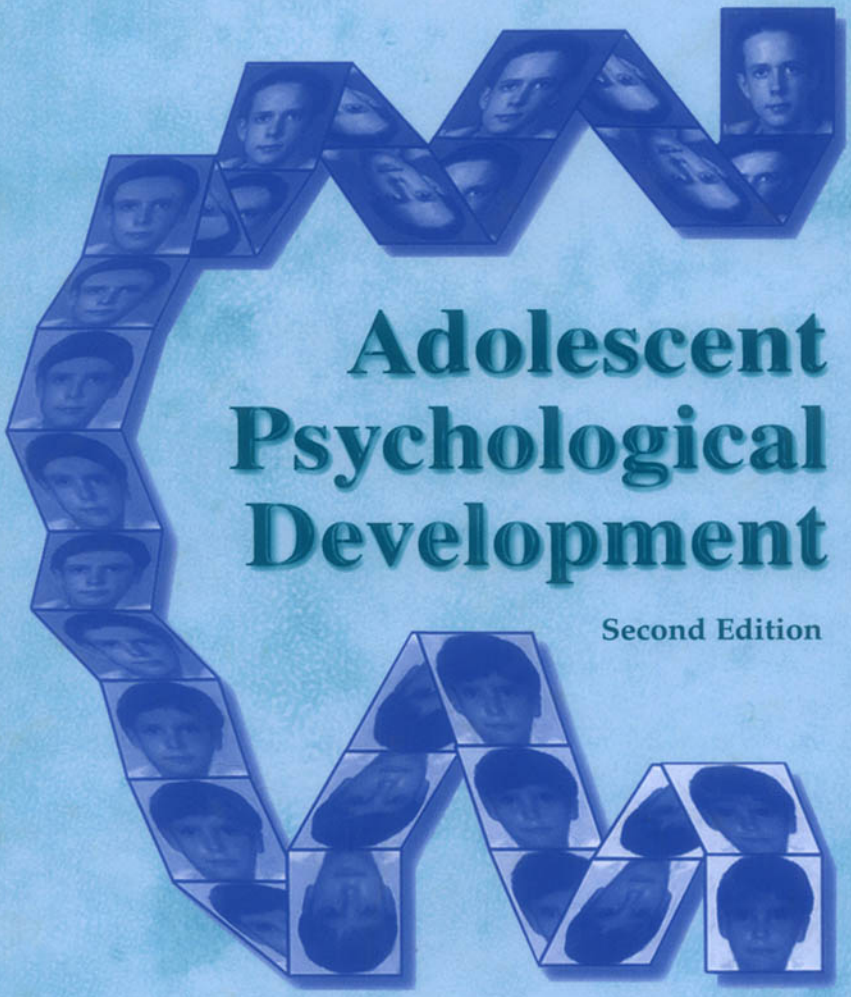

Adolescent Psychological Development

Second Edition

Rationality, Morality, and Identity

David Moshman

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To Eric and Michael,
adolescents past and present

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Preface

The psychological literature on adolescence, already overwhelming when the first edition of this volume was published in 1999, continues to expand rapidly. Nobody can read it all, not even the authors of the very largest textbooks. It is less clear, however, that we are making progress in our understanding. Perhaps we are just accumulating more and more information about topics of current interest.

Laurence Steinberg and Amanda Morris (2001), reviewing work published in the 1990s, began with an informal analysis of the contents of three top journals—*Child Development*, *Developmental Psychology*, and the *Journal of Research on Adolescence*—during that period. The content analysis

> revealed that the most popular areas of inquiry were adolescent development in the family context, problem behavior, and, to a lesser extent, puberty and its impact .... [T]he family-puberty-problem behavior triumvirate accounted for about two-thirds of the published articles on adolescence during the past decade. Indeed, if a visitor from another planet were to peruse the recent literature, he or she would likely conclude that teenagers' lives revolve around three things: parents, problems, and hormones. We suspect that this characterization is only partially true. (pp. 84–85)

Toward the end of the review, Steinberg and Morris (2001), concluded:

> Knowledge about psychological development and functioning during adolescence continued to expand during the past decade at a rapid pace. Although many of the foci of recent research have been familiar ones—problem behavior, puberty, parent-adolescent relations, the development of the self, and peer relations—new themes and guiding frameworks transformed the research landscape. Compared with studies conducted prior to the mid 1980s, recent research was more contextual, inclusive, and

> cognizant of the interplay between genetic and environmental influences on development. (p. 101)

It would be difficult, if not impossible, to find a developmental psychologist who thinks research on parents, problems, puberty, peers, and self is unimportant or that developmental research should ignore the diversity of social and cultural contexts or the ongoing interplay of multiple influences on development. Nevertheless, Steinberg and Morris (2001) wondered, as do I,

> what happened to research on the psychological development of the individual adolescent amidst all of this focus on context, diversity, and biology. The study of psychosocial development—the study of identity, autonomy, intimacy, and so forth—once a central focus of research on adolescence, waned considerably, as researchers turned their attention to contextual influences on behavior and functioning and to the study of individual differences. The study of cognitive development in adolescence has been moribund for some time now, replaced by studies of adolescent decision-making and judgment .... No comprehensive theories of normative adolescent development have emerged to fill the voids created by the declining influence of Freud, Erikson, and Piaget .... As a consequence, although the field of adolescence research is certainly much bigger now than before, it is less coherent and, in a sense, less developmental. (pp. 101–102)

The huge and fractured literature of adolescence is a major problem for both students and scholars, not to mention interplanetary visitors. For students there is simply too much to learn, and the lack of coherence across topics and studies makes it difficult to achieve deeper levels of understanding. For scholars, the paucity of integrative visions forces research and theorizing to proceed along narrow paths, collecting and explaining data in ways specific to particular topics, tasks, contexts, and populations.

The central thesis of this book is that a more coherent picture of adolescence can come from a renewed focus on development. The purpose of such a focus is not to return to a some purported golden age of developmental theory. By reflecting carefully on what we mean by development, however, and examining the literature with this in mind, we can identify major developmental changes associated with adolescence. By focusing on such changes, we can move toward a more integrative conception of adolescent development, one that can accommodate current evidence regarding context and diversity without jettisoning the coherence of a developmental perspective.

I intended the first edition of this book to be an advanced text, one that would be accessible to students, at least advanced undergraduates and graduate students, but that would also be useful to scholars, especially those interested in connections across standard topics and research programs in

adolescence and in processes of developmental change. I am pleased that the book has been praised by students and teachers and has also been cited in scholarly books and journals. In preparing this second edition I have been careful to keep both audiences in mind. The book does not assume any prior knowledge of psychology. Rather than try to cover everything about adolescence at an elementary level, however, it presents and builds on concepts in such a way as to reach core issues in the scholarly literature. The intent is to enable students to wrestle with the questions of concern to experts, and to help experts see what concerns them from a larger perspective.

I begin with an introduction to the concept of development and its relevance in adolescent psychology. Not all changes are developmental, but there are profound developmental changes represented in three foundational literatures of adolescent development—cognitive development, moral development, and identity formation. The first three major parts of this volume address each of these three domains in turn, and the fourth and final part provides a more general account of advanced psychological development in adolescence and beyond.

Each of the four major parts of the volume consists of three chapters. For the first three parts—addressing the development of rationality, morality, and identity respectively—the organization of the three chapters within each is identical. In each part, the first of the three chapters presents the prevailing view of the 1960s and 1970s—Jean Piaget's theory of formal operations (chap. 1), Lawrence Kohlberg's theory of principled moral development (chap. 4), and Erik Erikson's theory of identity formation as amplified by James Marcia (chap. 7). The three middle chapters—2, 5, and 8—address fundamental questions raised about the nature and scope of rationality, morality, and identity respectively. Finally, each of these three parts concludes with a chapter (3, 6, and 9) directly addressing the process of developmental change.

The final part of the book attempts, in a more general way, to consider advanced psychological development, the developmental changes of adolescence and beyond. Chapter 10, which is new to this edition, considers advanced psychological development in ways that cut across issues of rationality, morality, and identity. Chapter 11 proposes a pluralist approach to developmental theory and research that allows for universals without insisting on them. Finally, Chapter 12 considers the role of liberty in the promotion of development.

Whether you are a student or a scholar, I hope this overview and synthesis of the literature on adolescent psychological development will provide a

broad and useful perspective. If you are a visitor from another planet seeking to learn about terrestrial adolescents by perusing the literature, I hope this tiny piece of it can serve as a gateway to a developmental vision of the rest.

—David Moshman

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Introduction: Development, Psychology, and Adolescence

> Child psychology today is surprisingly free of interest in building general models of human development. The discipline is filled with hyperactive efforts to accumulate data, but attempts to make sense of the data, in terms of models of basic developmental processes, are relatively rare.
>
> —*Jaan Valsiner* (1998, p. 189)

There are many things that could be studied about adolescents: how their bodies work, how they behave in various contexts, how they solve problems and make decisions, how they relate to each other, how they learn new skills and ideas, what attitudes they have about various issues, what factors affect their attitudes and abilities, and so forth. Investigation reveals that adolescents are an extraordinarily diverse group of people.

One thing common to all adolescents, however, is their engagement in a process of psychological development. Understanding that process is central to understanding adolescents. Thus we focus on *adolescent psychological development*. The aim of this introduction is to clarify just what is meant by this.

THE NATURE OF DEVELOPMENT

Development is a process of change, but not all changes are *developmental* (Amsel & Renninger, 1997; Overton, 1998; Piaget, 1985; Sen, 1999; Valsiner,

1998; van Haaften, 1998, 2001; Werner, 1957). To examine and refine the concept of development, compare *development* with *learning*. A good example of a developmental change would be attaining sexual maturity in the course of reaching puberty. A good example of learning would be attaining the knowledge that one should stop on red and go on green. Each involves an important change in an individual. What differences between these lead us to see the former, but not the latter, as a developmental change? There are at least four worth noting: Developmental changes are (1) extended, (2) self-regulated, (3) qualitative, and (4) progressive.

First, developmental changes are long-term changes that extend over a substantial period of time. One difference between puberty and learning color rules is the time span. Puberty is achieved over a period of months or years. Learning when to stop or go, on the other hand, may occur in a matter of minutes, hours, or days. There is no sharp divide between short-term and long-term change. In general, however, *development* refers to a change process extended over a substantial period of time.

Second, developmental changes are directed or regulated from within. Another difference between puberty and learning color rules is that sexual maturation is an internally regulated process whereas learning to stop on red and go on green is more a function of environmental influence. Here again the difference may not be as sharp as it initially appears. Sexual maturation is affected by environmental factors such as nutrition; learning color rules involves internal mechanisms of perception and cognition. Nevertheless, to the extent that a process of change is *self-regulated* we are more likely to consider it developmental; to the extent that it is caused by external forces we are less likely to use this label.

Third, developmental changes are *qualitative* rather than merely quantitative. They are changes in kind, not just in amount. Attaining sexual maturity, to return to our example, makes one a different sort of organism; it is a qualitative change associated with the transition to puberty. Color rules, on the other hand, are among the many things we learn. Learning a particular rule represents a quantitative increase in the number of rules known but it doesn't, in general, transform the organism. The term *development* generally refers to qualitative transformations in some underlying structure rather than to quantitative or superficial changes (Valsiner, 1998; van Haaften, 1998, 2001).

Finally, development is *progressive*. At the very least it extends over time in some sort of systematic ongoing way. Prototypically, to develop is to make progress. Puberty and learning color rules differ in that the attainment of

sexual maturity has a natural directionality whereas learning to stop on red does not. A society could decide, for example, that people should stop on green and go on red; in such a society that is what children would learn. An adult who moved from our society to one with different color rules would learn the new rules; an adult who moved from a different society to ours would learn our rules.

Developmental change, by contrast, is progressive (Chandler, 1997; Piaget, 1985; Sen, 1999; van Haaften, 1998, 2001; Werner, 1957). What counts as progress, to be sure, may be a matter of dispute. Psychological maturity, as we shall see, is a more problematical concept than biological maturity; psychological progress is correspondingly problematic. To the extent that a change is seen as progressive, however, it is more likely to be labeled developmental. To the extent that we see it as arbitrary, neutral, culturally relative, regressive, or pathological, by contrast, we are less likely to label it *developmental.*

We live in a world of change. In order to make sense of this, we need to distinguish different sorts of changes. I have suggested that it is useful to distinguish a category of changes that may be referred to as *developmental.* Although the distinction between developmental and nondevelopmental change is not sharp, it is nonetheless a useful one. Change is developmental in those cases in which it is extended, self-regulated, qualitative, and progressive.

PSYCHOLOGICAL DEVELOPMENT

It is noteworthy that my example of developmental change in the previous section—attainment of puberty—was a biological one. In fact, the anatomical and physiological changes that take place in the maturation of immature organisms represent prototypical cases of developmental change. The maturation of immature organisms includes many examples of changes that (a) take place gradually over an extended period of time, (b) are largely directed by genetic and other internal factors, (c) involve qualitative changes in fundamental bodily structures and functions, and (d) represent progress toward maturity. In the realm of biology, no one doubts that development is a real and important phenomenon.

But what about psychological changes? It is clear that the behavior of organisms, as well as their anatomy and physiology, changes over time. With respect to human beings, there are major changes in perception, communication, thinking, personality, social relations, moral understanding, and so forth. Do such changes constitute development?

This is neither a frivolous question nor a matter of arbitrary terminology. On the contrary, responses to this question reflect basic assumptions about the nature of psychological change (Case, 1998; Overton, 1998; Valsiner, 1998). If one sees at least some psychological changes as emerging via extended, self-regulated progress toward qualitatively higher levels of psychological maturity, one is likely to be sympathetic to the notion of psychological development. Alternatively, if one sees only a variety of discrete changes caused by particular features of the environment, one is likely to stress the role of learning. Psychological development, in this latter view, is a vague notion based on a misleading biological metaphor.

Nature and Nurture

The traditional basis for distinguishing development from learning is that development is guided from within by the genes whereas learning is caused by the external environment. If psychological changes are caused by the genes then they are the result of internal processes that generate ongoing progress toward mature structures. If psychological changes are caused by the environment, however, then we can expect change to be more discrete and variable, a matter of learning whatever happens to come your way whenever you happen to encounter it.

And so we run up against the infamous *nature–nurture issue* (Spelke & Newport, 1998). Psychologists on the nature side are called *nativists*. They believe psychological change is primarily directed by genes that move the individual toward psychological maturity. Psychologists on the nurture side are called *empiricists*. They believe psychological change is primarily directed by the environment and can proceed in a variety of directions depending on individual experience within particular homes, schools, communities, and cultures. Nativists are thus likely to construe psychological change developmentally whereas empiricists put more emphasis on learning.

Research on development has convinced all contemporary psychologists that it is unnecessary and unhelpful to choose between nativism and empiricism. At the very least, modern psychologists emphasize that both nature and nurture play important roles in psychological change. Moreover, there is substantial evidence that the influence of genes depends on the environment and the influence of the environment depends on genes. Thus nature and nurture interact in influencing the course of development.

Constructivism

Interactionism is clearly an important insight. Many psychologists, however, believe it does not go far enough. Perhaps the most influential modern perspective in this respect, and one that is central to this volume, is *constructivism*. Constructivists believe that people play an active role in their own development (Bickhard, 1995; Chiari & Nuzzo, 1996; Phillips, 1997; Prawat, 1996).

Consider, for example, a child's increasing ability in math. An empiricist would suggest that whatever changes take place in the child's mathematical knowledge are the result of the mathematical concepts and techniques taught in the child's home, school, and/or other environments. A nativist would suggest that fundamental sorts of mathematical knowledge are genetically programmed to emerge over the course of children's development. An interactionist would suggest a compromise account in which mathematical knowledge emerges from the interaction of heredity and environment.

