saying this is that abstraction is an *invalid* inference.[26] Abstraction eliminates certain features of what is given in immediate experience and concludes that the remaining features are real. Because these features are what they are in virtue of their connections with features eliminated by abstraction, the result is a distortion of what is given in immediate experience and thus a distortion of reality. Consequently, the facts required by the correspondence theory are not merely inferred; they are invalidly inferred. Reality, in other words, is not articulated into facts in the way required by the correspondence theory.[27] This point is behind

Bradley's repeated insistence that conditional, negative, and disjunctive judgments (i.e., judgments containing logical connectives) fail to copy fact (e.g., ETR 109). From these considerations Bradley concludes that the facts of the correspondence theory not only fail to be independent of thought; they are imaginary as well. These are the two points in his first criticism.

Now there is a possible response. In his first criticism Bradley concedes that there is something given, the immediate experience from which the facts alleged by the theory are abstracted. The response, then, is to reformulate the theory to say that if judgments correspond to immediate experience, then they are true. This possible response sets the stage for the second of Bradley's objections. For if the correspondence theory is so modified, then the theory will hold a judgment to be true if it corresponds to the entire given fact. Bradley considers and rejects this view in the final pages of Chapter II of *The Principles of Logic*. It is part of his reason for thinking that singular categoricals must be parsed as conditionals. According to this version of the correspondence theory, he argues, all judgments are false. Rather than repeat that argument here, however, Bradley proceeds to make a different point. If all judgments are false, then on the assumption that knowledge is composed of true judgments, knowledge will be impossible. This is Bradley's second criticism: The correspondence theory of truth makes knowledge impossible. On the basis of these two objections, Bradley rejects the correspondence theory of truth.

He develops his alternative by identifying the error in the correspondence theory that exposes it to these objections. "This error," he says,

> consists in the division of truth from knowledge and of knowledge from reality. The moment that truth, knowledge, and reality are taken as separate, there is no way in which consistently they can come or be forced together. And since on the other hand truth implies that they are somehow united, we have forthwith on our hands a contradiction in principle. (ETR 110)

Notice that there are three relations here, the relation between truth and knowledge, the relation between truth and reality, and the relation between knowledge and reality. In each case Bradley denies that the terms of the relations are separate. It would, I think, be generally granted that truth is not separate from knowledge. However knowledge is to be understood, it seems to include truth, or at least true judgments, which is what I take "truth" to mean in this context. This part of Bradley's position, then, is not controversial. His controversial claim is that the terms

in the other two relations, the relation between truth and reality and the relation between knowledge and reality, are not separate either. To support his position Bradley needs to argue that truth is not separate from reality and that knowledge is not separate from reality. In "On Truth and Copying" he ignores the relation between knowledge and reality almost entirely and simply puts forward in a condensed form his account of the relation between thought and reality (from *Appearance and Reality*) as an explicit theory of the nature of truth. According to this theory, in its ideal, completed form, a true judgment is identical with reality. Bradley thus holds what has come to be called "the identity theory of truth."[28] This is the theory he defends in his controversy with the pragmatists.

Had the controversy about truth ended here, Bradley would probably always have been remembered for defending the identity of true judgments with reality. However, as a result of Bradley's subsequent confrontation with Russell over the nature and criterion of truth, Bradley has come to be regarded as a coherence theorist instead. This is in part a result of the fact that there were different stakes in Bradley's controversy with Russell than in his controversy with the pragmatists. Unlike the pragmatists, who challenged the autonomy of the intellect by asserting that all aspects of human nature, including thought, are subordinate to practice, Russell accepted the autonomy of the intellect. What he denied was that it was limited by other aspects of human nature. To put one of Russell's criticisms Bradley's way, pluralism asserted that thought could in principle be satisfied by itself. The intellect could reach truth, so it need not be content with a mere degree of truth. Bradley's controversy with Russell marked the next stage in the development of the nature of truth as a central topic in philosophy.

This stage began in 1899 when G. E. Moore, with Russell's support, launched a revolution in philosophy by publishing his essay "The Nature of Judgment." The first part of this essay contains Moore's criticism of Bradley's conception of judgment. Moore agrees with Bradley that the ideas that form the contents of judgments are meanings (or "concepts" as he preferred to call them) that are universals rather than mental particulars. But he rejects any attempt to derive them from something else. This leads him to criticize Bradley's claim that meanings are abstracted from occurrent mental particulars – that is, mental images. Moore has two different arguments here. The first is that for a meaning to be abstracted from a mental image, that mental image must already be known. But if it is known, then the knower has made a judgment about it, in which case the knower already has an idea of the mental image. Because

the ideas contained in judgments are universal meanings, it follows that this idea must have been abstracted from another mental image and so on *ad infinitum*. Each judgment, in other words, presupposes an infinite series of prior judgments, which is impossible. The second and more obscure argument is that in his derivation of meanings from mental images, Bradley presupposes that it is possible for two ideas to have part of their content in common and then treats this common part as a third idea. This, Moore claims, gives rise to a crippling dilemma. If the common content is a meaning, then Bradley's explanation is circular because it presupposes the existence of meanings in mental images. But if it is not a meaning, then it is a universal that is a part of two particulars, and this seems impossible. From these two brief arguments Moore concludes that concepts cannot be derived from anything else and that they are irreducible (Moore 1899, 177–8).

Having rejected Bradley's account of meanings, Moore sets forth his own view of judgments (or "propositions," as he preferred to call them). Propositions, he says, assert a specific connection between concepts. Here he is tempted to say that judgments are true if the connection they assert exists. However, he resists this temptation on the grounds that some true propositions, "$2 + 2 = 4$" for example, do not assert that their contents or the connections between them exist. In fact, he claims, existence is itself a concept, one not contained in all propositions. As a result, he takes propositions to be true or false in virtue of an indefinable but recognizable relation between the concepts they contain. Truth thus emerges as a simple, unanalyzable concept much as he later took the concept of good to be. Truth, he continues, "cannot be defined by a reference to existence, but existence only by a reference to truth" (1899, 180). To use his example, if the proposition "This paper exists" is true, then the concept of this paper is connected with the concept of existence. From this he immediately and astonishingly concludes that "all that exists . . . is composed of concepts" (1899, 181).

Bradley did not respond to these criticisms in print, but he did in a letter he sent to Moore in 1899. His reply to the first criticism is that meanings need not be formed by conscious abstraction from mental images, so those images need not be known prior to the derivation of meanings from them. This blocks the regress. His reply to the second is that he is not claiming that the identity of meaning in two different images is a third, intermediate image. One can compare, he says, two images directly without bringing in a third. Moore annotated this letter, but he did not pursue the matter further (CW4, 177).