A constructivist would go a step beyond this, noting that children are actively involved in counting, arranging, grouping, dividing, and other such activities with objects. Their voluntary actions have been influenced by, but cannot be reduced to, previous interactions of genes and culture. Without denying the ongoing interaction of genetic and environmental influences, the constructivist would suggest that children actively construct their own mathematical knowledge through ongoing reflection on and coordination of their mathematical actions and interactions. Thus the child is seen as an active agent with a role that cannot be reduced to genes, environmental history, or even an interaction of both.

The construction of knowledge and reasoning is generally seen by constructivists as a self-regulated process that, over time, generates qualitatively distinct structures of knowledge and reasoning. Most constructivists—those I later refer to as *rational constructivists*—believe that the new structures are often not just different but better than those they supersede, representing progress toward higher levels of understanding and rationality. Thus most constructivists believe there is such a thing as psychological development. In contrast to empiricists, they believe there are indeed long-term, self-regulated, qualitative, and progressive changes in the psychological realm. In contrast to nativists, however, constructivists see self-regulation as an active process of interaction, reflection, and coordination by the individual, rather than as a process of genetically guided maturation.

ADOLESCENT PSYCHOLOGICAL DEVELOPMENT

Assuming there is indeed such a thing as psychological development, does it continue into adolescence? If not I can stop writing, or you can stop reading, because there is no such thing as adolescent psychological development. As you can see, however, this book has hardly begun. I hope to convince you, in the chapters ahead, that psychological development does indeed continue beyond childhood, at least for some individuals in some cultures and societies, and probably for most individuals in most social and cultural contexts. But first, what do we mean by adolescence?

The simplest way to define *adolescence* is chronologically. The Society for Research on Adolescence, for example, construes adolescence as encompassing the second decade of life—that is, ages 10 through 19. The *Journal of Adolescent Research* invites manuscripts concerning individuals from ages 11 through 22. In ordinary discourse, adolescents, roughly, are teenagers. All of these definitions reflect a widely shared sense that an adolescent is an individual who is no longer a child but is not yet an adult.

It is important to note, however, that in most societies for most of human history there was no such thing as adolescence, at least as we understand it (Grotevant, 1998; Hine, 1999). The end of childhood marked the beginning of adulthood. Individuals in their early teens had completed whatever formal or informal education they were going to receive, were expected to fulfill adult roles, and were, for the most part, physically, cognitively, and socially capable of doing so.

Consistent with such historical and cultural considerations, it might be observed that, even in modern Western cultures in which a prolonged adolescence is the norm, the beginning of adolescence is much more clear-cut than the end. Children undergo a variety of interrelated changes between ages 10 and 13. Physically, there are changes associated with puberty. Cognitively, as we will see, there are fundamental changes in intellectual competence. Socially, there are a variety of changes associated with the transition to an increasingly peer-focused orientation. Educationally, there is the move from elementary to secondary education. Although developmental changes are gradual and occur at variable ages, it does seem that most children show sufficiently dramatic change between ages 10 and 13 that we can regard them as entering a new developmental stage—adolescence.

Determining when adolescence ends, on the other hand, is more problematic. Does it end with completing one's education, beginning a steady job, getting married, having children, or other such social milestones? Using

any of these criteria, adolescence in modern Western societies often lasts well past age 30; in fact, adulthood is never achieved by many individuals. An alternative would be to apply psychological criteria of cognitive or emotional maturity. As we see throughout this volume, however, many teenagers show forms or levels of rationality, morality, or identity that many older individuals have never achieved. A distinction between adolescents and adults, it turns out, is much more difficult to make than a distinction between adolescents and children.

This is not, in my view, merely a difficulty of terminology or definition. On the contrary, the difficulty in identifying a meaningful psychological basis for marking the end of adolescence reveals something fundamental about adolescents and their development. Given that adolescents are more clearly distinguishable from children than from adults, I suggest adolescence be viewed not as the last stage of childhood, or even as an intermediate period between childhood and adulthood, but rather as the first phase of adulthood. This phase may be more distinct in modern Western societies than it has been traditionally, but it is nonetheless a mistake to overdifferentiate adolescents from adults.

These historical and cultural considerations raise the possibility that the developmental changes discussed in this volume are largely specific to modern Western societies. Adolescent psychological development may be the developmental changes of early adulthood in complex societies that require, encourage, and support sophisticated forms of cognition, advanced levels of moral understanding, and self-constructed identities. On the other hand, as we shall see, rationality, morality, and identity may appear in diverse guises in varied contexts and cultures. We should not prematurely dismiss the potential generality of various aspects of adolescent psychological development.

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Cognitive Development

Cognitive development is the development of knowledge and inference. In adolescence and beyond this includes the development of advanced forms and levels of thinking, reasoning, and rationality. We begin with Piaget's conception of cognitive maturity as formal operations. From there we proceed to diverse conceptions of advanced cognition and development. As we see, current research and theory are consistent with Piaget's conception of cognitive development as a rational process with rational outcomes but challenge his depiction of cognitive development as a single universal sequence of general structures leading to a highest, and thus final, stage.

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1

Piaget's Theory of Formal Operations

> To be formal, deduction must detach itself from reality and take up its stand upon the plane of the purely possible.
>
> —*Jean Piaget* (1928/1972, p. 71)

Developmental psychologists are quick to talk about matters such as emotional development, social development, personality development, and cognitive development. Because most people share the notion that children develop toward maturity, such terminology may be uncritically accepted. As discussed in the Introduction, however, psychological maturity is a more problematical notion than physical maturity. This raises questions about what is meant by *psychological development*.

Caution is in order, for example, regarding any claim that certain emotions are better than others. But what, then, is meant by emotional development? Similarly, on what basis are some social interactions, personalities, or thoughts deemed more advanced or mature than others? Are we deluding ourselves when we refer to social development, personality development, and cognitive development?

Although such questions are reasonable and important, I believe the issues they raise can be satisfactorily addressed. In this chapter, focusing on cognitive development, I present the theory of Jean Piaget, who believed that cognition is indeed a developmental phenomenon. Piaget attempted to demonstrate that, over the course of childhood and early adolescence, indi-

viduals actively construct qualitatively new structures of knowledge and reasoning, and that the most fundamental such changes are progressive in the sense that later cognitive structures represent higher levels of rationality than earlier ones.

PIAGET'S THEORY OF COGNITIVE DEVELOPMENT

Imagine a small pet store in which there are 10 animals for sale—six dogs and four cats. If asked whether there are more dogs or cats in the store you would immediately respond that there are more dogs. Suppose, however, you are asked whether there are more dogs or more cats in a pet store on the next block that you have never seen. You would indicate that, without more information, you simply don't know.

Suppose now you are asked whether there are more dogs or more animals in the original store. This might seem a peculiar question. After clarifying that you have understood it correctly, however, you would respond that there are more animals. If asked whether there are more dogs or animals in the store on the next block, you would indicate that it has at least as many animals as dogs. You would not need any additional information about the other store to reach this conclusion: Knowing that dogs are animals, it follows as a matter of logical necessity that any pet store must have at least as many animals as dogs.

Imagine that a preschool child is brought into the original pet store and is asked the same questions. It might turn out that she is unfamiliar with dogs or cats, or that she has trouble telling them apart. It is also possible that the numbers involved here exceed her counting skills. Alternatively, she might come from a cultural background in which dogs and cats are not classified together as animals. For a variety of reasons of this sort a child might fail to provide satisfactory answers to the questions you had been asked. This would provide little basis for questioning her rationality, however. We would simply note that, for reasons relating to her individual and/or cultural background, she has not learned certain things that are eventually learned by all normal individuals in our culture.

Suppose, however, that the child is indeed familiar with dogs and cats, is able to distinguish and count them, and understands that all dogs and cats are animals. When asked whether there are more dogs or cats she responds correctly that there are more dogs. When asked about the store on the next block she responds correctly that, without going there to see, she cannot know whether it has more dogs or cats.

You then ask whether there are more dogs or animals in the store she is in, repeating the question to make sure she understands it. She responds that there are more dogs. You ask why and she notes that there are six dogs and only four cats. When you ask about the store on the next block she responds that, without further information, she cannot know whether it has more dogs or animals. Just to be sure, you ask whether dogs are animals. "Of course," she says.

What is going on here? A plausible account is that the child does not understand the nature and logic of hierarchical classification. She knows that dogs are animals and that cats are animals but she does not fully grasp that any given dog is simultaneously a member of the class of dogs and of the class of animals (see Fig. 1.1). Thus she does not realize that in any situation the class of animals must have at least as many members as the class of dogs. When asked to compare dogs with animals (two different levels in the class hierarchy) she ends up comparing dogs with cats (which are at the same level in the class hierarchy) and concludes there are more dogs. In other words, she is not ignorant of relevant facts about dogs, cats, and animals, and she is not deficient in particular arithmetic skills. What she apparently lacks is abstract conceptual knowledge about the nature of hierarchical classes.

Logical understandings of this sort were the main focus of interest for the renowned Swiss developmentalist Jean Piaget (1896–1980). In numerous studies over many decades, Piaget and his collaborators found that preschool children routinely show patterns of reasoning qualitatively different from those of older children and adults. Moreover, the later forms of reasoning and understanding were demonstrably more coherent and adaptive. Piaget did not deny that children learn new facts and skills as they grow older, and that there is, thus, a quantitative growth of knowledge. He suggested, however, that qualitative shifts in the nature of reasoning are more fundamental. It is these that represent progress toward higher levels of rationality. What accounts for such changes, he wondered.

One possibility is that sophisticated cognitive structures are learned from one's environment. There is no evidence, however, that logical knowledge

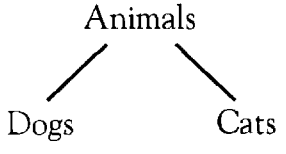

FIG. 1.1. Hierarchical classification.

of the sort Piaget studied is taught to young children or that direct teaching of logical facts or procedures has much effect on their thinking. An empiricist view has difficulty accounting for the relatively early and universal attainment of basic logical conceptions.

Another possibility is that the rational basis for cognition is innate, emerging as a result of genetic programming. But there is no evidence that we inherit genes for logic and little reason to believe that genes containing the sorts of logical understandings just discussed could be generated by the process of evolution. A nativist view turns out to be no more plausible than an empiricist view.

Constructivism

On the basis of such considerations, Piaget suggested that rational cognition is constructed in the course of interaction with the environment (Campbell & Bickhard, 1986; Moshman, 1994, 1998). Although this does not rule out a substantial degree of genetic and environmental influence, it emphasizes the active role of the individual in creating his or her own knowledge.

One might wonder, however, why individual construction would enhance rationality. If we all construct our own cognitive structures, why doesn't each of us end up with a unique form of cognition, no more or less justifiable than anyone else's? Why does individual construction lead to higher levels, and universal forms, of rationality?

Equilibration

Piaget suggested that rationality, which he construed largely as a matter of *logical coherence*, resides in corresponding forms of *psychological equilibrium*. People relate to their environments by *assimilating* aspects of those environments to their cognitive structures. If their current structures are adequate, they can *accommodate to* the matter at hand. If this cannot be done, however, the individual may experience a state of *disequilibrium*. New cognitive structures must be constructed to resolve the problem and restore equilibrium. Piaget (1985) referred to this process as *equilibration*.

Consider, for example, the child in the pet store. When asked to compare dogs with cats, she assimilates this request to her cognitive schemes of grouping and counting. Accommodating to the specifics of the situation, she concludes that there are more dogs. When asked to compare dogs with

animals, however, she makes the same assimilation. Grouping the dogs together leaves the cats, whereupon she compares dogs with cats and concludes that there are more dogs. Not realizing that she has failed to answer the intended question, she may remain in equilibrium.

Suppose, however, that you now ask her to divide the dogs from the animals. And perhaps you throw in a few questions encouraging her to explain and justify what she is doing. In the course of the resulting interchange, she may realize that the dogs fit in both categories. This may create a sense of disequilibrium, leading her to vaguely recognize a problem with her approach to the matter. Reflecting on the nature of her classification activities, she may construct a more sophisticated scheme of hierarchical classification that will enable her to make sense of the situation and restore equilibrium.

Notice that the new classification scheme is constructed in the course of interaction with the physical and social environment but is not internalized from that environment. Thus it is neither innate nor (in the usual sense) acquired.

Notice also that the new equilibrium derives from a more sophisticated cognitive structure that in some sense transcends the child's earlier ones. Equilibration, in other words, leads not just to different structures but to better ones. Thus Piaget's conception of construction via equilibration suggests that cognitive changes, rather than being arbitrary and idiosyncratic, show a natural tendency to move in the direction of greater rationality. Piagetian constructivism is a form of what I later refer to as *rational constructivism*.

Research since the 1970s has refuted a number of Piaget's specific interpretations and hypotheses and has raised serious questions about various aspects of his account of development (Flavell, Miller, & Miller, 2002; Karmiloff-Smith, 1992; Moshman, 1998). There is substantial agreement, however, with his most general claim: Children actively construct increasingly rational forms of cognition; thus it is meaningful to speak of *cognitive development*.

The question for adolescent psychology is whether or not such development continues into adolescence. Piaget's own view was that early adolescence marks the emergence of the final stage of cognitive development—*formal operations*.

PIAGET'S THEORY OF FORMAL OPERATIONS

The child of 9 or 10, in Piaget's theory, has attained and consolidated a stage of cognition known as *concrete operations* (Inhelder & Piaget, 1964). The concrete thinker, according to Piaget, is a logical and systematic thinker

who can transcend misleading appearances by coordinating multiple aspects of a situation. She or he understands the logic of classes, relations, and numbers and routinely makes proper inferences on the basis of coherent conceptual frameworks. Research over the past several decades has substantially confirmed this picture, suggesting that, if anything, children show various forms of sophisticated reasoning and understanding even earlier than Piaget indicated (Case, 1998; DeLoache, Miller, & Pierroutsakos, 1998; Flavell et al., 2002; Gelman & Williams, 1998; Karmiloff-Smith, 1992; Wellman & Gelman, 1998).

Piaget believed, however, that there is a form of rationality more sophisticated than concrete operations. He referred to it as *formal operations* and suggested, on the basis of research by his colleague Bärbel Inhelder, that it begins to develop at approximately age 11 or 12, and is complete and consolidated by about age 14 or 15 (Inhelder & Piaget, 1958). Central to his conception of formal operations is the cognitive role of possibilities.

Reality as a Subset of Possibilities

Children begin considering possibilities at very early ages (Piaget, 1987). The imaginative play of the preschool child, for example, explores a variety of possible characters, roles, and social interactions. For children, however (in Piaget's view), possibilities are always relatively direct extensions of reality. The real world lies at the center of intellectual activity. Possibilities are conceived and evaluated in relation to that reality.

For the formal operational thinker, on the other hand, possibilities take on a life of their own. They are purposely and systematically formulated as a routine part of cognition. Reality is understood and evaluated as the realization of a particular possibility.

Consider, for example, gender role arrangements. In every culture, children learn what are deemed proper roles for males and females. In a culture in which women in medicine are expected to be nurses, not physicians, for example, a young child might think about a girl becoming a surgeon but would evaluate this possibility with respect to the actual gender role arrangements of the culture and likely see it as amusing, bizarre, or inappropriate.

A formal operational thinker, on the other hand, would be able to imagine a wide variety of gender role arrangements. The actual arrangements of his or her society, then, would come to be seen as the realization of one of many possibilities. That reality could then be reconsidered and evaluated with respect to those other possibilities. At the level of formal operations,

then, there is a radical reversal of perspective: Rather than considering possibilities with respect to reality, reality is considered with respect to possibilities. The formal thinker spontaneously and systematically generates possibilities, and reconstrues realities in light of those possibilities.

Hypothetico-Deductive Reasoning

Closely related to the new use of possibilities is *hypothetico-deductive reasoning*. Such reasoning begins with an assertion that is purely hypothetical, or even false. Consider, for example, the following two arguments (adapted from Moshman & Franks, 1986):

> Elephants are bigger than mice.
> Dogs are bigger than mice.
> Therefore, elephants are bigger than dogs.

> Mice are bigger than dogs.
> Dogs are bigger than elephants.
> Therefore, mice are bigger than elephants.

A preformal child is likely to consider the first to be more logical in that every statement within it is true. The second, by contrast, would be dismissed as illogical in that every statement within it is false. A formal thinker, on the other hand, would notice that the conclusion to the first argument, although true, does not follow from the premises given. By contrast, the conclusion to the second, albeit false, does follow from the premises given.

The formal thinker, in other words, is able to distinguish logic from truth and thus to formulate and evaluate arguments independent of the truth or falsity of their premises. Hypothetico-deductive reasoning, then, enables one to consider the logical implications of a set of premises whether or not one accepts those premises. Such reasoning plays a central role in the rigorous exploration of possibilities.

Second-Order Operations

Concrete operations, in Piaget's theory, are first-order operations: They are intended to apply logic directly to reality. Formal operations may be defined as operations *on* operations—that is, as *second-order operations*. Consider, for example, the following proportion:

$$\frac{10}{5} = \frac{4}{2}$$

To comprehend the logic of this proportion it must be understood that the relation of 10 to 5 (first number twice as great as second) is equal to the relation of 4 to 2 (again, first number twice as great as second). The focus is on a relation (of equality, in this case) between two relations. A proportion, in other words, is a relation between two relations, or a second-order relation.

Piaget worked out the logic of second-order operations in great detail. His account drew on abstract mathematical structures—the lattice and the Identity-Negation-Reciprocity-Correlative (INRC) Group—and an associated set of 16 binary operations involving logical relations such as conjunction, disjunction, implication, biconditionality, and incompatibility. Second-order operations, he argued, enable adolescents and adults to elaborate combinations and permutations of elements systematically, to identify correlations, and to manipulate variables independently so as to determine their individual effects.

Formal operations, then, involves a higher order logical structure that enables insights and reasoning impossible at the concrete operations level. Thus the formal operational orientation toward hypothetical possibilities, far from being a turn from reality to fantasy, is associated with a rigorous and systematic logical structure. The construction of that structure in early adolescence, Piaget suggested, is the transition to cognitive maturity.

RESEARCH ON FORMAL OPERATIONS

The original empirical basis for Piaget's theory of formal operations was psychological research by his associate Bärbel Inhelder on what came to be known as the Inhelder tasks, in which children and adolescents attempted to explain a variety of physical phenomena associated with balance scales, pendulums, and other sorts of apparatus. After the publication of this research in the classic work on formal operations (Inhelder & Piaget, 1958), researchers began attempting to replicate and extend Inhelder's findings. In addition, many researchers extended the study of formal operations to focus more directly on specific forms of advanced logical reasoning central to Piaget's theoretical account of Inhelder's tasks and results.

There are now hundreds of published studies intended to test or extend Piaget's theory of formal operations and hundreds more presenting data directly relevant to the theory. The results are complex and their interpretation has generated substantial theoretical controversy (Byrnes, 1988a, 1988b; Campbell & Bickhard, 1986; Gray, 1990; Halford, 1989; Keating, 1988, 1990; Moshman, 1998; Neimark, 1975; Smith, 1987). In general, the

research shows that there are indeed important forms of reasoning of the sort Piaget identified as formal operational that are rarely seen before about age 11 but become increasingly common beyond that age. Research, however, does not support the original Piagetian claim that formal operational reasoning is consolidated by age 14 or 15 and used spontaneously and consistently beyond that age.

Consider, for example, a series of studies by Moshman and Franks (1986) and Morris (2000). In the original series of three experiments, Moshman and Franks (1986) presented fourth graders, seventh graders, and college students with a variety of valid and invalid arguments varying in form, content, truth of premises, and truth of conclusion. The intent was to see whether they could systematically distinguish valid arguments, in which the conclusion follows logically from the premises, from invalid arguments, in which it does not. This required hypothetico-deductive reasoning in that validity did not always correspond to truth. Recall, for example, the two arguments presented a couple of pages back:

> Elephants are bigger than mice.
> Dogs are bigger than mice.
> Therefore, elephants are bigger than dogs.
>
> Mice are bigger than dogs.
> Dogs are bigger than elephants.
> Therefore, mice are bigger than elephants.

The first of these arguments is invalid because the conclusion does not follow logically from the premises, despite the fact that the premises and conclusion are true. The second argument, in contrast, is valid because the conclusion follows logically from the premises, despite the fact that the premises and conclusion are false. To recognize the validity of the second argument requires hypothetico-deductive reasoning to determine what follows from premises known to be false.

Conditions were systematically varied with respect to whether or not students received an initial explanation of the concept of validity and whether or not they received regular feedback regarding the correctness of their responses. Fourth graders, as expected on the basis of the theory of formal operations, showed little or no understanding of the distinction between valid and invalid arguments regardless of whether they received explanations and/or feedback. College students generally did show such understanding regardless of condition, although many were inconsistent in applying that understanding.

Seventh graders turned out to be the group most affected by experimental condition. Without explanation or feedback, their performance was highly variable, with some reasoning at the level of the fourth graders and others at the level of the best college students. With explanation or feedback, however, seventh-grade performance improved to the level of the college students.

These results are consistent with Piaget's claims about the initial appearance of formal operations but not with his view about its relatively rapid consolidation. Fourth graders, who were 9 and 10 years old, showed little or no ability to use hypothetico-deductive reasoning even in conditions carefully designed to facilitate this. Seventh graders (aged 12 and 13), on the other hand, often did apply such reasoning spontaneously; most were at least able to profit from explanation and feedback. Even college students, however, were far from consistent in their use of formal reasoning. Formal operational reasoning, it seems, does begin to develop about age 11, but the resulting formal competence is not consistently applied even by adults.

In a systematic extension of this research with 220 children in Grades 3 through 5 (ages 8 to 11), Anne Morris (2000) examined in more detail the capacities of children just below what Inhelder and Piaget (1958) proposed as the usual onset of formal operational reasoning about age 11 or 12. On the basis of a systematic analysis of the how people comprehend and apply the concept of inferential validity, Morris devised experimental tasks that ingeniously directed children's attention to several key considerations. Children were pretested and posttested on validity tasks from Moshman and Franks (1986), with additional delayed posttesting in some cases. The experimental tasks, administered a month after the pretest, were varied systematically.

None of the children used validity of form as a basis for sorting arguments in the pretest, consistent with the findings of Moshman and Franks. On the posttest, however, many of the children, including some of the third graders, did indeed distinguish valid from invalid arguments on the basis of logical form and adequately explain the distinction. All of those who met this criterion, moreover, still showed substantial ability to distinguish valid from invalid arguments in a delayed posttest a month later. At least some children under age 11, it appears, have at least a nascent capacity for hypothetico-deductive reasoning.

But if the glass of early competence is partially full, it is also more than half empty. Even in the most effective experimental condition, a combined task that set up an elaborate fantasy context and repeatedly directed the child's attention to structural relationships, the percentages of students in Grades

3, 4, and 5, respectively, who adequately distinguished valid from invalid arguments at least once out of four opportunities were only 25%, 35%, and 35% respectively. That is, even among the 10 and 11 year olds who had just participated in a highly elaborate and sophisticated effort to assist them, a substantial majority still failed to distinguish valid from invalid arguments.

These results are consistent with a constructivist view of the development of formal operations as an ongoing process of reflection and coordination that may proceed at somewhat different rates in different individuals. Some children as young as age 8 were able to construct and apply formal conceptions of inferential validity given the right kind of educational experiences, but even as late as fifth grade (ages 10–11), children did not spontaneously apply this concept and most were unable to construct it. Formal operations does not simply emerge out of our genes at some predetermined age, but this does not mean that it can be taught or learned at any age.

Morris's (2000) interpretation of her results highlights the multifaceted complexity of both reasoning and development in the domain of logic:

> These findings suggest that distinguishing between logical and nonlogical arguments involves the coordinated application of various skills: treating the component sentences of an argument as an integrated whole, attending carefully to the detailed character of statements, attending to links between component statements as well as to the content of individual statements, comparing adjacent statements, setting aside background knowledge and using only premise information to make inferences, ignoring or actively inhibiting irrelevant personal information in processing a text, and selectively introducing information from long-term memory during the reasoning process. All of these must be coordinated with the application of metalogical understandings; an individual who applies these comprehension processes cannot distinguish between logical and nonlogical arguments if he or she has not constructed an understanding of the necessity of logical forms and the indeterminacy of nonlogical forms or fails to recognize the applicability of these concepts in a particular context. (p. 754)

One might expect from this account that the development of logical reasoning would be an ongoing process extending, at least in some cases, well beyond childhood, and that logical performance would vary not only across individuals and ages but also across tasks and contexts. Research by Henry Markovits and others on logical reasoning in adolescence strongly supports this picture (Barrouillet, Markovits, & Quinn, 2001; Efklides, Demetriou, & Metallidou, 1994; Franks, 1996, 1997; Klaczynski, Schuneman, & Daniel, 2004; Markovits & Bouffard-Bouchard, 1992; Markovits & Nantel, 1989; Markovits & Vachon, 1989; Simoneau & Markovits, 2003; Venet & Markovits, 2001; for a developmental theory of conditional reasoning, see Markovits & Barrouillet, 2002).

Other research has generated similar results. Consider, for example, the much-studied "selection task" (Wason, 1968). You are asked to consider a set of four cards, each of which has a letter (vowel or consonant) on one side, and a number (odd or even) on the other. The cards are as follows:

The following hypothesis is presented:

IF A CARD HAS A VOWEL ON ONE SIDE,
THEN IT HAS AN EVEN NUMBER ON THE OTHER SIDE.

Your task is to test this hypothesis by turning over those cards—and only those cards—necessary to determine conclusively whether the hypothesis is true or false for this set of four cards. Which card(s) must be turned?

Most people choose to turn either just the *E* or the *E* and the *4*. The card with a vowel showing (*E*) is turned to see if it has an even number on the other side, and, in some cases, the card with an even number showing (*4*) is turned to see if it has a vowel on the other side. The assumption is that finding a vowel combined with an even number supports the hypothesis, and seeking such a combination thus tests the hypothesis. Research on a variety of tasks supports the view that people have a strong orientation toward testing hypotheses by seeking data that would verify them (Evans, 1989; Friedrich, 1993; Klayman & Ha, 1987; Wason & Johnson-Laird, 1972).

Upon reflection, however, it is clear that this *verification strategy* is inadequate. The only combination that could falsify the hypothesis is a card with a vowel that does not have an even number on the other side. Thus we must seek cards that combine a vowel with an odd number. The correct response to the task, then, is to turn the *E* and the *7*. The *E* must be turned because it would falsify the hypothesis if it had an odd number on the other side. The *7* must be turned because it would falsify the hypothesis if it had a vowel on the other side. The *4* need not be turned because, no matter what is on the other side, it can not falsify the hypothesis.

A formal operational thinker might be expected to work out, via hypothetico-deductive reasoning, what predictions follow from the hypothesized relation between numbers and letters in the selection task. A formal thinker might also be expected to systematically consider all possibilities in regard to the unseen sides of the four cards and the consequences of each possibility for the hypothesis. Nevertheless, it has long been clear that

most adults fail to apply a *falsification strategy* to standard versions of the selection task (Evans, 1989; Stanovich, 1999; Wason & Johnson-Laird, 1972).

The failure of most people to solve the selection task via application of a falsification strategy raised serious questions about whether even adults use formal operational reasoning. Research by Willis Overton (1990) and his associates, however, has shown that adolescent and adult performance can be improved by various manipulations that make the task more meaningful, whereas children fail to profit from such variations.

Müller, Overton, and Reene (2001) extended developmental research on the selection task by assessing two groups of students—sixth graders and eighth graders—on five versions of the selection task, and then assessing them again 1 year later and a third time 1 year after that (when they were, respectively, eighth and tenth graders). As expected, performance improved across time, a pattern that held for both groups. Interestingly, the students who were initially sixth graders showed better reasoning at their third assessment (when they were in eighth grade) than the group initially in eighth grade showed at their first assessment (i.e., in eighth grade). Even without feedback, it appears, the experience of thinking about a series of selection tasks once each year in 3 consecutive years was sufficient to promote logical reasoning in early adolescence.

Research on the selection task thus supports other findings that formal operational competence appears, as Piaget suggested, at the transition to adolescence. Application of that competence to various tasks and situations, however, although increasing over the course of adolescence, remains difficult and inconsistent even in adulthood.

Cognitive development, according to Piaget, is the construction of increasingly sophisticated forms of logic, culminating in the formal operational logic of the adolescent. Although research shows that adolescents and adults often fail to use formal operational reasoning, extensive evidence supports Piaget's postulation of forms of logical reasoning that are common among adolescents and adults but rarely seen much before age 11. One might wonder, however, whether adolescents and adults also construct and use forms of reasoning and rationality different from those postulated and investigated by Piaget. We turn now to this question.

2

The Nature of Rationality

> Part of reasoning rationally is reasoning *about* rationality.
>
> —*Daniel Cohen's* (2001, p. 78) *Principle of Meta-Rationality*

> The human mind is a metamind.
>
> —*Keith Lehrer* (1990, pp. 1–2)

One way we identify developmental changes in cognition is that we see progress to higher levels of rationality. But does formal operations, rooted in a formal logic, encompass all of advanced rationality?

Rationality, in its oldest, broadest, and deepest sense, is a matter of having good reasons for one's beliefs and actions (Audi, 1997, 1998, 2001; Keefer, 1996; Moshman, 1990b, 1994; Nozick, 1993; Rescher, 1988; Sen, 2002; Siegel, 1988, 1997). Formal logic provides very good reasons for inferring particular conclusions from some sets of premises, and is thus an important aspect of rationality. But we can be rational in interpreting complex evidence that does not logically require a particular conclusion or in choosing among alternatives that cannot be logically eliminated. Even in the absence of formal proof, we often have good enough reason to choose one belief or course of action over another. There is much more to rationality than formal logic (Bickhard & Campbell, 1996; Blasi & Hoeffel, 1974; Evans, 2002; King & Kitchener, 1994; Koslowski, 1996).

In this chapter we consider the scope of human rationality, ranging across the cognitive and developmental literatures on *postformal reasoning, scientific*

reasoning, and other kinds of *thinking*. The resulting picture of advanced rationality is complex and multifaceted. One common theme, however, is that advanced thinking and reasoning involve advanced forms of what psychologists call *metacognition*. I suggest, in the latter part of this chapter, that what lies at the core of advanced cognitive development is the development of conceptual knowledge about the nature and justification of knowledge and reasoning and increasingly deliberate control over one's own inferential processes.

POSTFORMAL REASONING

In 1973, Klaus Riegel proposed a stage of *dialectical operations* that, he suggested, follows Piaget's stage of formal operations. This proposal was substantially elaborated by Michael Basseches (1980, 1984), who formulated a set of 24 *dialectical schemata*—distinct forms of *dialectical reasoning*. Dialectical reasoning, he proposed, draws on postformal understandings of structure, relations, context, perspective, contradiction, activity, change, and progress.