Over the next few years Bradley corresponded occasionally with Bertrand Russell, and in this and his other correspondence he shows some interest in further developments of Moore's theory of judgment (CW4 182; 202; 204–5). Then in 1903 or 1904 Bradley began reading Russell's *Principles of Mathematics* and it became a subject of discussion in the letters Bradley and Russell exchanged in 1904 (CW4 261–74). Entries on Russell and pluralism also begin to appear at about this time in Bradley's notebooks (e.g., CW3 38–41). Bradley even drafted a chapter on pluralism for a book he was then planning to write on the nature and criterion of truth, knowledge, and reality.[29] "Pluralism," Bradley says in his notes for this chapter, "means many ultimate Reals in opposition to one Reality" (CW3 186). He thinks pluralism is mistaken in abstracting one part of the whole and substantiating it. Bradley supports this criticism using an argument having three parts. First, he appeals to what he takes to be the fact that what is immediately given in experience "is always a whole of feeling" (CW3 186). From this he concludes that a plurality of reals is never given. The existence of a plurality of reals must then either be inferred or hypothesized. In the second and third parts of the argument, Bradley attacks both of these alternatives. He rejects the inference from immediate experience to a plurality of reals. This inference, he says, would be abstraction, and hence, according to his account of abstraction in *The Principles of Logic* (PL 560), invalid. Likewise, he claims that pluralism is inadequate as a hypothesis. He allows that it might be adequate if there could be relations that make no differences to their terms. But even if there were such relations, they obviously make a difference for us. They appear, that is, to make a difference. How, Bradley asks, is this appearance to be understood? Is it merely an appearance? If so, how is it to be related to reality? By asking these questions, he implies that they have no satisfactory answers. From this he concludes that as a hypothesis, pluralism is unsatisfactory.

Bradley did not at this time attempt to engage Russell's views about truth. Not only had Bradley not yet formulated parts of his own philosophy as an explicit theory of truth, neither had Russell, at least in any but the most cursory way. When Moore and Russell revolted against idealism, their main interest was to defend realism and pluralism. In *Principles of Mathematics* (first edition 1903), Russell took no position on the nature of truth, saying that it belonged to the principles of everything, not just the principles of mathematics (1937b, 49). Insofar as he had a view of truth, it was dependent on his concept of a proposition. Every belief, Russell claimed, is a two-term relation between a mind and a proposition.

Propositions, he said, are not composed of words but of the entities to which the words in their verbal expressions refer (1937b, 47). These entities Russell called "terms" (1937b, 43). He thought propositions were complexes of terms united by the proposition's verb and that, unless their terms were specifically mental, propositions were nonmental.[30] Truth and falsity, he followed Moore in claiming, were simple, unanalyzable qualities of propositions. If one believed a true proposition, then providing that certain other conditions were met, one had knowledge, but if one believed a false proposition, then one did not. In order to understand what these qualities of truth and falsity were, one had to be acquainted with them, much in the same way that one could understand the flavor of a pineapple only by acquaintance. Russell briefly stated this view of truth in the third part of his 1904 essay "Meinong's Theory of Complexes and Assumptions."[31] "There is no problem at all in truth and falsehood," he wrote. "Some propositions are true and some false, just as some roses are red and some white . . ." (1973, 75). Russell admitted that this left the preference for true propositions over false ones unexplained, but he nevertheless concluded, "The analogy with red and white roses seems, in the end, to express the matter as nearly as possible" (1973, 76).[32] These brief remarks did not stimulate Bradley to reply.

They did, however, provoke a response from H. H. Joachim in his 1906 book *The Nature of Truth*, the first book on that subject in English. Like Bradley, Joachim was a fellow of Merton College, and Bradley referred to Joachim's book briefly but approvingly in "On Truth and Copying." Joachim's aim in his book was "to examine certain typical notions of truth, one or other of which – whether in the form of a vague assumption, or raised to the level of an explicit theory – has hitherto served as the basis of philosophical speculation" (Joachim 1969, 3). The three notions of truth he examined were truth as correspondence, truth as a quality of independent entities, and truth as coherence.[33] The only philosopher he mentioned as holding a correspondence theory was Aristotle, and this suggests that he regarded this theory as a common way of understanding truth rather than as an explicit theory. His criticisms of this theory were somewhat different from Bradley's, but his verdict on it was the same: It was inadequate.[34]

The second theory he discussed, that truth is a quality of independent entities, he derived from Russell. He made it clear, however, that while the theory had been suggested to him by the writings of Moore and Russell, and while he had quoted passages from Russell in explaining it, he did not insist that Moore or Russell held the particular theory he was criticizing.

Their writings had only suggested it to him. Joachim challenged this theory by attacking the idea that something completely independent of mind could be an object of thought. Because Russell held propositions to be both independent of thought and objects of thought, this was an attack on the intelligibility of the entities that Russell said were true or false. Joachim described his particular target as the claim that "experiencing makes no difference to the facts" (1969, 39). Russell's explanation of how it could – that it was related to the facts by an external relation – Joachim dismissed as a restatement of the problem, not a solution (1969, 49). Because this claim was a cornerstone of Russell's realism, Joachim's criticism of Russell's theory of truth became an attack on his realism.

Joachim distinguished between the nature of truth and a criterion of truth and made it clear that his main concern was with the nature of truth (1969, 67). Nevertheless, in the course of his book, he did say that immediate experience is not a criterion of truth. He said this in the context of criticizing an assumption he took to be required by both of the theories he rejected. This was the assumption that it is possible to separate reality as it is given in immediate experience from the experience of it and to use it as a criterion of truth (1969, 34). Joachim rejected this assumption. After criticizing it, he went on to say that the fact that something is immediately experienced "does not . . . create a presumption in favour of its truth" (1969, 55). Something immediately apprehended, he went on, is merely something for which rational grounds have not yet been given. Immediate experience, in other words, is not a criterion for truth. This claim was not part of Joachim's main argument, but it raised a new issue and played a role in the controversy about truth.

Having made this point, Joachim proceeded to discuss a third conception of truth that he called "the coherence theory." Although not altogether satisfied with this theory – Joachim thought it incomplete and by its own standards not completely true – he argued that it was superior to the other two theories. Joachim's first rough formulation of the coherence theory was this: "Anything is true which can be conceived. It is true because, and in so far as, it can be conceived. Conceivability is the essential nature of truth" (1969, 66). The conceivability Joachim had in mind was the sort in which the elements of one's conception are clearly distinguished and systematically related. Joachim claimed that this kind of conceivability was present in the conceptual relationships found in an organized body of knowledge, such as one of the natural sciences (1969, 67–8).[35] So understood, coherence is a much stronger notion than consistency. For Joachim, the elements in a coherent system are not

merely consistent; they must "reciprocally determine one another's being as contributory features in a single concrete meaning" (1969, 66).[36] While coherent bodies of knowledge are composed of individual judgments, these judgments, Joachim claimed, acquire determinate meaning in relation to other judgments by which they are conditioned in their respective bodies of knowledge. But because these bodies of knowledge are incomplete, complete systematic coherence is an ideal only partially achieved in existing human knowledge (1969, 78–9). This ideal is that of an individual system as an "organized individual experience, self-fulfilling and self-fulfilled" (1969, 76).