Suppose, for example, an individual who believes that knowledge is innate in the genes (nativism) encounters the view that knowledge is learned from one's environment (empiricism). It may appear that the two views contradict each other and that a choice must be made between them—they cannot both be right. A dialectical thinker, however, would consider the possibility that these two views can be synthesized to generate a perspective more sophisticated and defensible than either—in this case, perhaps, some sort of interactionist view. More generally, given an initial view (a *thesis*) and an apparent contradiction of that view (an *antithesis*), the dialectical thinker resists the tendency simply to choose between them. Instead she or he attempts to formulate a new perspective that transcends both (a *synthesis*).

The dialectical thinker recognizes, however, that the synthesis is not a final resolution, but may itself be contradicted. For example, an interactionist perspective on knowledge (a synthesis of nativism and empiricism) may itself be challenged by the view that knowledge is constructed. Rather than choose between interactionism and constructivism, however, the dialectical thinker may attempt to synthesize the two. More generally, any synthesis can itself become a thesis contradicted by a new antithesis, leading to a higher level synthesis. Understanding of this *thesis-antithesis-synthesis cycle* may lead a dialectical thinker to actively seek out contradictions in order to promote the development of his or her understanding.

Although dialectical reasoning is not illogical, neither is it simply a matter of reasoning in accord with formal rules of logic. Rather, dialectical reasoning provides a rational approach to complex phenomena that cannot be assimilated to the logical structure of formal operations. One cannot prove logically that a particular solution to the nature–nurture controversy is necessarily true, for example, but one may be able to demonstrate that a particular synthesis is better justified than either of the simpler views it transcends. The poem on pages 19–20 reflects my efforts as a graduate student to understand the postulated transition from formal operations to a postformal stage of dialectical reasoning.

Just 2 years after Riegel proposed a postformal stage of dialectical operations, Patricia Arlin (1975) proposed an alternative conception of postformal cognition, suggesting that formal operations as conceived by Piaget is a problem-solving stage and that it is followed, at least in some individuals, by a *problem-finding* stage. Although subsequent research failed to support Arlin's conception of problem finding as a postformal stage of development (Cropper, Meck, & Ash, 1977), the quest for postformal stages was on. Within just a few years, there were at least a dozen theories of postformal cognition addressing, in diverse ways, what might lie beyond formal logic (for the definitive compilation from this era, see Commons, Richards, & Armon, 1984).

There continues to be considerable interest in postformal cognition. Some theories follow Riegel and Basseches in highlighting the dialectical nature of advanced reasoning. Others, extending Piaget's conception of formal operations as second order operations, have proposed elaborate conceptions of operations of the third order and beyond, the results of successive reflections on and coordinations of formal and postformal structures. Michael Commons and Francis Richards (2003) developed a model of this sort that posits a succession of four stages beyond formal operations. *Systematic operations* forms systems out of formal operational relationships. *Metasystematic operations* constructs metasystems out of disparate systems. The *paradigmatic stage* synthesizes metasystems into paradigms, and the *cross-paradigmatic stage* synthesizes paradigms.

Commons and Richards (2003) estimated that only 20% of the U.S. population have achieved even the first of these stages, however, and research on other postformal stages similarly suggests that these are forms of reasoning that, if they exist at all, are not achieved by most people. Although postformal reasoning continues to interest some theorists of adult development (Sinnott, 2003), most theorists of adolescence have been more concerned

The Stage Beyond

Time was
when first you'd burst beyond
the adolescent border
you'd proudly flex your operations of the second order
Your oh-so-formal thinking knew no formal inhibitions
To produce a proper proof you'd proposition propositions

But now your schemes are seeming
to be scheming
in your dreaming
Metacognitive absurdity has every structure screaming
You're fenced against a Lattice
by the groping of a Group
Your cognitorium is caught within a schizocognic loop:

Conjunction and disjunction
merit binary ablations
and who could give a hoot for implication's implications?
Biconditional relationships
have failed to set you free
yet you're incompatible with incompatibility
Combinations make you queasy
permutations make you blue
You never confound variables and yet they confound you
Correlation is a meaningless
statistical contortion
Your distrust of all proportions = ?
Has grown out of all proportion
And though
beneath it all
your INR still comes to C
you're strangling in your own combinatoriality

BUT DON'T DESPAIR!!
Don't tear your hair!
Don't let your mind grow numb!
you've not yet reached the terminal disequilibrium
Just snap those cognivalent cogs
predialectic bonds
and start constructing structures
of the stage that lies beyond:

A place where contradiction's knock
will never leave you vexed
where every dialectic ⟶
is a pointer toward the next
where paradox is paradigm!
(cognitions all in season)
where thoughts are all self-reinforced
and reason is the reason

(*continued on next page*)

You're asked to give colloquia from Paris to New Paltz
Say everything you've said
including this
is truly false
Or falsely true!
What difference for a transcendental hero
who drolly juggles even roots of numbers less than zero?
Then in a voice
that's choice to voice
a choice you once thought grave
you tell of light-wave particles
particulary waves
Such epistemic stunts!
—you laugh!!—
and now the most unnerving:
You trace how space
(inside black holes)
is infinitely curving!

But how is one to move beyond?
I often am beseeched
How is this stage of metastructuration to be reached?
A triune track to truth pertains
of which I'll gladly tell:
Assimilate
Accommodate
Equilibrate like hell

Reprinted from Moshman, D. (1979). The Stage Beyond. *Worm Runner's Digest, 21*, 107–108.

with nonlogical modes of reasoning and thinking that appear to develop alongside formal logic rather than on top of it.

SCIENTIFIC REASONING

The developmental study of scientific reasoning is rooted in Inhelder and Piaget's (1958) research and theory on formal operational reasoning (chap. 1) but has evolved far beyond its roots in formal logic. Thus the study of scientific reasoning provides a good example of the role and limits of logic in advanced reasoning.

Suppose I believe children understand short sentences better than long sentences. I test my hypothesis by comparing a group of 10-year-old girls reading short sentences in a quiet room to a group of 8-year-old boys reading long sentences in a noisy room. Suppose I report that, as predicted, the short

sentences are better understood. You would likely respond, politely I hope, that my research is flawed and fails to support my hypothesis.

What precisely is the problem? My evidence is indeed consistent with the hypothesis that short sentences are understood better. The problem is that the design of my research does not rule out a variety of alternative explanations for my results. Perhaps the two groups differ because 10-year-olds, in general, comprehend more than 8-year-olds. Perhaps they differ because girls, in general, are better readers than boys. Perhaps they differ because children, in general, learn more in quiet settings. Logically, the research is inconclusive because, without additional information, I have no way of knowing whether it is age, gender, setting, sentence length, or some combination of these that accounts for the difference between the two groups.

What should I have done to provide a genuine test of my hypothesis? I should have compared groups that were identical to each other with regard to age and gender, and made sure that the reading took place in identical conditions. This insight is based neither on substantive knowledge about the psychological processes involved in reading nor on particular beliefs about age or gender differences or effects of setting. At issue is a purely formal insight about the logic of hypothesis testing: In order to determine the effect of a variable, one must manipulate that variable while holding all other variables constant.

In the classic presentation of the theory of formal operations, Inhelder and Piaget (1958) argued that the ability to isolate variables in order to determine their effects is an important aspect of formal operational logic, and showed that this ability develops over the course of early adolescence. Extensive research by Deanna Kuhn (1989) and her associates provides a detailed picture of how children, adolescents, adults, and scientists coordinate theories and evidence (Amsel & Brock, 1996; Amsel, Goodman, Savoie, & Clark, 1996; Kuhn, Amsel, & O'Loughlin, 1988; Kuhn, Garcia-Mila, Zohar, & Andersen, 1995; Schauble, 1996). Consistent with other research on formal operational reasoning (chap. 1), the results show some progress in at least some adolescents in understanding the logic of hypothesis testing, but appropriate isolation of variables and logically defensible inferences from data remain far from consistent even among adults.

Without denying the importance of isolating some variables in some circumstances, a variety of theorists have proposed that conformity to logically derived formal rules of scientific methodology is not sufficient for scientific reasoning (Zimmerman, 2000). Research must not only avoid confounding potentially relevant variables but must select variables and interpret results

on the basis of a domain-specific theoretical understanding of the phenomena under investigation. This typically requires judgments that are rational in the sense that good reasons can be provided but that are not mandated by formal logical or methodological rules. In the words of Leona Schauble (1996):

> Rationality entails more than mere logical validity. To decide which of several potential causes are plausible, people bring to bear both specific knowledge about the target domain and general knowledge based on experience about the mechanisms that usually link causes with effects .... The goal of scientific reasoning is not primarily the formulation of inductive generalizations, but rather the construction of explanatory models .... Explanatory models, in turn, are constrained in that their hypothesized causal mechanisms must be consistent with and sufficient to account for the known data. Thus prior knowledge guides observations, as surely as new observations lead to changes in knowledge. (p. 103)

Barbara Koslowski (1996) conducted an extensive program of research on adolescent scientific reasoning and, based on her results and on considerations from the philosophy of science, reached a similar conclusion:

> I have argued that neither covariation alone nor theory alone constitute algorithms that guarantee the right answer in scientific reasoning. Theory and data are both crucial, and theory and data are interdependent. Sound scientific reasoning involves bootstrapping: considerations of theory or mechanism constrain data, and data in turn constrain, refine, and elaborate theory. (p. 86)

Scientific reasoning, then, is something richer and more complex than a logic of scientific inference, but it is nonetheless rational. In addition to the logic of hypothesis testing, there is, at least potentially, a rationality rooted in the domain-specific theories that guide the process of theorizing, promoting justifiable choices about what variables to investigate, what constitutes relevant evidence, what hypotheses to pursue, and so forth.

Even young children, however, have and test domain-specific theories (Flavell et al., 2002; Karmiloff-Smith, 1992; Kuhn 2000; Wellman & Gelman, 1998). This has led many theorists to see children as fundamentally like scientists: Both children and scientists engage in the same sort of rational processes, differing mostly in that scientists have more experience and expertise. This conception of the *child as scientist* fits with Piaget's constructivist image of the child but underplays the sort of domain-general reasoning competencies associated with his stage of formal operations.

In a major critique of the child-as-scientist metaphor, Deanna Kuhn (1989) acknowledged that children, like scientists, have rich structures of domain-specific conceptual knowledge and continually test and refine this

knowledge. But children, in contrast to scientists, fail to understand the distinction between theory and evidence and thus are unable to coordinate these in a conscious and deliberate manner:

> In scientific exploration activities, lack of differentiation and coordination of theory and evidence is likely to lead to uncontrolled domination of one over the other. Exploration may be so theory-bound that the subject has difficulty "seeing" the evidence, or so data-bound that the subject is confined to local interpretation of isolated results, without benefit of a theoretical representation that would allow the subject to make sense of the data. (Kuhn, 1989, p. 687)

Progress in scientific reasoning consists of progress in

> thinking about theories, rather than merely with them, and thinking about evidence, rather than merely being influenced by it. This development is thus metacognitive, as well as strategic. From a very early age, children modify their primitive theories in the face of evidence, but only through the development that has been the topic of this article does one attain control over the interaction of theory and evidence in one's own thinking. It is a development that occurs not once but many times over, as theories and evidence repeatedly come into contact with one another. It is also, however, a development that is incompletely realized in most people. (Kuhn, 1989, p. 688)

Scientific reasoning, then, has its roots in early childhood but continues to develop long beyond that (Klahr, 2000; Kuhn, 2000; Zimmerman, 2000). Adolescents and adults are far from perfect, but they do show forms or levels of scientific reasoning not seen in children. The development of scientific reasoning is largely a matter of increasing consciousness of and control over theories, evidence, and inferential processes.

THINKING

In addition to research on scientific reasoning, there has been substantial research on the nature and development of *argumentation* (Cohen, 2001; Felton, 2004; Kuhn 1991; Kuhn, Shaw, & Felton, 1997; Kuhn & Udell, 2003; Leitao, 2000), *problem solving* (DeLoache et al., 1998), *decision making* (Baron & Brown, 1991; Byrnes, 1998; Galotti, 2002; Jacobs & Klaczynski, in press; Klaczynski, Byrnes, & Jacobs, 2001), *judgment* (Jacobs & Klaczynski, in press; Kahneman, 2003; Millstein & Halpern-Felsher, 2002), and *planning* (Galotti, in press; Scholnick & Friedman, 1993). All of these may be considered aspects of *thinking*—the deliberate application and coordination of one's inferences to serve one's purposes (Moshman, 1995a).

Research and theory in all of these areas is consistent with four generalizations about the nature and development of thinking. First, good thinking is not just the application of logic, although it does include good judgments about when and how logic is relevant. Argumentation often involves providing reasons to provisionally support or reject claims that cannot be logically proved or disproved. In daily life we routinely face problems for which there is no single logically correct solution and decisions that cannot be made by logically eliminating all but one of a set of options. Logic may play a role in making defensible judgments and formulating coherent plans but there is rarely a uniquely correct judgment or plan mandated by formal rules. Thinking is not just a matter of logic.

In fact, thinking is very much a part of daily life, highly intertwined with emotions and social relations and highly influenced by specific and cultural contexts. This is the second generalization. All people everywhere plan, argue, judge, face problems, and make decisions, but how they go about these activities is highly variable.

Third, adolescents and adults often show forms or levels of thinking rarely seen in children. Even if formal operations is just one piece of advanced rationality, it allows adolescents and adults to generate and consider hypothetical possibilities in a systematic fashion that enables advanced forms of argumentation, problem solving, decision making, judgment, and planning. The emergence and progress of diverse but interrelated forms of reasoning—dialectical, scientific, and so forth—may also be associated with advanced thinking.

Finally, postchildhood developmental changes in thinking are not tied to age and do not culminate in a state of maturity. Although it seems likely that many individuals show progress beyond childhood in the quality of their argumentation, problem solving, decision making, judgment, and planning (Cauffman & Woolard, in press; Steinberg & Scott, 2003), the progress of thinking in adolescence and beyond is highly variable, depending on specific interests, activities, and circumstances. No theorist or researcher has ever identified a form or level of thinking routine among adults that is rarely seen in adolescents. Adolescent thinking develops, but not through a fixed sequence leading to a universal state of maturity.

METACOGNITION

As we have seen, research since the 1970s has increasingly transcended the logico-mathematical framework of formal operations. The research sug-

gests that there may be postformal stages of development, but it also indicates that the limitations of Piaget's account cannot be overcome through proposals for postformal stages. Rather, it appears that multiple varieties of reasoning and thinking develop alongside formal reasoning. Rationality consists in large part of appropriately applying and coordinating our various reasoning processes.

With such considerations in mind, developmental, cognitive, and educational theorists and researchers have increasingly emphasized the importance of metacognition—cognition about cognition (Flavell, Green, & Flavell, 1998; Klaczynski, 1997, 2000, in press-a, in press-b; Kuhn, 1999, 2000, in press; Schraw, 1997; Schraw & Moshman, 1995). Broadly construed, metacognition includes "the achievement of increasing awareness, understanding, and control of one's own cognitive functions, as well as awareness and understanding of these functions as they occur in others" (Kuhn, 2000, p. 320). Although the term only dates back to the late 1970s, a metacognitive conception of adolescent cognition as *thinking about thinking* can already be seen in Inhelder and Piaget's 1958 presentation of the theory of formal operations.