Russell energetically responded to Joachim in two articles, the first of which was his 1906 note in *Mind*, "The Nature of Truth."[37] Here Russell simply replied to Joachim's criticism of the claim that "experiencing makes no difference to the facts." His focus was the view of relations Joachim assumed in argument, a view derived from Bradley according to which "all relations are based upon the 'nature' of the related terms" (Russell 1906a, 530). Russell's more considered and lengthy response came in his 1906–7 *Aristotelian Society* paper, "On the Nature of Truth." In the first two sections of the paper he attacked the coherence theory of the nature of truth by noting several difficulties with it, including its requirement that truth have degrees and that relations be internal. But Russell also criticized it as offering a criterion of truth. There is no evidence, Russell said, "that a system of false propositions might not, as in a good novel, be just as coherent as the system which [for the coherence theorist] is the whole of truth" (1966b, 136). In the third section of the paper, Russell's most extended discussion of his own view of truth to date, he began to develop a realistic theory of truth. Here he offered two suggestions. The first was a modification of his previous view that truth is a quality of propositions. Belief, he said, is a relation to a complex object. When this object exists, the belief is true; when it does not, the belief is false. Russell found this view attractive, but he was puzzled about the objects of false beliefs. Such objects would be "objective non-facts," and he found it difficult to admit their existence (1963, 45–6).[38] The other theory Russell suggested was a correspondence theory, but he was uncertain how to work out its details. He subsequently did work these out in his 1910 paper "On the Nature of Truth and Falsehood" (1966c), which first appeared in his *Philosophical Essays*. According to this theory, a judgment is a multiple relation to objects, one of which is a relation. To use Russell's example, if I judge that A loves B, then the objects of the judgment are A, love, and B. In order for me to be able to make this judgment, these

objects must exist. This is true in all cases; there are always objects of beliefs. Beliefs are true if the relation in them, in this case love, relates the objects in the way they are related by my judgment. Otherwise, beliefs are false. Truth, Russell now said, consists in correspondence (1966c, 153–6). This theory provided Russell with additional support for both his pluralism and his realism.

The debate between Joachim and Russell, so important in the development of Russell's philosophy, was an important part of the background for the development of Bradley's theory of truth, but there was also another important part: G. F. Stout's contribution to the debate. In his 1908 *Mind* paper "Immediacy, Mediacy and Coherence," Stout responded to Joachim's remarks about the criterion of truth. Immediate apprehension, Stout claimed, supplements and must supplement coherence as a criterion. It must, he said, because one judgment can support another only if it is relatively independent. To show this, Stout considered the case in which a theory predicts the existence of a new, observable planet. The existence of this planet may be affirmed simply because it is required by astronomical theory. But its existence may also be affirmed because it has been observed. In other words, the judgment "I see a new planet" is relatively independent of the theory, because I might have made it even if the existence of the planet had not been predicted. It is because of this relative independence that the judgment "I see a new planet" supports the theory. The source of this independence is the fact that the judgment represents an interpretation of a datum immediately apprehended, namely, the sensation that I interpret as the planet. From this Stout concluded that some kind of immediacy must supplement coherence as a criterion of truth. He put this point by saying that the criterion of truth is the coherence of all the relevant data. To use his word, the criterion is coherence plus "comprehensiveness" (Stout 1908, 33–6).

Stout's contribution to the debate is important for two reasons. First, Bradley's initial reply to Russell's criticism of Joachim was also a reply to Stout's criticism; and second, Bradley appropriated Stout's terms "coherence" and "comprehensiveness" in his reply. The reply was Bradley's 1909 *Mind* paper "On Truth and Coherence." It was shortly followed by "Coherence and Contradiction" (1909), "On Appearance, Error and Contradiction" (1910), "A Discussion of Some Problems in Connexion with Mr. Russell's Doctrine" (1910–11), "On Some Aspects of Truth" (1911), and "What Is the Real Julius Caesar?" (1910–11). Bradley reprinted all of these along with some additional discussion notes in *Essays on Truth and Reality*. These are the essays from which Bradley's coherence theory

of truth is usually derived. Bradley has two main polemical aims in these essays. The first is to defend his account of the relation between thought and reality, an account he put forward as an identity theory of truth in his debate with the pragmatists. The second is to defend coherence as the sole criterion of truth against both Russell and Stout. Bradley is quite clear about this. In "On Truth and Coherence" he says,

> Prof. Stout denies, I understand, that coherence will work as a test of truth in the case of facts due to sensible perception and memory. Mr. Russell again has taken the same line in his interesting article on Truth in the *Proceedings of the Aristotelian Society* for 1907. This is the issue to which I here confine myself. . . . (ETR 202)

Bradley then proceeds to defend what he calls "system" as a criterion of truth, making it clear that by "system" he understands the union of coherence and comprehensiveness. Bradley later argued that coherence and comprehensiveness are aspects of a single principle (ETR 223).

The arguments Bradley uses here are a development of those he used in *Appearance and Reality*, but with a change in terminology. In *Appearance and Reality* Bradley described reality as harmonious and all-inclusive. Because a completely true judgment would for him be identical to reality, it would also be harmonious and all-inclusive. Harmoniousness and all-inclusiveness can therefore be used as criteria for degrees of truth, and this is how he used them in *Appearance and Reality*. In his 1907 paper "On Truth and Copying," Bradley described his view slightly differently, saying that a completely true judgment would be harmonious and all-containing. "All-containing" here is equivalent to "all-inclusive" (ETR 114). In a footnote, he added,

> We may use a variety of phrases here. We may speak, for instance, of homogeneity and specification, or again of integration and differentiation. The main point is this, that truth must leave nothing outside, and, with regard to what it contains, must not have to ask for further explanation as to how one part stands to another part. (ETR 114n)

This main point is the one he makes in "On Truth and Coherence" using two new terms, Stout's terms "coherent" and "comprehensive." They are equivalent to his old terms "harmonious" and "all-inclusive," respectively. This allows Bradley to restate his account of the relation between thought and reality as a criterion of truth. According to this criterion, as judgments become more coherent and comprehensive (i.e., more harmonious and all-inclusive), they become more true. The ideal limit of this process is identity with reality. So Bradley's coherence theory of the criterion for

truth is also an identity theory of the nature of truth, just as it was for other idealists, for example Brand Blanshard (1939, 2:262).

This theory of the nature and criterion of truth emerged over the course of Bradley's long career. Its beginnings are found in Bradley's critique of first principles in his *Principles of Logic*, principles that he thought yielded only "a cheap and easy monism." One of these principles, common to both empiricists and idealists, was that true judgments copy reality. In his long explanation of how legitimate and useful inference is possible, Bradley argued that inference is made possible by being part of a system. In order to explicate the sort of system required, Bradley focused his attention on the truth conditions for judgments. He argued that rather than being categorical statements of fact, judgments must themselves be construed as inferential. But to construe them in this way is to abandon the idea that they are true in virtue of copying reality. Bradley thus rejected what had until then been regarded as a truism, that truth is correspondence with reality. This account of the truth conditions of judgments enabled Bradley to explain that useful and legitimate inferences are possible because their premises are components of a system and so implicitly contain their conclusions without asserting them.

On the strength of this explanation of how inference is possible, Bradley then argued that thought is not identical to reality. This left him with the problem of explaining its relation to reality, a problem he addressed in *Appearance and Reality*. He solved this problem by treating thought as composed of abstract, and therefore incomplete, judgments. But were these judgments completed, Bradley argued, they would lose their abstractness and become identical to reality. He used this account of the relation between thought and reality to explain why truth has degrees, but he did so without giving an explicit theory of truth. His theory of truth became explicit only as a result of the attempts by pragmatists and pluralists to criticize his view of the relation between thought and reality and its consequent commitment to degrees of truth. Against the pragmatists, Bradley defended the autonomy of truth, while against the pluralists he defended holism and the limits of thought. In the course of developing his final position, Bradley pioneered a new approach to metaphysics, an approach growing out of logic. By basing his logic on an account of the truth-conditions of judgments, Bradley made the nature of truth a central problem of philosophy, a problem he attempted to solve with a robust alternative to the correspondence theory of truth.

Notes

Chapter 1

1. The same could be said for Scotland and Wales.
2. For a survey, see Gillispie 1959.
3. He defends the value of doubt in Section 96 where he says

   > There lives more faith in honest doubt,
   > Believe me, than in half the creeds.