Even young children show substantial metacognition. Between ages 3 and 5, for example, they come to understand that people can hold false beliefs and that in such cases people will act on the basis of their false beliefs rather than on the basis of (what the child knows to be) the truth (Flavell & Miller, 1998; Flavell, Miller, & Miller, 2002; Mitchell & Riggs, 2000). It is clear, however, that metacognitive knowledge and skills often continue to develop long beyond childhood (Schraw, 1997), and some theorists see metacognition, broadly construed, as central to rationality, and therefore see the development of metacognition as central to advanced cognitive development (Campbell & Bickhard, 1986; Klaczynski, in press-a, in press-b; Kuhn, 1999, 2000, in press; Lehrer, 1990; Moshman, 1998).

Figure 2.1 highlights relationships among a variety of concepts central to a *metacognitive conception of rationality*. As indicated, *rationality* is characteristic of a *rational agent*, an individual who uses *epistemic cognition* to engage in *reasoning*. Epistemic cognition, which we will consider in detail in the next section, is a type of *metacognition* involving knowledge about the justifiability of knowledge. This includes conceptual knowledge about *inferential norms*—that is, knowledge about standards for the evaluation of *inferences*.

Thinking, as already discussed, is the deliberate application and coordination of inferences to serve one's purposes. When thinkers constrain their in-

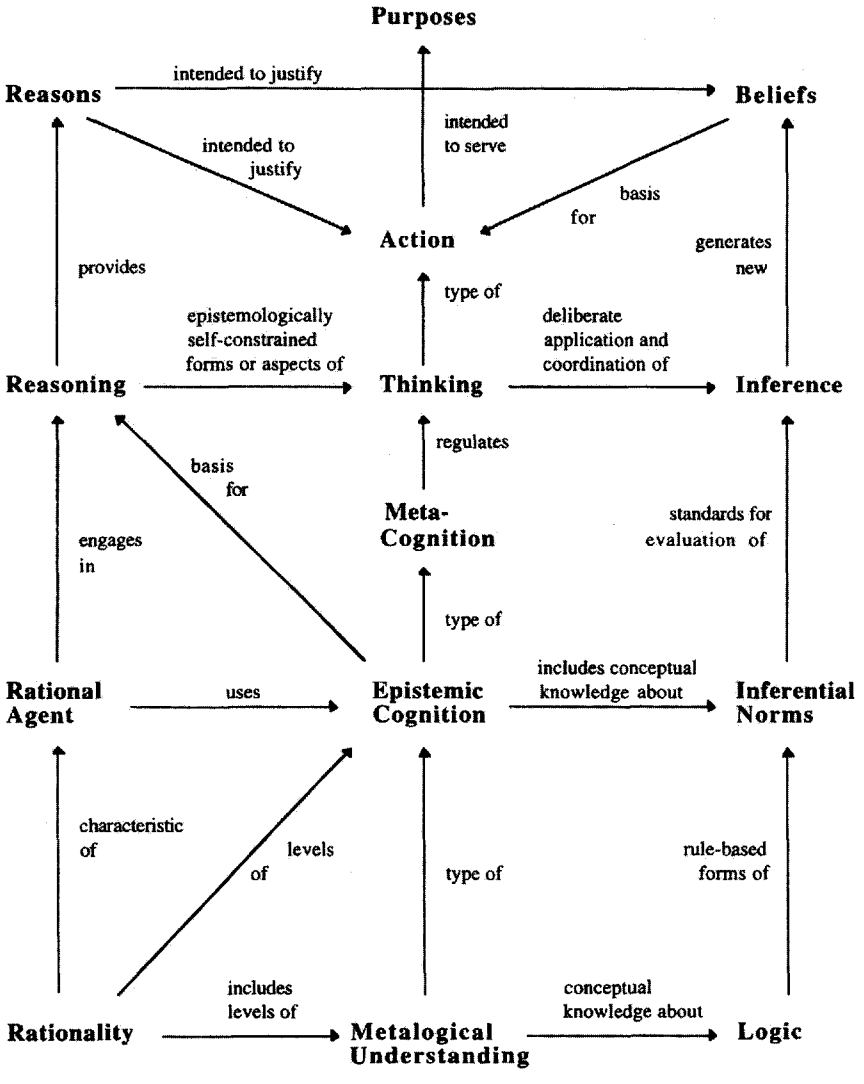

FIG. 2.1. A metacognitive conception of rationality.

ferences with the intent of conforming to what they deem to be appropriate inferential norms they can be said to be reasoning. Reasoning, then, provides reasons for one's beliefs and actions.

Thinking, in this view, is a metacognitive phenomenon in that it involves the deliberate control of one's inferences. Reasoning, moreover, involves

not just control of inferences but conceptual knowledge about their justifiability. Thus reasoning requires epistemic cognition, including conceptual knowledge about the nature and use of inferential norms. *Logic* is an important type of inferential norm. Thus knowledge about logic—*metalogical understanding*—constitutes an important type of epistemic cognition.

The core of cognitive development beyond childhood, then, may be the development of epistemic cognition, which enhances the epistemic self-constraints that transform thinking into reasoning.

EPISTEMIC COGNITION

The development of rationality, as suggested in the previous section, is in large part the development of metacognition, including increasing awareness and control of one's various beliefs and inferential processes, and an emerging understanding of others as cognitive agents. A vital aspect of metacognitive development, we will now see, is the development of *epistemic cognition*—knowledge about the fundamental nature and justifiability of knowledge and inference. I begin with the development of knowledge about logic and then turn to research and theory on epistemic cognition in its most general sense.

When do children become logical? Although formal logic is central to Piaget's conception of formal operations, Piaget was clear that formal operations is not the beginning of logical inference but rather an advanced form of reasoning that involves the systematic application of deduction in hypothetical contexts (see chap. 1). Inhelder and Piaget (1964) described a concrete operational logic of classes and relations that begins to be seen about age 7. Subsequent research has shown that preschool children routinely make inferences that are fully in accord with logical rules (Braine & O'Brien, 1998; Scholnick & Wing, 1995) and that even the behavior of infants shows an increasingly coordinated sensorimotor logic (Langer, 1980, 1986). If a ball is here or there and you cannot find it here, you look there.

A preschooler who looks for her ball at B when it does not turn up at A, however, is not even aware that she has made an inference, much less aware of the disjunction rule (*p or q; not p; therefore q*) implicit in her inference. Preschoolers do not deliberately apply logical rules or understand when and why they should do so. Only beginning about age 6 do children recognize inferences as a potential source of knowledge (Pillow, 1999; Pillow, Hill, Boyce, & Stein, 2000; Sodian & Wimmer, 1987) or respond appropriately to even the most transparent logical necessities (Somerville, Hadkinson, &

Greenberg, 1979) or blatant logical contradictions (Ruffman, 1999). Metalogical understanding then continues to develop (Miller, Custer, & Nassau, 2000; Moshman, 1990a, 2004c), leading in early adolescence to the concept of inferential validity, which involves distinguishing the form of arguments from their content and making metalogical judgments about the validity of those logical forms (see chap. 1).

In a study of inference during reading, Bridget Franks (1996) presented fourth graders with stories involving premises that were true (consistent with their prior knowledge), neutral (unrelated to their prior knowledge), or false (inconsistent with their prior knowledge). Correct inferences were most likely for true content and least likely with false content. Seventh graders showed the same pattern but the effects of content were not as great. College students, in contrast, reasoned equally well regardless of content. Franks interpreted the results as follows:

> With true content, no metalogic was required, because everything was consistent with what readers already know. With neutral content, empirical knowledge was of no use and could not be drawn on to help in the task, as can be done with true content. With neutral content, however, readers also do not need metalogic, because they are free to focus on the form of premises with no interference from their empirical knowledge. But with false content they do have interference, and so they must use metalogic—the awareness that one's empirical knowledge is a hindrance and must be disregarded in favor of exclusive focus on logical form. (p. 95)

In sum, the ability to apply and coordinate logical inferences to achieve one's purposes continues to develop for many years due to increasingly sophisticated epistemic cognition about the nature and use of logic. The central basis for the development of logical reasoning may be the development of metalogical understanding (Moshman, 1990a, 1998, 2004c). To be rational about logic is to apply it consciously and deliberately with understanding of its uses and limitations. Rationality in the domain of formal logic is a metacognitive matter of understanding and controlling deductive inference.

What we know about formal logic, however, is only part of what we know about knowledge and inference, and thus only part of our epistemic cognition. Children as young as 4 years old understand that people lacking information may have, and act on the basis of, false beliefs (Flavell & Miller, 1998; Flavell et al., 2002; Mitchell & Riggs, 2000). Over the course of childhood, reflecting on and coordinating multiple subjectivities, they construct a *constructivist theory of mind*. By late childhood, children understand that they are active constructors of knowledge (Chandler, Hallett, & Sokol, 2002; Kuhn, 1999, 2000).

But the epistemic cognition of children, observe Michael Chandler and his collaborators (2002), is strictly "retail," focused on particular beliefs and inferences. Children are aware of differing interpretations in particular cases, but do not "see in ... localized and case-specific doubts the dangerous prospect that diversity of opinion is somehow intrinsic to the knowing process ..." (p. 162). Wholesale conceptions about the nature, limits, and justification of knowledge in the abstract often continue to develop long beyond childhood, though the extent of development is highly variable across individuals. If the early development of epistemic cognition in childhood is the development of rationality, continuing development in adolescence and beyond is the development of metarationality, understanding about what it means to be rational.

Although theories of advanced epistemic development vary in focus, detail, terminology, and age norms, there is substantial agreement on the general direction of development (Baxter Magolda, 1992, 2002; Belenky, Clinchy, Goldberger, & Tarule, 1986; Boyes & Chandler, 1992; Chandler, Boyes, & Ball, 1990; Chandler et al., 2002; Clinchy, 2002; Hofer & Pintrich, 1997, 2002; King & Kitchener, 1994, 2002; Kuhn, 1991, 1999, 2000; Kuhn, Cheney, & Weinstock, 2000; Perry, 1970). Specifically, development proceeds from an *objectivist epistemology* to a *subjectivist epistemology* and ultimately, in some cases, to a *rationalist epistemology*. The objectivist believes there is an ultimate truth that is directly observable, provable, and/or known to the authorities. Denying this, the subjectivist believes truth is constructed from, and thus determined by, one's point of view. The rationalist, without any claim to absolute or final truth, believes ideas and viewpoints can be meaningfully evaluated, criticized, and justified.

Consider the following claims:

1. Whales are bigger than germs.
2. $5 + 3 = 8$
3. Chocolate is better than vanilla.
4. Einstein's theory is better than Newton's.
5. Mozart's music is better than Madonna's.

Which of these claims are true, and how can such judgments be justified? An objectivist, who sees truth as unproblematic, would see the first two claims as prototypical examples of knowledge. It can readily be established that each of these claims is true and that alternative claims, such as *germs are bigger than whales* or $5 + 3 = 12$, are false. Claim 4 may be a more difficult

matter because it involves technical knowledge, but an objectivist would maintain that this claim too is either true or false. If scientists determine that Einstein's theory is consistent with relevant evidence and Newton's theory is not, then Claim 4 is true. Claim 3 might be dismissed as a matter of opinion, not a matter of knowledge. Claim 5 might also be simply a matter of opinion, although perhaps an expert in music could establish its truth.

For the objectivist, then, truth and falsity are sharply distinct. True beliefs can be definitively distinguished from false beliefs on the basis of logic, evidence, and authority. Irreconcilable differences can only exist with regard to matters of opinion, which are sharply distinct from matters of fact and thus fall outside the domain of knowledge.

A subjectivist, in contrast, who sees truth as relative to one's point of view, would see Claim 3 as a prototypical example of the relativity of beliefs. No flavor is intrinsically better than any other—flavor preferences are literally a matter of taste. But isn't everything, at least metaphorically, a matter of taste? I may prefer Mozart's music to Madonna's (Claim 5), but you may prefer Madonna's music to Mozart's. I may find a musicologist who believes Mozart's music is superior to that of Madonna, but even this so-called expert, the subjectivist would argue, evaluates music from his or her own musical perspective, which is no better than anyone else's perspective. Similarly, it may be true that most contemporary physicists prefer Einstein's theory to Newton's (Claim 4), but there was a time when Newton's theory prevailed, and there may come a time when Einstein's theory falls into disfavor. Even in science, the subjectivist would point out, our "facts" are a function of our theoretical perspectives, and such perspectives are ultimately subjective, neither true nor false. Claims 1 and 2 may appear beyond dispute, but knowledge is rarely this simple. Even in these cases, moreover, the claims are true only within a shared network of concepts. If we think of an enormous cloud of pollution as a *germ*, then germs can be larger than whales. If we reason in base 6, then "12" means 6 + 2 and is the sum of 5 and 3.

For the subjectivist, then, judgments of truth and falsity are always a function of one's perspective, and no perspective is better or worse than any other. Subjective perspectives are the primary reality and cannot be transcended through the use of logic or any other general system of absolute rules. Reasons are always relative to particular perspectives; justification is only possible within specific contexts. As one subject said, "I wouldn't say that one person is wrong and another person is right. Each person, I think, has their own truth" (King & Kitchener, 1994, p. 64). In the end, everything turns out to be simply a matter of opinion.

If everything is just a matter of opinion, then there is no need for justification but also no rational basis for belief or action, no reason to believe or do one thing rather than another. The cost of freedom from evaluation is the vertiginous terror of *epistemic doubt*—doubt that encompasses not just the truth or rightness of particular beliefs or actions but the very possibility of justified belief or action (Chandler, 1987; Chandler et al. 1990). Faced with an epistemic dead end, some subjectivists come to see that radical subjectivism as an epistemology undermines its own claim to justification (Siegel, 1987). If no view is justifiable, except from some perspective that is no better than any other perspective, then there is no reason to be a subjectivist, except from a subjectivist perspective, which is no better than any other perspective. Reflection on the self-refuting nature of radical subjectivism and on the interrelations of subjectivity and objectivity may enable the subjectivist to construct a rationalist epistemology, one that construes rationality as *metasubjective objectivity*—a fallible quest for truth through reflection on and coordination of subjectivities.

A rationalist might take Claim 4 as a prototypical example of knowledge. Einstein's theory may not be true in the same simple sense that whales are bigger than germs or 5 + 3 = 8, but preferring it to Newton's theory is not just a matter of taste, like preferring one flavor to another. In complex domains of knowledge we may use justifiable criteria to evaluate various judgments and justifications. The criteria are not absolute—they are not beyond criticism—but neither are they arbitrary, or specific to arbitrary perspectives. As a result, we may have good reason to prefer some beliefs to others even if we cannot prove any of those beliefs true or false. It may not be clear how musical preferences such as Claim 5 can be justified—if they can be justified at all—but this doesn't mean all knowledge is subjective any more than the existence of some relatively clear-cut truths—such as Claims 1 and 2—means that all knowledge is objective.

Research on advanced epistemic cognition has traditionally involved interviews focused on the justification of beliefs (Perry, 1970). Patricia King and Karen Kitchener (1994), for example, developed the *Reflective Judgment Interview*, in which the interviewer presents a series of issues, such as the safety of chemical additives in food, and then asks the interviewee about the origin and justification of his or her viewpoint. Regardless of methodology, research shows that many individuals make progress in epistemic cognition over the course of adolescence and early adulthood, but the relation of age to developmental level is not strong (Boyes & Chandler, 1992; Chandler et al., 1990, 2002; Hofer & Pintrich, 1997, 2002; King & Kitchener, 1994,

2002; Kuhn et al., 2000). Some adolescents have already made considerable progress toward sophisticated epistemic conceptions, whereas some adults have made very little. It appears that the development of epistemic cognition can continue during and beyond adolescence but that such development is not inevitable and universal.

Does epistemic cognition actually improve cognitive performance? Do people make better inferences if they have more sophisticated conceptual knowledge about the nature and use of inferential norms? Correlational research has shown that advanced epistemic cognition, including metalogical understanding, is indeed positively related to good thinking and reasoning (Hofer & Pintrich, 2002; Klaczynski, 2000; Kuhn, 1991, 2000; Markovits & Bouffard-Bouchard, 1992). Paul Klaczynski (2000) found evidence to support the view that

> for some adolescents, beliefs regarding the nature, certainty, and acquisition of knowledge may be more influential than personal theories in evidence evaluation. Such beliefs are largely metacognitive because the course of one's own reasoning must be monitored and self-regulated to achieve various epistemic goals. Metacognitive dispositions related to intellectual self-regulation include reflectiveness, open-mindedness, and willingness to scrutinize one's knowledge, reevaluate one's opinions, postpone closure, and recognize that theories must sometimes be relinquished or revised to acquire knowledge [citations omitted]. These characteristics constitute a thinking style in which the goal of theory preservation is subordinated to the goal of knowledge acquisition. (p. 1350)

Deanna Kuhn and Susan Pearsall (1998) used a microgenetic methodology to provide more detailed evidence concerning the relation of epistemic cognition to strategic performance. A *microgenetic methodology* investigates developmental changes over relatively brief periods of time, usually by providing individuals with intensive experience on some set of tasks. In the present study, 47 fifth graders (ages 10–11) worked twice a week for 7 weeks (once individually and once with a peer) on tasks in which they were asked to determine the causal role of a variety of variables. In one problem, for example, they had to determine how the speed of a boat was influenced by boat size, sail size, sail color, weight, and water depth.

Children improved over the course of the 7 weeks in both the justifiability of their inferences and their understanding about the purpose of the tasks and about the use of various potential strategies for achieving this purpose. Progress toward better understanding about strategies and about the point of the task was strongly associated with a higher proportion of good inferences, although it did not guarantee such inferences. These results are con-

sistent with the view that epistemic cognition enhances cognitive performance, especially on tasks that require the reflective application and coordination of inferential norms.

UNIVERSALITY AND DIVERSITY

Rationality for Piaget reaches its culmination in formal operations, the universal state of cognitive maturity. As we have seen throughout this chapter, however, there are multiple types of thinking. If we are to understand the nature of rationality, we must understand its diversity.

Richard Nisbett, Kaiping Peng, and their associates (Nisbett, Peng, Choi, & Norenzayan, 2001; Peng & Nisbett, 1999), on the basis of their own research and a review of other studies, concluded that the primary locus of diversity is between cultures:

> The authors find East Asians to be *holistic*, attending to the entire field and assigning causality to it, making relatively little use of categories and formal logic, and relying on "dialectical" reasoning, whereas Westerners are more *analytic*, paying attention primarily to the object and the categories to which it belongs and using rules, including formal logic, to understand its behavior. The 2 types of cognitive processes are embedded in different naive metaphysical systems and tacit epistemologies. (Nisbett et al., 2001, p. 291)

Other researchers have made a similar distinction between two processes of reasoning but have provided convincing evidence that the locus of diversity lies within individuals—adolescents and adults use both analytic (formal) and heuristic (contextual) processes (Evans, 2002; Kahneman, 2003; Klaczynski, 2000, 2001, in press-a, in press-b; Stanovich, 1999; Stanovich & West, 2000; for other conceptions of internal cognitive diversity, see Kuhn et al., 1995; Siegler, 1996). There are indeed individual differences in the use of these processes, and some of these differences may be related to culture, but research does not support a categorical distinction between cultural groups in reasoning. Neither East Asians, Westerners, nor any other cultural group has been shown to rely on a particular kind of reasoning to the exclusion of some other kind. On the contrary, human thinking in all cultures involves the coordination of multiple processes.

Claims of diversity associated with gender have fared even worse with regard to empirical evidence. Although the title of a well-known volume on the development of epistemic cognition referred to "women's ways of knowing" (Belenky et al., 1986), there is no evidence in this book or anywhere

else that women have epistemologies distinct from those of men. In recent years, gender difference theorists have generally written of "gender-related" (rather than gender-exclusive) epistemologies (Baxter Magolda, 1992, 2002; Clinchy, 2002), but even this claim may be too strong. Systematic reviews of research on gender differences in epistemic cognition show such differences to be negligible or nonexistent (Brabeck & Shore, 2003; King & Kitchener, 1994, 2002). More generally, research on diverse types of thinking routinely fails to show gender differences.

In summary, research on advanced cognition suggests that the major locus of diversity is *within* individuals rather than across individuals or groups. Interestingly, if this sort of diversity is universal, our focus on diversity has illuminated a universal aspect of human rationality: We all coordinate diverse strategies and perspectives. From this another human universal likely follows: Given the demands of cognitive coordination, we all, to varying degrees, develop metacognitive understanding and control of our diverse inferential processes.

3

The Construction of Rationality

> We can add to our knowledge of the world by accumulating information at a given level—by extensive observation from one standpoint. But we can raise our understanding to a new level only if we examine that relation between the world and ourselves which is responsible for our prior understanding, and form a new conception that includes a more detached understanding of ourselves, of the world, and of the interaction between them.
>
> —*Thomas Nagel* (1986, p. 5)

As seen in chapter 2, developmental changes in rationality during adolescence are due in large part to progress in *metacognition*, our increasing knowledge about our own knowledge and inference, and especially to the development of *epistemic cognition*, knowledge about the justifiability of our beliefs and inferential processes. There remains the question of explaining the development of epistemic cognition. A nativist would suggest that epistemic cognition is genetically programmed to develop over a period of time extending into adolescence and beyond. An empiricist would suggest that advanced epistemic conceptions are learned in educational and/or other environments. An interactionist would suggest that genetic and environmental factors interactively determine the course of development.

There is little or no evidence, however, to suggest that epistemic cognition is genetically programmed or that it consists of some set of ideas and/or skills that can be learned from one's environment. Accepting the interactionist view that genetic and environmental factors interact

throughout development, a constructivist would go beyond this to suggest that individuals engage in an ongoing process of justifying their ideas, reflecting on their concepts of justification, and reconstructing those epistemic concepts as necessary. In this chapter I first illustrate this constructive process with respect to several specific metalogical concepts. I then address the construction of rationality more generally, highlighting issues of subjectivity and objectivity, and the critical roles of reflection, coordination, and peer interaction.

THE CONSTRUCTION OF METALOGICAL UNDERSTANDING

Alice, Ben, Carol, Dan, and Earl (the names are fictitious but the people are real) were college students participating in a study of collaborative reasoning on the Wason *selection task* (Moshman & Geil, 1998; see chap. 1 for related research). They were presented with a picture of four cards, one showing the letter *E*, one showing the letter *K*, one showing the number *4*, and one showing the number *7*. They knew that each card had a letter on one side and a number on the other, though only one side of each card was visible.

Below the cards was the following hypothesis: If a card has a vowel on one side then it has an even number on the other side.

What, the students were asked, is the most efficient way to determine conclusively whether the hypothesis is true or false for this set of four cards? Turning all four cards would surely settle the matter, but would it suffice to turn just three, or two, or even one? The students were asked to provide individual responses in writing, and then to discuss their selections with each other and attempt to reach consensus.

The difficulty of the original selection task (the abstract version used by Moshman and Geil, 1998) is notorious in the literature on human reasoning; fewer than 10% of college students working individually typically solve it (Evans, 1989; Stanovich, 1999; Wason & Johnson-Laird, 1972). Why is the selection task so difficult? Probably because it involves much more than deducing a correct conclusion from premises, a matter of first-order logic. Rather, it requires sufficient metalogical understanding to coordinate one's logical inferences appropriately.

Specifically, comprehension of the selection task requires the coordination of at least four metalogical insights. First, any instance of the form *p and not-q* will falsify a hypothesis of the form *If p then q*. Second, no other instance can falsify such a hypothesis. Third, information that could falsify a

hypothesis is relevant to testing it. Fourth, information that cannot falsify a hypothesis is irrelevant to testing it.

Thus, to test the hypothesis *If vowel then even*, one must be concerned with those cards, and only those cards, that could combine a vowel with an odd number. Such cards, and only such cards, could falsify the hypothesis. One must turn the vowel (E) because an odd number on the other side would falsify the hypothesis and must turn the odd number (7) because a vowel on the other side would falsify the hypothesis. The *K* and *4* cards, however, cannot falsify the hypothesis and thus need not be turned.

Consistent with earlier research, Moshman and Geil (1998) found that only 3 out of 32 college students who were individually presented with this task chose to turn just the *E* and *7* cards. In sharp contrast, although this combination of cards was not initially the majority—or even the modal—choice of individuals in any of the 20 groups in the study, it was ultimately the consensus choice for 15 of those groups.

The group presented here illustrates how a correct consensus based on genuine metalogical insight can be achieved through reflection and coordination even in a case where not a single student initially chose the correct combination of cards. Alice initially proposed to turn *E*, *4*, and *7*; the other four students each chose *E* and *4*.

At the onset of discussion, the five students immediately agreed that *E* should be turned to check for an even number on the reverse side, that *4* should be turned to check for a vowel, and that the other two cards were irrelevant to the hypothesis. Alice noted that she had initially proposed turning *E*, *4*, and *7*, but dismissed her selection of *7* with a laugh, suggesting that she had somehow thought the *7* was even. As Alice, Ben, Carol, and Dan continued to discuss why *E* and *4*, but not *K* and *7*, were relevant to the hypothesis, however, Alice suddenly seemed to take her initial selection of *7* more seriously:

Alice: Maybe 7 has a vowel on the other side.

Ben: It could, but as far as this hypothesis here it just doesn't matter.

Alice: But if it has ...

Dan: It just says if it has a vowel on one side.

Alice: Yeah, but it says if it has a vowel on one side, then it has an even number on the other side.

Dan: So maybe we're wrong.

Carol [surprised and excited]: Oh, that's *true*!

Alice: 7 *could* have a vowel on the other side.

As everyone reflected on these complications, Ben proposed that turning the *E* and *4* would "test" the hypothesis, and that finding an even number behind the *E* and a vowel behind the *4* would "support it, as opposed to proving it," but suggested that "we couldn't prove it unless we turned over all of them." The discussion went off on a tangent regarding the mechanics of turning and keeping track of all four cards until Dan abruptly shifted the focus:

Dan: Do we need to turn over K?

Alice: I don't think so because ...

Dan: We don't have to turn over K.

Alice: We're concerned with vowels.

Dan: It has a letter and a number and we know that that one [the K] has a letter and it's not a vowel.

Alice: Yeah.

Carol: But what if it has an even number on the other side?

Dan: It doesn't say anything about ...

Alice: It doesn't say that if it's a consonant ...

Dan: It just says if it has a vowel. It doesn't say if it has a consonant it can't have any of them.

Carol: That's true.

Dan: I don't think we have to turn over K.

There was a pause in the conversation until Carol, apparently convinced that turning *K* was unnecessary and now questioning the need to turn *4*, added, "and it doesn't say that if it has an even number on one side it has a vowel on the other." After another pause, she added, "Really we don't need to turn over *4*." She and Ben then elaborated as follows:

Carol: You don't have to turn over 4 because it [the hypothesis] says if it has a vowel on one side it has an even number on the other side.

Ben: It doesn't say if it has an even number on one side it has a vowel on the other.

Alice and Dan, however, continued to insist that the 4 must be turned. Carol tried to explain that the 4 "could have a consonant on the other side and it still wouldn't ..." but was cut off by Alice, who interjected, "Yeah, but we need to check it because it *is* an even number, so we have to find out if it *has* a vowel on the other side." "Yeah, I guess," said Carol.

Alice continued that, in addition to the *4*, the *E* must be turned because "we have to find out it it's an even number," and the *7* must be turned be-

cause "we need to find out if it's a consonant or a vowel, because if it's a vowel then it's false." Ben and Carol expressed continuing reservations about the *4*, however. Ben wondered about the implications of it having a consonant on the reverse side, leading Carol to observe that turning the *4* would prove the hypothesis if there were a vowel on the reverse side, and "wouldn't do anything" if there were a consonant. "It would either prove it or it wouldn't do anything," she concluded. "The *7* and the *E* are the only ones that can disprove it."

There was a long pause, followed by this interchange:

Dan: Okay, we have to turn over E for sure, right?

Carol: Yeah.

Dan: Because it has a vowel on one side and we need to find out if it has an even number on the other. K we don't have to worry about, because it doesn't say anything about ...

Ben: ... consonants ...

Dan: ... having a consonant.

Alice: It doesn't say if it has a consonant it's odd, or whatever.

Dan: And 4 ...

Ben: I think we need to turn 4.

Dan: I think we have to turn over 4 because ...

Earl: It's the same as E, really.

Alice: It's the same as E, yeah, we know it's an even number so we have to find out if it has ...

Dan: Well, maybe we don't. [He pauses, then proceeds slowly, with Carol nodding and murmuring assent.] If it has a consonant on one side it doesn't matter if it has an odd or an even number. So it really doesn't matter if we look at 4. Does it? Do you see that?

Alice and Ben [simultaneously]: I see what you're saying.

Dan: It can tell us where that's right, but it can't tell us it's wrong.

Carol: Yeah.

Dan: And 7 I think we have to turn over. 'Cause we need to find out if that has a vowel.

Carol: Because it can prove right or wrong.

Dan: Because it can prove it wrong.

The group then confirmed that agreement had been reached and reflected on the process that had generated this consensus:

Ben: So, are we narrowing it down to E and 7 this time?

Dan: I think so.
Carol: I think it should be E and 7, now.
Dan. I do too.
Ben: That's pretty interesting to watch us all concur.
Alice: I wouldn't have come up with this if we hadn't, you know, talked about it.
Carol: I know, I was totally set on E and 4.
Ben: We *all* were.

After a brief additional discussion reviewing the irrelevance of *4* and the irreversibility of the hypothesis, each of the five students independently wrote on his or her final task sheet that only the *E* and *7* should be turned, and each provided a written explanation consistent with the group's final arguments. Reflection on matters of logic, it appears, may enhance metalogical understanding. It is noteworthy that such reflection, in the present case, involved the coordination of multiple perspectives in the course of peer interaction. We now consider, at a more general level, the relation of subjectivity and objectivity, and the associated roles of reflection, coordination, and peer interaction in the construction of rationality.

THE CONSTRUCTION OF METASUBJECTIVE OBJECTIVITY

We see in the preceding account of reasoning about the selection task how reflection and coordination in the context of peer interaction can generate progress in metalogical understanding. This observation, it turns out, holds across many domains and levels of knowledge and reasoning. Research and theory in psychology, philosophy, and education converge on the conclusion that rationality is actively constructed by increasingly rational agents via processes of *reflection* (Audi, 1997, 2001; Campbell & Bickhard, 1986; Dewey, 1910/1997; Felton, 2004; Karmiloff-Smith, 1992; Kuhn & Lao, 1998; Moshman, 1994; Nagel, 1986; Piaget, 2001; Rawls, 1971, 2001), *coordination* (Fischer & Bidell, 1998; Helwig, 1995b; Piaget, 1985; Werner, 1957), and *peer interaction* (Akatsuko, 1997; Carpendale, 2000; Chinn & Anderson, 1998; De Lisi & Golbeck, 1999; Dimant & Bearison, 1991; Fuchs, Fuchs, Hamlett, & Karns, 1998; Habermas, 1990; Kruger, 1992, 1993; Lipman, 1991; Moshman, 1995b; Piaget, 1932/1965, 1995; Rogoff, 1998; Slade, 1995; Youniss & Damon, 1992).