4. For further details on the introduction of German idealism into Britain, see James Bradley 1979. I have relied extensively on this article in what follows. For an account of the knowledge of Hegel that preceded Stirling's book, see Kirk Willis 1988–9.
5. For a clear summary and evaluation of Stirling's book, see Stormer 1978.
6. While rarely directly asserted, this view is suggested in numerous discussions, for example, Stirling 1898, 201–2.
7. The quotation is from Hegel 1969, 50.
8. Stirling pursued his attack on Darwin in a number of subsequent works. For a summary of his criticisms, see Amelia Hutchinson Stirling 1912, 333–9.
9. Nothing very extensive has been written about Jowett's role in introducing Hegel into Britain. Most of the available information is found in Abbott and Campbell 1897, 1:88–92, 129–30, 142, 260–1; 2:249–50. See also Wallace 1968, x–xi (unnumbered) and Muirhead 1942, 39–40. For Jowett's relation to the British idealists, see Richter 1964, 52–96.
10. Wallace later said, "Hegel's doctrine is after all only another way of stating the maintenance of the fittest . . ." (1968, 62).
11. For an overview of Edward Caird's idealism, see Mander 2000.
12. For an account of Caird's interpretation of Kant, see Mander 1998.
13. For a clear summary of these works as well as a discussion of John Caird's *Fundamental Ideas of Christianity*, see Long 1989.
14. For a full survey of Green's work, see Richter 1964.

15. For a more extended account of Green's critique of empiricism, see Hylton 1990, 22–31, and Walsh 1986.
16. The best reconstruction of Green's argument is given in Thomas 1987, 242–332.
17. Green describes the value of this representation in 1888d.
18. Also consider the number of articles about him and the many laudatory references to him.
19. See Lotze 1888, sec. 346, for a summary of his view.
20. The argument sprawls through Lotze 1885. For the core of the argument, see 1885, 2:594–9, 659–63, 671–3. For the Hegelian response to Lotze, see Jones 1895.

Chapter 2

1. Bradley mentions these writers in the following quotation from his preface to the first edition of *The Principles of Logic*:

   > I have in general not referred to those works to which I have been indebted. Amongst recent writers I owe most to Lotze, and after him to Sigwart. Wundt's book would have been more useful had it come to me earlier; and I may say that same for Bergmann's. I am under obligations to both Steinthal and Lazarus. And amongst English writers I have learned most from the late Professor Jevons. I may mention here that I should have owed certain observations to Mr. Balfour's able work, had I not seen it first when my book was completed. (PL ix)

   I will discuss the views of Lotze and Sigwart in the course of this chapter, and I will also mention those of Jevons, Steinthal, and Lazarus.
2. For echoes of Kant's remark see, for example, Richard Whately, whose work on logic rekindled interest in it in Britain. Whately comments that the history of the discovery of the logical system "as far as the main principles of the science are concerned, properly commences and ends with Aristotle" (1975, 6). For an account of Whately's role in the revival of formal logic in nineteenth-century Britain, see Van Evra 1984.
3. See also Baynes 1971, Thomson 1860, and Mansel 1860.
4. Perhaps for good reason; there are systematic confusions in Hamilton's way of quantifying the predicate. See Kneale and Kneale 1984, 352–4.
5. DeMorgan's most important logical works are his *Formal Logic: or, The Calculus of Inference, Necessary and Probable* (1926) and the papers collected by Peter Heath in *On the Syllogism and Other Logical Writings* (1966); Boole's major works are *The Mathematical Analysis of Logic* (1948) and *An Investigation of the Laws of Thought on which are Founded the Mathematical Theories of Logic and Probabilities* (1958); most of Jevons's innovations are found in *Pure Logic, or The Logic of Quality apart from Quantity* (1890) and *The Principles of Science: A Treatise on Logic and Scientific Method* (1958). For a discussion of these formal developments, see Lewis 1960, 27–78, and Gratton-Guinness 2000, 25–60.
6. These comments make clear that Bradley was not one of Hamilton's admirers. For example, after adopting Hamilton's term "redintegration" as a name for a psychological law, Bradley says, "We may take this name from

Sir W. Hamilton . . . , having found nothing else that we could well take" (PL 304).

7. For an account of Bradley's criticisms, see Griffin 1996.
8. This view is presented in detail in William Whewell 1858. Throughout this discussion I have followed Fisch 1991.
9. Bain (1870) also accepted Mill's conception of logic.
10. I discuss Mill's account of inference more fully in Chapter 6.
11. Kant sometimes uses the term "reason" in this broad sense to refer to the source of all a priori concepts. At other times he uses it more narrowly to refer to a specific faculty, the faculty of reason, which is the source of some but not all a priori concepts – namely, those for which no corresponding object can be given in experience. He contrasts reason in this narrower sense to the faculty of understanding that is the source of a priori concepts for which corresponding objects can be given in experience.
12. Kant defines a judgment in general as "an act by which given representations first become cognitions of an object" (1985, 13n).
13. This is misleading because Kant uses the term "reason" in both a broad and a narrow sense.
14. This is the context in which Kant introduces the term "absolute" as a name for what is unconditionally valid (1929, A326/B382). This seems to be the source for later idealistic uses of the term.
15. These three forms of inference correspond to the three relations Kant recognized between the terms of a judgment in his table of judgments (1929, A70/B95) and hence to the corresponding categories in the Table of Categories (1929, A80/B105).
16. Norman Kemp Smith finds the objective conception at A645/B673 and A650–63/B678–91 and the regulative conception at A/646-9/B674–8 (1962, 547–9).
17. This leads Norman Kemp Smith to say, "The teaching of this section is extremely self-contradictory, wavering between a subjective and an objective interpretation of the Ideas of reason" (1962, 547). Kemp Smith suggests that Kant may be recasting earlier material in this section. This is echoed by Jonathan Bennett, who in commenting on this section says, "Kant's discussion . . . is lively and penetrating, but it does not mesh with the rest of the Dialectic, and reads as though it were composed at a different time for another purpose" (1974, 274).
18. "For Spirit is the knowledge of oneself in the externalization of oneself; the being that is the movement of retaining its self-identity in otherness" (1977, 459).
19. Here I am following Houlgate 1990–1. See also the subsequent discussion between Flay (1992–3) and Houlgate (1992–3).
20. Here I am following Pinkard 1988, 27–41. In this sentence "individual" carries its normal sense rather than the specialized sense Hegel gives it.
21. His importance depends on how one tells the story of German Neo-Kantianism. Lotze is a major presence in Willey (1978) but plays a negligible role in Köhnke (1991).
22. Relations, for example, have no counterparts in reality (Lotze 1887, 145).

23. Lotze called this view idealism-realism. He attempted to reconcile idealism and realism by treating reality as having the kind of unified structure idealists claimed it to have but having a content with a mechanical structure as realists claimed (1887, 157–65).
24. For a survey of the Herbartian school, see Ueberweg 1896, 308–12. For the views of the school, see Baldwin and Stout 1901. This article is devoted mostly to Herbart's psychology.
25. Bradley does not cite any works of Steinthal and Lazarus by name in the first edition of *The Principles of Logic*. However, in the notebooks he used in preparing the first edition he refers to Lazarus's *Ideale Fragen in Reden und Vorträgen* (1878; CW1 348–9). He also owned a copy of Lazarus's *Das Leben der Seele* (1876–82), although it is not known when he acquired it (CW3 586). In a note added in the second edition, he says that by the time he wrote the first edition he had already read most of Steinthal's *Abriss der Sprachwissenschaft, Teil I* (1871; PL 346n1).
26. For a discussion and criticism of Sigwart's psychologism, see Husserl 1970, 125–7; 146–54. Some of Frege's criticisms of psychologism may also have been addressed to Sigwart (Resnik, 1980, 50–3). In addition, Peirce singled out Sigwart for criticism on this score. Some of his criticisms have been conveniently combined in Pierce 1955. The material is this selection is taken from 1932, 2.152, 2.161, 2.169–73 and 1934, 5.85–7.
27. My references to Sigwart's *Logic* are to the edition translated by Helen Dendy, who shortly thereafter married Bernard Bosanquet and so became Helen Bosanquet.
28. Sigwart does not use this terminology, but it is suggested by one of his comments (1895, 121).