Consider two children facing each other across a room (see Fig. 3.1). Nora North is standing with her back to the north wall. Looking south, she

sees a bench, a table, and three chairs across the table. She notices that there is a sofa against the left wall and a painting on the right. Directly ahead, beyond the chairs, she sees Simon South.

Standing with his back to the south wall, Simon South sees three chairs, a table, and a bench on the other side. He notices that there is a painting on the left wall and a sofa on the right. Directly ahead he sees Nora North, who suggests they sit down in the chairs behind the table. Simon responds that the chairs are in front of the table. It is the bench, he explains, that is behind the table.

Nora re-examines the room but is unconvinced. The table, she points out, is in the middle of the room, with the bench in front of it, the chairs arranged behind it, a sofa to the left, and a painting to the right. Simon responds that, on the contrary, the bench is behind the table, the chairs in front of it, the sofa to the right, and the painting to the left.

Suppose Nora and Simon now trade places several times and discuss their new observations with each other. Over the course of this interaction, they may come to a mutual understanding that the chairs are behind the table from a northern point of view but in front of it from a southern point of view. Correspondingly, the bench is in front of the table from a northern point of view but behind it from a southern point of view. Furthermore, the sofa and painting are to the left and right, respectively, from a northern point of view, but to the right and left, respectively, from a southern point of view.

Suppose that, in time, Nora and Simon come to understand that the bench is north of the table, the chairs south of it, the sofa to the east and the painting to the west. This new understanding may be considered more ob-

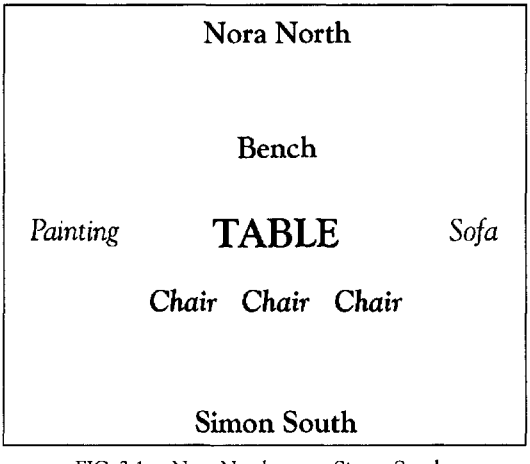

FIG. 3.1. Nora North meets Simon South.

jective than either of their earlier perspectives. The claim that the bench is north of the table is true regardless of where one stands in the room. In contrast to a claim that is only true from one point of view, the new claim is, in a deeper sense, a claim about the room itself.

Note, however, that this new understanding is not just a matter of discovering more about the contents of the room through additional observations, such as finding a hidden compartment in the bench or marbles under the couch. Nora and Simon have not simply learned more about the contents of the room. How can greater objectivity result from a process that does not involve the acquisition of new information about what is in the room?

The answer, it appears, is that the increase in objectivity has come about through processes of reflection, coordination, and peer interaction. Reflecting on the difference between northern and southern points of view, Nora and Simon have coconstructed a reflective awareness of their original perspectives. This shared understanding is both individual and collective. Nora now understands that what earlier seemed to her to be objective perceptions (the chairs are behind the table, etc.) were actually relative to a (northern) point of view that, until now, she didn't know she had. Simon has achieved the same understanding with regard to his own perceptions and perspective. By coordinating northern and southern viewpoints, Nora and Simon have together generated a more objective conception of the room.

To be sure, the new understanding does not constitute an objective conception in any final or absolute sense. The directions north, south, east, and west are relative to the north pole of the earth, and thus do not transcend all subjectivity. Nevertheless, reflection on and coordination of their original subjectivities has enabled Nora and Simon to construct a metasubjective objectivity. Their new subjectivity transcends their earlier subjectivities in a manner that constitutes a higher—albeit not final—level of objectivity. *Rationality*, then, is usefully construed as *metasubjective objectivity* (Moshman, 1994).

Rationality, in this view, is intrinsically subjective. A *rational agent* is, by definition, a subject with a point of view. This does not, however, entail a relativistic rejection of inferential norms, or require us to dismiss objectivity as a meaningful and worthy value. Rather, rationality entails a metasubjective form of objectivity in which thinking is regulated by reflective knowledge about one's subjectivity, including knowledge about how subjectivity can be constrained, and why it should be constrained, via the use of logic and other inferential norms. Objectivity, in this view, is not an attainable state but a goal that can be approached through systematic reflection on and recon-

struction of one's subjectivity (Campbell & Bickhard, 1986; Moshman, 1994, 1995b; Nagel, 1986; Piaget, 1985, 2001).

Recall Nora and Simon first confronting each other across the room. Nora sees the bench as being on the near side of the table, the chairs as being on the far side of the table, the sofa to the left, and the painting to the right. Simon, in contrast, sees the bench as being on the far side of the table, the chairs on the near side, the sofa to the right, and the painting to the left. Not recognizing that these divergent perceptions are a function of different points of view, each finds the other's observations incomprehensible.

The problem is not just that they fail to take each other's point of view. Nora sees the room from a northern perspective that she doesn't know she has. She is ignorant not only of Simon's point of view but equally of her own. Simon, correspondingly, is perplexed by their differing observations because he is unaware that either he or Nora has a perspective.

As Nora and Simon discuss their observations in the course of moving around the room, however, Nora may come to see that what earlier appeared to be an objective observation of the contents of the room reflected a northern perspective that she didn't know she had and that was not shared by Simon. Similarly, Simon may become aware not only of Nora's perspective but of his own. As a result they may construct a higher-level understanding that encompasses the possibility of multiple perspectives and the relation of divergent perceptions to those divergent perspectives. Their increasing understanding of their own subjectivity constitutes developmental progress in rationality.

What accounts for such development? As we have seen, three aspects of this situation are crucial. First, development involves a process of *reflection*. Nora is not just learning more about what is in the room but reflecting on a perspective she already had. As a result of her reflections she becomes aware of this perspective and can thus recognize and compensate for its influence on her observations.

Second, development involves a process of *coordination*. Nora is improving her understanding of the interrelations of multiple perspectives. She comes to understand, for example, that what is on the near side of the table from a northern point of view is on the far side from a southern point of view, and vice versa. Such coordinations are facilitated by an increasingly reflective awareness of the various perspectives. The new coordinations, in turn, can become objects of further reflection.

Finally, development typically occurs in a context of *peer interaction*, involving individuals who are roughly equal in knowledge, power, and author-

ity. If Nora had construed Simon as older or smarter than herself, she might have accepted his observations as better than hers. Alternatively, if she had perceived Simon as inferior in some relevant respect, she might simply have rejected his observations. The fact that neither Nora nor Simon could resolve the apparent conflict in their observations by accepting one set of observations and rejecting the other provided the context for reflection and coordination that made development possible.

Suppose, now, that you are seated on the sofa and want to help the children. If you simply tell them that they have different points of view they will not know what you are talking about. They do not know that they have any viewpoints at all, which is precisely the problem.

You could, however, tell them that they each have a point of view, that what appears to each to be on the near side of the table appears from the other point of view to be on the far side, that what seems to be to the left is to the right from the other point of view, and so forth. If you can motivate Nora and Simon to attend to and accept your rules of translation, they might both do well on a subsequent test in which they are asked questions about how the other would describe aspects of the room. What is right to me, Simon might have learned, is left to Nora. Generalizing beyond the present particulars, Simon and Nora might even apply their new insights and abilities to analogous contexts.

With regard to a purely objectivist conception of rationality, we might say Nora and Simon are more rational as a result of your teaching. That is, when asked to translate from one viewpoint into the other they are more likely to provide correct answers.

Recall, however, the conception of rationality as metasubjective objectivity. You understand that some translations are correct and others incorrect because you understand the interrelations of Nora's and Simon's viewpoints. Of course you can only understand this from some perspective of your own, but that perspective is a metaperspective that includes awareness of various perspectives. Your metaperspective coordinates and reflects on Nora's point of view, in which the painting is to the right; Simon's point of view, in which the painting is to the left; and your own first-order viewpoint, in which the painting is straight across the room. Nora, in contrast to you, does not understand your viewpoint, or Simon's, or her own, and Simon is equally oblivious to the existence of viewpoints.

You are thus at a level of rationality that enables you to teach Nora and Simon correct responses on tests of translation, but this will not necessarily make them more rational. Unless Nora and Simon reflect on and coordinate

their viewpoints and thus construct a metaperspective, they are still functioning at their original levels of rationality. You may have taught them some useful facts and skills, but they have not become more rational.

Rationality develops via processes of reflection, coordination, and peer interaction, not by learning facts and skills from someone who is already more rational. This does not mean, however, that you can do nothing to help Nora and Simon develop. At the very least, you may be able to facilitate their development by encouraging them to interact and reflect. Directly pointing out various systematic relationships—such as *what's near to you is far to him*—may play a positive role by providing additional bases for reflection and discussion. New terms and concepts you introduce—such as north, south, east, and west—may provide linguistic and intellectual scaffolding for the construction of new conceptual structures (Bickhard, 1995). Ultimately, however, Nora and Simon must construct their own rationality.

REFLECTION, COORDINATION, AND PEER INTERACTION

As Nora and Simon engage in reflection, coordination, and peer interaction, notice that progress toward objectivity involves the reflective coordination of multiple subjective perspectives on the room. Coordination and reflection are best viewed not as distinct processes but as dual aspects of the construction of rationality. Reflection on one's own perspective enables one to understand other perspectives and thus to coordinate them with one's own; such coordination, in turn, fosters deeper reflection on the various perspectives and their interrelations, and thus a more objective understanding of the underlying reality that is construed so differently from the various points of view.

Notice also that the constructive process in the present hypothetical example, as in the earlier case of group reasoning about the selection task, takes place in the course of peer interaction. Social interaction is a context where one is particularly likely to face challenges to one's perspective and to encounter alternative perspectives.

In explaining the effects of social experiences, it is helpful to distinguish symmetric from asymmetric social interactions. *Asymmetric social interactions* involve individuals who differ in knowledge, authority, and/or power. In such interactions, the lower status individual may learn what the higher status individual teaches without much impact on the rationality of either.

Symmetric social interactions, in contrast, involve individuals who are—and perceive themselves to be—comparable in knowledge, authority, and

power. In such interactions, neither individual can impose his or her perspective on the other, and neither is inclined simply to accept the other's perspective as intrinsically superior to his or her own. Symmetric social interactions are thus especially likely to encourage individuals to reflect on their own perspectives and to coordinate multiple viewpoints. Because peer interactions are more likely than adult–child or teacher–student interactions to approximate the ideal of symmetric social interaction, they likely play a critical role in fostering the autonomous processes of reflection and coordination that generate progress toward higher levels of objectivity.

Objectivity, in this view, is a guiding ideal, not an achievable goal. We cannot transcend all subjectivity and thus attain a final and absolute knowledge of the world. Reflection on a particular subjective perspective, however, may enable the construction of a metasubjective perspective that enhances our objectivity, and that may later serve as the object of further reflection in an ongoing developmental process (Campbell & Bickhard, 1986; Nagel, 1986).

Rationality, then, resides in *metasubjective objectivity* (Moshman, 1994). Even if we can never achieve what philosopher Thomas Nagel (1986) called "the view from nowhere," reflection, coordination, and peer interaction enable us to transcend particular subjective perspectives and thus make progress toward higher levels of objectivity and rationality. Thus rationality may be fostered by posing interesting problems, encouraging reflection, coordination, and peer interaction, and maintaining an environment in which students are free to express and discuss their ideas and to seek additional information (see chap. 12).

CONCLUSION

Research and theory reviewed in these first three chapters indicate that (a) adolescents commonly make progress toward higher levels of rationality; (b) rationality is metacognitive in nature; and (c) rationality is actively constructed via reflection and coordination, often in the context of peer interaction. As a result of developmental changes during the transition to adolescence, adolescents routinely show types of thinking, forms of reasoning, and levels of understanding rarely seen in children. Advanced rationality takes multiple forms, however, and its development is not strongly tied to age. Cognitive development beyond childhood is less certain than we might have liked, but its potential is richer and greater than we thought.

II

Moral Development

Is morality nothing more than whatever values and rules of behavior we happen to acquire from the specific culture in which we happen to be raised? If so, then morality is learned, but cannot be said to develop. If there is a rational basis for morality, however, then there may be a basis for identifying moral progress in a general sense. This is the guiding assumption in the study of moral development.

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4

Kohlberg's Theory of Moral Development

> Everyone is aware of the kinship between logical and ethical norms. Logic is the morality of thought just as morality is the logic of action.
>
> —*Jean Piaget* (1932/1965, p. 398)

Even within a seemingly homogeneous culture, there are serious disagreements about what is morally right and what is morally wrong. Across cultures, disagreements about morality may be profound. Before considering moral development we need to address what is meant by *morality*, and what basis there is for believing there is such a thing. Consider an example.

FEMALE CIRCUMCISION: A CASE STUDY IN CULTURE AND MORALITY

Female circumcision, also known as *female genital mutilation*, is practiced in more than 40 countries, mostly in Africa and the Middle East. It is intended to discourage promiscuity and maintain virginity until marriage. One form, known as *excision* or *clitoridectomy*, involves the removal of part or all of the clitoris and often some surrounding tissue. Another version is *infibulation*, in which

> virtually all of the external female genitalia are removed. With this type of circumcision, a dramatic excision is performed—removing the entire clitoris and labia minora—and in addition, much or most of the labia majora is cut or scraped away. The

> remaining raw edges of the labia majora are then sewn together with acacia tree thorns, and held in place with catgut or sewing thread. The entire area is closed up by this process leaving only a tiny opening, roughly the size of a match stick to allow for the passing of urine and menstrual fluid. The girl's legs then are tied together—ankles, knees, and thighs—and she is immobilized for an extended period, varying from fifteen to forty days, while the wound heals. (Slack, 1988, pp. 441–442)

This is usually done without anesthetic, using instruments such as "kitchen knives, old razor blades, broken glass, and sharp stones" (p. 442), on girls between ages 3 and 8. In addition to intense pain and extreme psychological trauma, severe and lifelong medical complications are routine among the millions who survive the procedure. For many, the process is fatal.

My immediate reaction, which is probably typical of those who share my cultural background, is revulsion at such a grotesque combination of sexism and child abuse. There are evil things in the world, and this is one of them.

A moral relativist, however, would suggest that I have no rational basis for this reaction. Female circumcision is a tradition that goes back thousands of years and plays a central role in a way of life that I have never lived and do not understand. It is typically done by local midwives or elderly women who believe they are performing a valuable service. It is perceived by mothers as essential to the social prospects of their daughters, and as a key element in the moral order that defines their lives. For me to denounce it on the basis of the moral values of my own culture, a relativist would argue, is simply ethnocentric. Each culture determines its own morality; what is moral is what is deemed moral within a given culture.

My response, then, is seen as understandable, given my own cultural background, but completely illegitimate. In the numerous cultures in which female circumcision is the standard practice, any effort to prevent a girl from being circumcised would be immoral—that is, contrary to the culture's standards regarding the proper way to live.

From a moral relativist perspective, there is little basis for any notion of moral development distinct from social learning. Morality is cultural conformity; one learns to be moral by internalizing the values of one's culture. The direction of moral change, then, is a function of culture. There is no internal force moving one toward greater morality (see Fig. 4.1).