Chapter 3

1. For an assessment of Bradley's criticisms of Sidgwick, see Schneewind 1977, 392–401.
2. This is the confusion more recently noticed and elegantly expressed by Wilfrid Sellars. Using the example of sensing a red sense-datum, Sellars notes that classical empiricists are committed to the three following inconsistent propositions:

   (1) *X senses red sense-content s* entails *X non-inferentially knows that s is red.*
   (2) The ability to sense sense-contents is unacquired.
   (3) The ability to know facts of the form *x* is φ is acquired. (1963, 132)

3. Hume puts this point by saying, "For in that proposition, *an object is the same with itself*, if the idea express'd by the word, *object*, were no ways distinguish'd from that meant by *itself*, we really shou'd mean nothing. . . ." (1888, 200).
4. This use of the word "exist" is in keeping with Bradley's later usage, where he restricts "exist" and "existence" to things that have temporal locations (AR 280n). His use of "exist" and "existence" in *The Principles of Logic* is often wider, as he subsequently admitted (PL 107–8n3).

5. Bradley attempted to distinguish logic from psychology in another way in his later essay "A Defense of Phenomenalism in Psychology" (CE 364–86).
6. I agree with Giorgio Bertolotti that the tensions in Bradley's thought at this point reverberate throughout his work. For further details, see Bertolotti 1995, 51–3.
7. Notice here again Bradley's similarity to Green, who speaks of sensations as being "fixed and defined by relation to and distinction from something permanent" (Green, 1885, 21).
8. The issues raised by this account of meaning are complex, in part because according to Bradley's later philosophy the mental particulars from which meanings are abstracted are themselves inferentially constructed from immediate experience. For a further elaboration and defense of Bradley's view, see Sprigge 1993, 298–305, 447–52, and Sprigge 1983, 133–40.
9. I follow Bradley in using the word "predicate" to describe a relation between the ideal content of an assertion and reality rather than a syntactical relation between the parts of a sentence. This is an older use of the term "predicate," one that originates in Aristotle.
10. A further difficulty is that considered ideas that are not judged would be products of analysis without synthesis, and this is inconsistent with Bradley's account of analysis (Ferreira 1999, 45–6).
11. For further discussion of the difficulties arising from Bradley's rejection of floating ideas, see Holdcroft 1998.
12. Bradley also comments that "the necessity for two ideas [in a judgment] is a delusion" (PL 50).
13. This is intended to be an explicit denial of the Humean claim that "whatever objects are distinguishable are separable" (Hume 1888, 18). I discuss this further in Chapter 4.
14. For example, this was the view of Hamilton (1866, 228–9), Lotze (1888, 1:61), Mill (1973–4, 21), and Sigwart (1895, 25–7).
15. That is, Bradley takes English sentences expressing what would intuitively be taken to be judgments as the facts that his theory is intended to explain and unify. They are facts in Bradley's distinctive sense. Comparable facts in contemporary philosophy would be, for example, the modal intuitions that form the data for systems of modal logic. These intuitions are only presumptively true; they may be discarded given sufficient reason. For this notion of fact in Bradley, see ETR 203–4; for a discussion of this conception of data, see Rescher 1973, 53–70.
16. This break is explicit in Jevons, who generalized Boole's algebra of logic to nonsyllogistic inferences (Jevons 1890, 65–6). Years later Bosanquet said that in *The Principles of Logic* "for the first time, the rules of syllogism and of the kindred methods which share its limitations were flung to the winds" (Bosanquet 1968c, 115).
17. For a similar way of using this argument but with an emphasis on facts, see Olson 1987, 45–64.
18. For an account of how Huxley came to write this book, see L. Huxley 1901, 531–5.

19. Even though this polemic is no more than an aside as far as the main argument of *The Principles of Logic* is concerned, it is Bradley's first statement of his view of relations. In a footnote added to this passage in the second edition of *The Principles of Logic*, Bradley says that it expresses his view of relations, namely, that "relations exist only in and through a whole which can not in the end be resolved into relations and terms" (PL 112n50).
20. Spencer also held Huxley's view of relations (Spencer 1896, 148–52, 164–5).
21. In fact this "principle" is a statement of the *two* principles that Hume says he is unable to renounce or render consistent (Hume 1888, 636).
22. For a discussion of this aspect of immediate experience, see Hylton 1990, 47–9.
23. I say "relational diversity" because Bradley claims that immediate experience has diversity without relations (ETR 174).
24. This is a thought Bradley echoes in other places as well. Consider, for example, the following comment:

    > If what is given is a Many without a One, the One is never attainable. And, if what we had at first were the mere correlation of subject and object, then to rise beyond that would be impossible. From such premisses there is in my opinion no road except to total scepticism. This is the ground, inherited of course from others, on which I may say that I have based myself always. (ETR 199)

25. The importance of this passage is emphasized in Manser 1983, 71.
26. For a more compact statement of this argument, see Ferreira 1999, 80.
27. Elsewhere Bradley uses the term "fact" in a variety of ways. Sometimes he uses it as synonymous with "thing" (PL 5, 29), at other times with "event" or "what is directly experienced" (AR 280n), at still other times with "reality" (PL 44).
28. He does so only in the final chapter. Throughout the rest of the first edition text he identifies truth with copying, as he admits doing in the second edition (PL 591–2n1). For evidence that he did so, see Sturt 1907.
29. For example, Mill wrote, "Propositions in which the assertion is not dependent on a condition, are said, in the language of logicians, to be *categorical*" (Mill 1973–4, 83).
30. An additional reason Bradley could give for rejecting (1) is that on his view judgments contain only one idea. The closest Bradley comes to acknowledging that consideration here is to say that "Judgments can exist without any copula and with but one idea" (PL 50). In Book I, Chapter II, he does not insist that they have only one idea.
31. Kaplan has since expressed doubts about this view. He has suggested that a demonstration has no semantic significance in itself but is only the externalization of an inner directing intention (1989b, 582).
32. For an elaboration and defense of this view, see Stock 1996, 193–9.
33. This is why in his early work Russell goes out of his way to explain why he is so concerned with extensions (Whitehead and Russell 1925, 72–4).
34. This solution gives rise to problems of its own because it requires Mary to believe all the logical consequences of her beliefs. I will ignore this complication, however, because my aim is not to defend Hintikka but to elucidate Bradley.

Chapter 4

1. This was a common nineteenth-century view. See, for example, Whately 1973, 109–10.
2. Mill's account of conditionals is an account of propositions; Bradley's is an account of judgments. I ignore the intricacies of this difference in what follows.
3. Bradley uses the terms "hypothetical" and "conditional" interchangeably and denies that they demarcate different forms of judgment (PL 638). Some of his contemporaries did use these terms to distinguish different forms of judgment (e.g., Keynes 1928, 249–74).
4. For the importance of this denial in Bradley's thought see Stock 1984, 133–40.
5. Bradley does not distinguish between subjunctive and indicative conditionals. He treats the indicative conditional "If butter is held to the fire it melts" in the same way (PL 83).
6. Cf. Chisholm 1975, 151–4.
7. This is very close to Ramsey's suggestions for evaluating conditionals. Compare, for example, Robert Stalnaker's summary of Ramsey's suggestion:

   > Your deliberation about the survey statement should consist of a simple thought experiment: add the antecedent (hypothetically) to your stock of knowledge (or beliefs), and then consider whether or not the consequent is true. Your belief about the conditional should be the same as your hypothetical belief, under this condition, about the consequent. (1991, 32)

   For an analytical summary of this metalinguistic analysis of conditionals, see Lewis 1973, 65–77; for a defense, see Tichý 1984.
8. Bradley thinks that there are cases in which judgments concern a complete collection of individuals. An example of such a judgment might be "All of the people in this room speak English." Bradley distinguishes judgments of this sort from universal categoricals. He calls them collective judgments and analyzes them as conjunctions of singular judgments, rather than as universal categoricals (PL 82–3, 355–7).
9. This is Bradley's example slightly modified. He introduces it without using the word "all," but in his analysis he treats it as though it began with the word "all."
10. They are certainly a poor guide if Bradley is correct that all judgments are conditionals.
11. This is a rough division because Bradley says that it is "in the end untenable" (PL 108n7).
12. Or so Bosanquet and Joseph speculate (Bosanquet 1968a, 6; Joseph 1916, 213; cf. Sigwart 1895, 108–10).
13. Bradley mentions them only on pages 49, 79–80, and 107.
14. This serial representation is only a device Bradley uses for explaining how synthetic judgments of sense are connected with immediate experience. Bradley thinks that immediate experience is given as a presentational continuum, not as a series of discrete elements. I discuss this in the next section.

15. As Bradley puts it, "Continuity of content is taken to show identity of element" (PL 72).
16. I have borrowed this way of characterizing correspondence from Harold H. Joachim, who in turn borrowed it from Russell (Joachim 1969, 8–9).
17. In a note on terminology in *Appearance and Reality*, Bradley says, "By *fact* I mean either an event, or else what is directly experienced" (AR28on). He goes on to say that "fact" can be loosely used for aspects of what is given and that he has not tried to use the term strictly.
18. For example, in his essay "On Our Knowledge of Immediate Experience," he says

    > A relation exists only between terms, and those terms, to be known as such, must be objects. And hence immediate experience, taken as the term of a relation, becomes so far a partial object and ceases so far to keep its nature as a felt totality. (ETR 176–7)

19. Cf. Locke's claim that "The *nature* therefore *of Relation*, consists in referring, or comparing two things, one to another; from which comparison, one or both comes to be denominated" (1975, 321). This view of relations was still alive in Bradley's day. G. F. Stout, for example, says,

    > The characteristic mark of relationship is that it presupposes definitely discriminated objects. These objects are said to be the terms of the relation; and it is said to be *between* them. For its apprehension, it is necessary that the related terms should be simultaneously discriminated. (1896, 72)

20. Bradley uses the phrase "the school of experience" to refer to Hume and most other nineteenth-century empiricists; he refers to the philosophy of this school as "the philosophy of experience." Although Bradley sharply criticizes the school of experience for defending its position by criticizing the alternatives to it (ES 9on), he sometimes writes as if philosophy were a battleground between empiricism and idealism. This attitude is common in nineteenth-century idealism (Mandelbaum 1971, 9–10).
21. Hume 1888, 18; cf. PL 563.
22. "The philosophy of Experience," he states, "is psychological Atomism" (PL 302).
23. I discuss this doctrine briefly in Chapter 8.

Chapter 5

1. At least he does not use it in the first edition of *The Principles of Logic*, the only edition available when Russell wrote *A Critical Exposition of the Philosophy of Leibniz*. It is suggested by a passage in the second edition (PL 674–6).
2. In fact, Russell seems to have derived Bradley's argument from *Appearance and Reality*. But because the argument there depends on Bradley's existential theory of judgment, a theory defended in *The Principles of Logic*, Russell read the argument back into *The Principles of Logic*. For a lucid description of Russell's initial acceptance and eventual rejection of the argument, see Griffin 1991, 71–8.
3. Bradley later made an exception to this claim. Some metaphysical judgments, he said, are not "intellectually corrigible." They cannot, that is, be made

more true by being supplemented in any way by additional judgments. They can become more true only by, paradoxically, "passing outside the intellect." Bradley sometimes refers to these judgments as "absolutely true" (AR 482–5; cf. PL 675).

4. For an incisive survey of the history of this problem, see Horn 1989, 45–79.
5. In the rest of this section and the following one, I am heavily indebted to Guy Stock's excellent 1985 paper.
6. I have borrowed the term "undifferentiated whole" from Manser (1983, 202).
7. Bradley also refers to this special reality as a "selected reality" (e.g., PL 629).
8. I say "in most cases" because Bradley later remarks that "what in any particular case this object is, and how its limits are really defined, cannot be taken as appearing in those forms of language which serve as its expression" (PL 598).
9. I am assuming here that the tree exists. If it does not, then the special reality must be something else, perhaps the portion of space and time where the tree previously existed. In the first edition of *The Principles of Logic*, Bradley says, "Sokrates may be not sick because he is well, or because there is now no such thing as Sokrates" (PL 124). He does not say what the special reality is if Socrates does not exist.
10. Or that a floating idea is false according to the account in the first edition of *The Principles of Logic*.
11. This is Bradley's preliminary account of inference in Book II, but the ways in which he modifies it in Book III do not affect the present point.
12. This is the form of *modus ponendo tollens* when it is expressed as a syllogistic inference. Nowadays it is often taken as the propositional inference "p or q; p; therefore, ~q".
13. Despite his use of this schema, Bradley does not require the "or" in disjunctive judgments to stand between alternative ways of qualifying a single subject. He also uses "Either A is B or C is D" as an example of a disjunctive judgment (PL 128).
14. Aside from this distinction, none of Bradley's second edition notes fundamentally affect his account of disjunctive judgments. So I will not distinguish between the two editions in my exposition.
15. This is a variation of one of Mill's examples, where a man is said to be a knave or a fool. Unlike Bradley, Mill interprets "or" inclusively (Mill 1979, 409).
16. Because Bradley takes disjunctive judgments to make assertions about reality, he denies that they are reducible to hypothetical judgments (PL 128). His point is that disjunctive judgments are both categorical and hypothetical.
17. This account is subject to the same circularity as Bradley's account of conditionals. In both, a dispositional quality is used to explain conditionals, but dispositions are themselves conditional. Bradley notes this problem in his account of disjunctive judgments in the second edition (PL 139n6).
18. In the rest of this section I am indebted to David J. Crossley's careful examination of Bradley's examples and arguments (1978).
19. Bradley's version of Mill's example seems to have been widely discussed. Bosanquet refers to "the well-worn case of rogue and fool" (1968b, 1:359).

20. In fact, he simplified Boole's system by interpreting "or" inclusively (Kneale and Kneale 1984, 422).
21. *Modus tollendo ponens* is a syllogistic version of the propositional argument form now generally called "disjunctive syllogism." The syllogistic form is: "A is b or c; A is not b; therefore, A is c."
22. For example, speaking of the way in which the predicate of a disjunctive judgment is the particularization of its subject, Hegel says,

    > Secondly, the species *mutually exclude one another; A* is *either B or C*; for they are the *specific difference* of the universal sphere. This *either-or* is their *negative* relation. (1969, 654)

23. Hegel does so in both of his books on logic by deriving the category of objectivity from that of subjectivity. This involves disjunctive judgments because the category of the disjunctive syllogism is the highest category of subjectivity. In describing this, Hegel says,

    > Of the Notion, now, we have shown to begin with that it determines itself into *objectivity*. It is self-evident that this latter transition is identical in character with what formerly appeared in *metaphysics* as the *inference* from the *notion*, namely, the *notion of God* to *his existence*, or as the so-called *ontological proof* of the *existence of God*. (1969, 705).

24. This is Bradley's second edition account. He gives a more tenuous argument for the same conclusion in the first edition.
25. In this respect Bradley's system of logic is like his similarly unwritten system of metaphysics. At certain points in his work he hints at what such a system might be, yet he confesses that he has not written it. For a reconstruction of his system of metaphysics, see Armour 1996.

Chapter 6

1. Bosanquet's last book on logic, *Implication and Linear Inference*, appeared in 1920, too late to be of use to Bradley in preparing the second edition of *The Principles of Logic* (PL viii).
2. Green's *Lectures on Logic* were delivered in 1874–5, well before Bradley wrote *The Principles of Logic*, but not published until 1886.
3. Although a very old "example" of a syllogism, this argument is not in fact an Aristotelian syllogism because it contains a singular term.
4. I have borrowed this formulation from Skorupski 1989, 106–7.
5. Mill suggests a different interpretation of universal categorical propositions elsewhere.
6. For example, in his *Science of Logic* he says,

    > Thus pure science presupposes liberation from the opposition of consciousness. It contains *thought in so far as this is just as much the object in its own self, or the object in its own self in so far as it is equally pure thought.* As science, truth is pure self-consciousness in its self-development and has the shape of the self, so that the absolute truth of being is the known Notion and the Notion as such is the absolute truth of being. (1969, 49)

    This is also what enables Hegel to describe the category of "the Idea" as "the unity of the ideal and the real" (1892, 355, sec. 214).

7. This includes *modus ponendo tollens* and *modus tollendo ponens*.
8. The term translated as "syllogism" is "*Schluss*," which can also be translated as "inference." It has a broader meaning than "syllogism," although Hegel takes most inferences to be syllogisms.
9. He uses "qualitative syllogism" in his *Encyclopaedia*, "syllogism of existence" in his *Science of Logic*.
10. For some discussion, see John McTaggart Ellis McTaggart, *A Commentary on Hegel's Logic* (Cambridge: Cambridge University Press, 1910), pp. 222–4.
11. Hegel does use the first premise of this syllogism as an example of a categorical judgment (1892, 311, sec. 177Z).
12. It is tempting to try to understand Hegel's solution by interpreting the universal premises in syllogisms as universally quantified conditionals. So, for example, "Metals are elements" would assert that if something is a metal, then it is an element. While suggestive, this will not do as an account of Hegel's position. Hegel thinks that categorical judgments, the premises of categorical syllogisms, have defects that are removed by hypothetical judgments. So his categorical syllogisms cannot be interpreted as having hypothetical premises (Hegel 1892, 311, sec. 177Z).
13. The ambiguous term "feelings" was popularized by James Mill, who used it as a way of referring to Hume's impressions and ideas (Thomas 1987, 134). John Stuart Mill said that "feelings" is synonymous with "states of consciousness," a genus of which sensations, thoughts, and emotions are the species (1973–4, 51). Green never clarified the exact relation between feelings and thoughts.
14. Bosanquet gives the same explanation of why judgments are necessary in his *Logic*, where he again cites Whewell as holding the correct view (1968b, 2:226–30).
15. Bosanquet took this structure from Lotze (Bosanquet 1883, 79, 85).
16. Cf. Bosanquet 1895, 140–1; 1968a, 273; 1968b, 1:xi. The story is from Thackeray [1903?].
17. In his earlier writings Bosanquet followed Green without hesitation in identifying thought and reality. He was more hesitant to do so in his later writings after he had accepted Bradley's view of the relation between thought and reality. However, he had reservations about fully accepting Bradley's view (Bosanquet 1968b, 2:288n, 292–4).
18. Here I am ignoring Bosanquet's additional goal of showing how colligations develop into judgments of value. Bosanquet himself ignores this in his *Essentials of Logic*.
19. The other track contains mathematical inferences and their analogues in the physical sciences.
20. Establishing its legitimacy also requires showing that there is no other way of deducing the redescribed data (Bosanquet 1883:99). Bosanquet does not, however, explain how this requirement is to be satisfied.
21. The inference would be the imposition of the concept of men on particular individuals.
22. It might be objected that there is no colligation in this inference because no new concept is introduced. Bosanquet's reply is to admit that novelty need

not be present in all inferences (Bosanquet 1968b, 2:8). But in these cases there is also no problem of inference because the inference does not lead to new information. The problem arises only for inferences that do introduce novelty and so are colligations.

Chapter 7

1. Following Bosanquet, Bradley later denied that the conclusion of an inference needs to provide information new to the person drawing the inference (PL 425n15).
2. For his criticisms of Mill, see Ferreira 1996 and Wilson 1998; for his critique of Jevons, see Griffin 1996, 217–30. Unlike Bosanquet, Bradley offers no alternative to Mill's account of induction. He does, however, say that "in the main" he accepts Jevons's account (PL 369n7).
3. Although not explicitly stated, this seems to be the judgment Bradley has in mind when he treats the conditional judgment as a "fresh specimen of inference" (PL 407–8).
4. Elsewhere Bradley specifies that functions always require assumptions (PL 494n7).
5. Cf. PL 598: "The given object is an ideal content before us, taken to be real as being in one with Reality, the real Universe."
6. For a discussion of the manifestations of this law in will, desire, and moral development, see MacNiven 1987, 124–43. For its application to the development of thought, see MacNiven 2002, 137–45.
7. Bradley borrowed the term "redintegration" from Sir William Hamilton (PL 304).
8. In *The Principles of Logic* he states this law in two other ways: "Any part of a single state of mind tends, if reproduced, to re-instate the remainder; or Any element tends to reproduce those elements with which it has formed one state of mind" (PL 304).
9. It may also combine a premise and a function. I have ignored this complication, because it does not affect the role of Bradley's principles of inference.
10. My earlier example of a synthesis of identity is one of these operations.
11. Among other things, this axiom guarantees the reliability of syntheses of identity (cf. PL 254).
12. In the notes added in the second edition of *Appearance and Reality*, he even calls it "the Principle of Ideal Identity" (AR 543). Despite their differences in name, however, Bradley's cross-references and explanations indicate that he intends these descriptions to refer to the same principle.
13. It is also worth noting that because what is true of B in one context is true in another, the principle guarantees the irrelevance of accompanying subjective states for the truth of the premises. In this respect it is a principle of objectivity.
14. I have taken this example from Lambert 1983, 108. Although Bradley rejects a completely formal evaluation of inferences, he does think that inferences always contain some element of generality. For this reason, one test of the

acceptability of an inference is whether it applies to other cases. Bradley does not, however, provide any criteria for identifying relevantly similar cases (PL 522–3; 530–1).

15. One of the difficulties in Bradley's account is that he gives no directions for identifying the special object.
16. Here I am indebted to John Skorupski's discussion of Mill's solution to this problem (1989, 103–21).
17. Russell criticizes this doctrine in *Principles of Mathematics* (1937b, 449–51).
18. He also refers to "that nebulous phrase 'Validity'" (AR 333).
19. This is clearly a metaphysical question, although Bradley says he is not raising it in its ultimate form (i.e., as a question about the source of the activity of inferring) (PL 580).
20. Bradley admits that he has not clearly defined this conception (PL 108n4). A later footnote suggests that Bradley takes this conception to identify reality with what occurs in space and time, the "actual process in things" (PL 591–2n1). Here reality corresponds to his narrower sense of "existence" according to which existing things have locations in space and time (PL 107–8n3).
21. Paradoxically, Bradley seems to take this to be the commonsense conception of reality!
22. I have explored this line of reasoning further in Allard 1989.
23. That is, he ceases to identify the real with what exists in the narrow sense of being present in space and time.
24. Wallace's translation is slightly different in the second edition (Hegel 1892, 51–2).

Chapter 8

1. He did this not only in the essay itself but also in its title: "*The*Monistic Theory of Truth" (my italics). For Joachim's view of truth, see Walker 2000.
2. Tarski's recursive definition of truth determines the extension of the predicate "true sentence" in a given language by entailing the set of all biconditionals in the language of the form "*x* is true if and only if *p*" where "*x*" is the name of a sentence in the language and "*p*" is a structural description of the sentence in the metalanguage. So, for example, the definition might entail the biconditional " 'Snow is white' is true if and only if snow is white." In such a biconditional the sentence "Snow is white" is equivalent to the sentence " 'Snow is white' is true." The predicate "is true" thereby becomes redundant. This redundancy is essential in Tarski's definition of truth and in the formal developments arising from it. A theory that uses a predicate like "is true" to attribute varying degrees of truth will be unable to accept, at least in some respect, the redundancy thesis.
3. "If we believe p to the extent of 1/3, and $p\bar{q}$ to the extent of 1/3, we are bound in consistency to believe $\bar{p}$ also to the degree of 1/3. . . . But we cannot say that if pq is 1/3 true and $p\bar{q}$ 1/3 true, $\bar{p}$ also must be 1/3 true, for such a statement would be sheer nonsense" (Ramsey 1978a, 89; quoted in Haack 1980, 1).

4. A. E. Taylor later said, "The Hegelians made merry over the unknowable but their own Absolute is really the Unknowable in its 'Sunday best'" (Taylor 1920, 53; quoted in Passmore 1966, 61n).
5. I owe some of the ideas in this paragraph to Guy Stock 1994, 108–14.
6. Bradley thus adopts the fourth of David Lewis's ways of contrasting the concrete and the abstract (Lewis 1986, 84–6).
7. I owe this point to Brittan 2001, 543–4.
8. For further explanation of Bradley's view, see Candlish 1989, 338–9, and Baldwin 1991. Bradley shared this view with some of his contemporaries, although most of them retained the belief that thought constituted reality. This, after all, was the original secret of Hegel (Stirling, 1898, 84–5).
9. That Bradley's argument has this structure is apparent in Manser's description of its conclusion. He says, "Hence [hypothetical judgments] are as it were *more true* than those judgments which purported to be categorical, which can only be ranked on the 'lowest round' of the 'ladder of truth'" (my italics) (1983, 115).
10. Throughout the rest of this discussion of the ambiguity of singular categorical judgments, I am following Levine 1998, esp. 53–5.
11. For simplicity, I am ignoring the fact that this judgment contains a second proper name, "Rubicon."
12. The importance of this passage is noted by Levine (1998, 53). The context indicates that Bradley is discussing two different judgments: "Caesar crossed the Rubicon" and "Caesar did not cross the Rubicon." He is not discussing the disjunctive judgment "Either Caesar crossed the Rubicon or he did not."
13. I have taken these counterfactuals from Quine (1960, 222).
14. This is related to what Robert Stalnaker has called the pragmatic problem of conditionals. Speaking of this problem, he says,

    > This problem derives from the belief, which I share with most philosophers writing about this topic, that the formal properties of the conditional function, together with all of the *facts*, may not be sufficient for determining the truth value of a counterfactual; that is, different truth valuations of conditional statements may be consistent with a single valuation of all non-conditional statements. (1991, 29)

15. This view also appears in the notes added in the second edition of *The Principles of Logic*; see, for example, PL 113n54, n59.
16. The relevant passages from both of these pages have been quoted previously.
17. Bradley and Quine also agree that there are no analytic statements, statements whose truth or falsity is independent of their reference to reality.
18. I have borrowed this way of describing Bradley's position from Rorty 1991, 32–3.
19. Dewey also criticized Bradley's account of his criterion, but only after Schiller had led the way (Dewey 1910).
20. Schiller states this view of pragmatism in the preface to the first edition.
21. An example of Bradley's rhetoric is his comment on the previously quoted passage from Schiller. "This is certainly young, indeed I doubt if at any time of life most of us have been as young as this" (1904, 310n). Bradley deleted this comment when he republished his essay as Chapter 4 of *Essays on Truth and*

Reality. That chapter does, however, retain Bradley's concluding sentence, "And I have not myself cared to ask if philosophy suffers violence, or lavishes after all its best gifts on 'the young the strong and the virile' " (ETR 106).

22. For a thorough discussion of Bradley's relation to James, see T. L. S. Sprigge's magisterial *James and Bradley: American Truth and British Reality* (1993).
23. Some of his essays had, of course, taken ways of finding truth as a theme for reflection. Famous among these is "The Will to Believe" (1979).
24. For example, James said that "Those thoughts are true which guide us to *beneficial interaction* with sensible particulars as they occur, whether they copy these in advance or not" (1975b, 51).
25. For the draft of Bradley's reply, see CW3 205–18.
26. "Reasoning by abstraction," Bradley says, "has a fatal defect" (PL 560).
27. I have borrowed this way of stating Bradley's position from Walker (1998, 103).
28. According to the identity theory of truth, the truth of a proposition, judgment, or other truth bearer lies in being identical with the reality to which it seems to refer (Candlish 1999, 199).
29. His notes for this book along with a helpful introduction to it are available in Carol A. Keene's superb edition of Bradley's unpublished work (CW3 157–90). Bradley's draft of the chapter on pluralism is found on 186–8.
30. Here I am following Stewart Candlish's useful paper (1996, 103–4).
31. In a 1905 letter to H. H. Joachim, Russell said that the third part of this article was his "most serious" attempt to state his views on truth (Connelly and Rabin 1996, 136).
32. For a discussion of this theory, see Cartwright 1987.
33. Joachim ignored pragmatism, saying only that it was a denial of truth altogether rather than a new theory of truth (1969, 3–4).
34. Bradley's remarks indicate that he regarded "copy theory" and "correspondence theory" as two names for the same theory of truth (ETR 107).
35. Bosanquet's account of science is in the background here.
36. If this mutual determination is understood as mutual entailment (as it was by Brand Blanshard), then it can be proven that there is only one coherent system. For the proof, see Cohen 1978.
37. In addition, Russell reviewed Joachim's book (1906b).
38. Russell's doubts about his previous view and the shift in his thought that these doubts mark is perhaps the result of Joachim's sharp criticism, the first significant idealistic criticism, of his realism. For a discussion of the shift, see Hylton 1991, 339–42.

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