MORAL RATIONALITY

The moral rightness or wrongness of actions, as relativists have demonstrated, cannot be evaluated without consideration of the cultural context

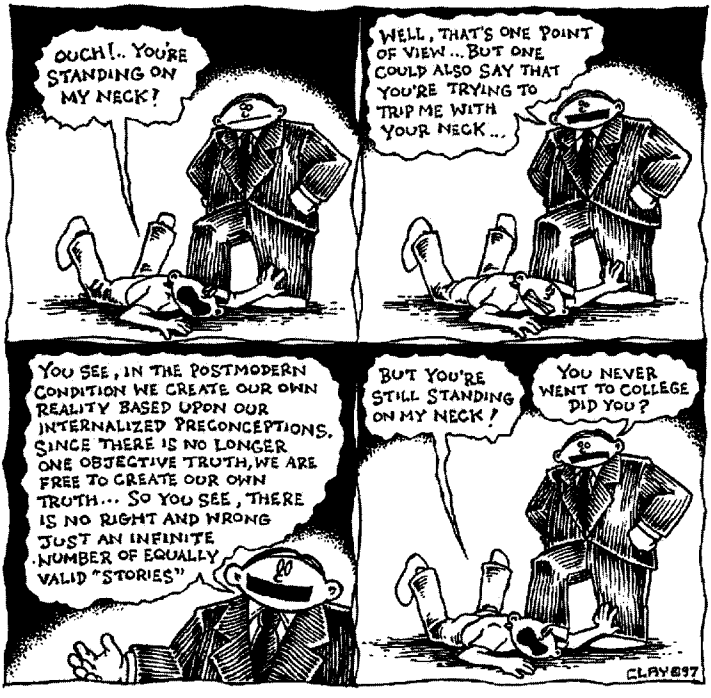

FIG. 4.1. Moral relativism. From Z *Magazine* (November, 1997), p. 30 Reprinted with permission.

of those actions. Moral relativists are also correct to note that crosscultural moral evaluations often consist of evaluating actions in one culture against the values of another and that such evaluations are ethnocentric. If we can formulate general moral standards that transcend any particular culture, however, such standards may provide a basis for transcultural moral evaluation. The task of formulating such standards is daunting; what seem to be universal standards are usually more ethnocentric than we realize. Nevertheless, we should not rule out the possibility that universal standards can be formulated, justified, and applied.

With respect to female circumcision, for example, Alison Slack (1988) noted that the Universal Declaration of Human Rights, adopted by the United Nations General Assembly in December 1948, states that "everyone has the right to life, liberty, and the security of person" and that "no one shall be subjected to torture or to cruel, inhuman or degrading treatment." Are these indeed general norms of morality? Does female circumcision violate them? Whatever one's response to these specific questions, it does seem

plausible that there could be justifiable moral claims, with regard to fundamental human rights, that transcend any particular culture (Moshman, 1995b, in press; Perry, 1997; Sen, 1999, 2002; Shestack, 1998; Tilley, 2000).

Consider another example. Suppose there are four children and eight identical pieces of candy. How should the candy be distributed? An initial response would be that, to be fair, each child should get two pieces.

Additional information might yield a different conclusion. Suppose the candy is a reward for work performed, and two children did substantially more work than the other two. Perhaps the hard workers should get three pieces each, and the others only one piece. Notice, however, that this does not undermine the basic principle of fairness that initially suggested an even distribution. We are simply reminded that there may be multiple factors to consider.

Suppose now that two of the children are boys and two are girls. The natural reaction of someone from my cultural background would be that this should make no difference. Someone from a culture where boys are explicitly favored, however, might argue that the boys should receive more of the candy. A moral relativist would suggest that in such a culture the boys should indeed receive more candy. For me to object would be simply an ethnocentric assertion of my own culturally specific commitment to gender equality.

A rationalist perspective on morality, by contrast, would suggest that an assertion of cultural tradition is not enough to override the basic fairness of an even division. Unless the moral relevance of gender, in this context, can be demonstrated, it should not be taken into account. This is not to say that the principle of gender equality is an absolute basis for morality that all must accept. The point is that such a principle may be justifiable on the basis of considerations of human rights that are not specific to any culture. To the extent that such a principle is justified, deviations from it require adequate justification. Cultural tradition may be a legitimate consideration but is not automatically the last word.

PIAGET'S THEORY OF MORAL DEVELOPMENT

Given that all children are raised within cultures, however, where do transcendent moral principles come from? In one of his early works, Piaget (1932/1965) addressed precisely this issue. He argued that genuine morality comes not from parents or other agents of culture but rather is constructed in the context of *peer interaction* (see also Piaget, 1995).

Suppose, for example, the four children with the eight pieces of candy are left to decide for themselves how to distribute the candy. Some of the chil-

dren may want it all for themselves. It would quickly become obvious to each child, however, that most of the children probably want most or all of the candy, and that it is not logically possible for this to be achieved. This realization may result in disagreement or hostility. One child may grab all the candy and run off. Who ends up getting the most candy may ultimately depend on who is strongest, fastest, or most devious.

Even without adult intervention, however, it is possible that in the course of discussion the children may realize that any proposed solution in which any child gets less candy than any other child is perceived as unacceptable by the child who gets less. Correspondingly, an equal division of the candy, although not giving any child as much as she or he might like, avoids giving any child a valid basis for complaint. In the course of multiple such interactions, all the children may come to recognize the inherent fairness of no one getting more or less than anyone else—at least not without reason. Thus, the children may construct a social equilibrium based on mutual respect. This may include moral insights on the part of each child into considerations of justice and equality.

But would it not be more efficient for an adult simply to tell the children to divide the candy equally? In the short run, an externally imposed rule to this effect might indeed avoid hostility or violence. Piaget believed, however, that such a rule would be perceived by a child as simply one of the many rules that must be followed because they come from those with power or authority. Genuine morality, he argued, cannot result from being constrained by adults to behave in certain ways. Rather, morality consists of norms of cooperation and mutual respect that can only be constructed in the course of interaction with peers—that is, those with whom one interacts on a basis of social equality.

Morality, then, is not a matter of culturally specific rules learned from parents and other agents of society. Rather, in Piaget's (1932/1965) conception, morality has a rational basis, and develops through an internally directed process of constructing increasingly sophisticated understandings about the inherent logic of social relations. Moral development comes about as children, in their interactions with other children, increasingly grasp "the permanent laws of rational cooperation" (p. 72).

Despite Piaget's work, mid-twentieth century psychology, at least in the United States, tended to accept relativist notions of morality as social conformity. In particular, social learning theories attempted to account for age-related increases in such conformity as a matter of imitating adults and being reinforced for socially approved behavior. In the 1950s, however, Law-

rence Kohlberg (1927–1987), a graduate student at the University of Chicago, turned to Piaget's work as a foundation for a more developmental theory rooted in a more cognitive account of morality. He agreed with Piaget's conception of morality as rationally based and actively constructed. Whereas Piaget emphasized childhood, however, Kohlberg's theory posits that moral development often continues through adolescence and well into adulthood.

KOHLBERG'S THEORY OF MORAL DEVELOPMENT

Kohlberg (1981, 1984) proposed that morality develops through a sequence of stages, each representing a higher level of moral rationality (Arnold, 2000). The stages are defined abstractly based on the form of reasoning involved. Consistent with the Piagetian tradition, Kohlberg maintained that morality is neither innate nor learned, that its development involves active construction of a succession of cognitive structures, each able to resolve conflicts and contradictions produced by previous ways of thinking about moral issues.

Assessment of moral development is based on how individuals reason about moral dilemmas rather than on specific moral beliefs or conclusions. Such assessment involves a standard set of dilemmas and interview questions, and evaluation of responses on the basis of a detailed scoring manual. Since the 1950s, Kohlberg, his associates, and subsequent researchers have tested and refined the theory through research involving thousands of children, adolescents, and adults. The evidence has confirmed that males and females of all ages from diverse cultural and religious backgrounds can be classified into Kohlberg's stages, and develop through those stages in the order postulated (Boyes & Walker, 1988; Dawson, 2002; Kohlberg, 1984; Lapsley, 1996; Snarey, 1985; Walker, 1989; Walker, Gustafson, & Hennig, 2001; Walker & Hennig, 1997). The six stages follow:

Stage 1: Heteronomous Morality

For the young child, according to Kohlberg, morality is construed as *heteronomous* rather than *autonomous*. That is, it is construed to be a matter of following externally imposed rules. Neither the rules themselves nor the expectation of obedience are deemed to require justification. Rather, the child has an intuitive sense that immoral actions are punished because they

are immoral and are immoral because they are punished. What is moral, in other words, is what does not get punished.

Central to this moral orientation is a sense that goodness and badness are inherent in acts, and that knowledge of what acts are good and what acts are bad is held by parental and other authorities whose role it is to pass such knowledge on to children. Asked why it is wrong to tell on someone, a child may say, "Because it's tattling." Tattling is seen as inherently wrong because the child has been told by an authority that it is wrong. No further analysis or justification is contemplated.

Stage 2: Individualism and Exchange

Over the course of their cognitive development, children increasingly recognize the existence of social perspectives other than their own, and become increasingly capable of understanding and coordinating a variety of such perspectives. Recognizing that others have interests different from—and often conflicting with—their own, Stage 2 children show a substantial degree of enlightened self interest. They understand that to get what they want they must acknowledge and respond to the needs of others.

Stage 2 morality, then, involves some degree of respect for the rights of others to pursue their own interests. As a Stage 2 moralist, however, my concern is not your welfare but my own. I recognize that if I interfere with you, you are likely to interfere with me. A willingness to make fair deals and equal exchanges benefits us both.

Stage 2 may be regarded as a higher level of moral insight in that it enables me to justify and refine Stage 1 moral rules on the basis of a need to mediate conflicting social perspectives. I don't tattle on you because I wouldn't want you to tattle on me. The morality, however, is strictly "tit for tat." Kohlbergian research suggests that Stage 2 moral reasoning is predominant by age 10, though Stage 1 thinking remains common at this age, and some Stage 3 thinking can already be seen in some individuals.

Stage 3: Mutual Expectations

Further social-cognitive development involves increasingly sophisticated perspective taking. Whereas the Stage 2 individual can see situations from the perspective of another individual, the Stage 3 individual can understand social interactions from the perspective of the relationship between or among the individuals involved. Thus, there is a greater understanding of social roles and expectations.

As a Stage 3 moralist, I do not see you in terms of how I may get you to serve my purposes rather than interfering with them. I view our relationship—based on mutual trust and loyalty—as important for its own sake. I feel morally obligated to live up to the expectations of those close to me and to fulfill my various roles. I want to be a good friend, son or daughter, sibling, or parent, for example, because I genuinely care about others and want them to see me as a good person.

Stage 3 reasoning transcends that of Stage 2 in that it places Stage 2 considerations within a broader framework. The (Stage 2) consideration of multiple perspectives continues, but now takes place from the (Stage 3) standpoint of social relationships. Kohlbergian research indicates that Stage 3 moral reasoning, which can be seen in some individuals as early as age 10, becomes increasingly predominant over the course of adolescence. Stage 2 reasoning shows a corresponding decline, and Stage 1 reasoning disappears.

Stage 4: Social System

Stage 4 represents a still broader social perspective where moral determinations are made from the perspective of society as a whole. Rather than accept moral conventions on the basis of one's direct interactions with others, such conventions are now understood and refined based on an abstract understanding of social institutions. The social system defines appropriate roles, rules, and relationships. Personal relationships remain important but are reconsidered from whatever legal, religious, or other perspective is deemed central to the social system. Preserving that system is one's fundamental moral obligation.

Stage 4 justifies and refines the Stage 3 concern for relationships by rooting this concern in a newly constructed abstract conception of one's society. Crosscultural research suggests that individuals whose lives are focused within traditional cultures are less likely to construct moral understandings beyond Stage 3 than are individuals active in societies with more complex governments, legal systems, and other such institutions. Consistent with the Piagetian conception of *development via equilibration*, Kohlbergians argue that progress beyond Stage 3 is facilitated by experience with social institutions that cannot be understood on the basis of Stage 3 conceptions of face-to-face relationships. The point is not that such societies teach Stage 4 morality but that they make its construction helpful. In societies such as the United States, Kohlbergian research indicates that Stage 4 reasoning becomes increasingly common over the course of adolescence, and is the predominant mode of moral understanding for most adults, although Stage 3

reasoning remains common and even Stage 2 reasoning can be found in adolescents and adults.

Stage 5: Social Contract

Stage 5 involves a further shift of perspective. Rather than construe moral issues exclusively from the perspective of the social system, Stage 5 involves the evaluation of social systems from a *prior-to-society perspective*. Society, at this very abstract moral level, is viewed as a rational contract for mutual benefit. Laws must be determined through fair procedures and with respect for individual rights. Thus, laws and entire social systems can now be morally evaluated on the basis of *postconventional moral principles*.

Kohlbergian research suggests that Stage 5 moral reasoning is most likely to develop in complex societies where there is a clash of cultures. Conventional moral reasoning, even at the sophisticated level of Stage 4, cannot mediate conflicting social systems. The individual is thus motivated to construct postconventional reasoning that transcends any particular culture and permits crosscultural analyses. Even in societies where such reasoning develops, however, it is virtually never seen before adulthood, and remains rare at any age.

Stage 6: Universal Ethical Principles

Kohlberg believed that certain self-conscious moral systems (e.g., those of Habermas, 1990, or Rawls, 1971, 2001) may be construed as Stage 6 morality in that they provide for the metaethical evaluation, reconstruction, and justification of Stage 5 ethical principles. Outside the abstruse realm of moral philosophy, and related areas such as law and theology, there is no evidence of human reasoning at this level.

RESEARCH ON KOHLBERG'S THEORY

As noted earlier, there is a great deal of support for Kohlberg's theory. Cross-sectional studies, in which individuals of different ages are compared, have shown that individuals of all ages can be classified on the basis of Kohlberg's system and that, as predicted, higher stages are positively associated with age (Kohlberg, 1984). Longitudinal studies, in which individuals are assessed several times over a period of years, have supported the claim that each stage is a prerequisite for the next so that progress occurs one stage

at a time (Walker, 1989) via predictable patterns of transition and consolidation (Walker et al., 2001). Comprehension studies have demonstrated the influence of Kohlbergian moral schemas on the comprehension of moral narratives (Narvaez, 1998; Rest, Narvaez, Bebeau, & Thoma, 1999). Preference studies have show that people evaluate examples of moral reasoning, at least up to their own level, in a manner consistent with the postulated hierarchical structure of Kohlberg's stages (Boom, Brugman, & van der Heijden, 2001). Experimental studies have shown that individuals who benefit from environmental input do not simply imitate the reasoning they are exposed to but rather move toward the stage just beyond their present one (Walker, 1982). And crosscultural studies, involving an impressively diverse set of cultural contexts, have shown the generality of the theory across cultures (Boyes & Walker, 1988; Snarey, 1985).

This does not show, however, that Kohlberg's theory provides us with a correct and comprehensive account of moral development. Numerous studies have shown that children as young as 3 years old have a much stronger grasp of the distinction between morality and social convention than Kohlberg's account suggests (Killen, 1991; Nucci, 2001; Turiel, 1998, 2002). It is also clear that Kohlberg's theory does not adequately account for substantial differences in moral judgments and feelings among individuals at the same stages of moral reasoning, nor for the relationship between abstract moral competencies and behavior (Arnold, 2000; Lapsley, 1996; Rest, 1983, 1984; Rest et al., 1999; Walker & Hennig, 1997). Moreover, as we shall now see, many believe there is much more to morality than is dreamt of in Kohlberg's philosophy.

5

The Nature of Morality

> [T]hrough the glorious ideal of a universal realm of ends-in-themselves (rational beings) a lively interest in the moral law can be awakened in us. To that realm we can belong as members only when we carefully conduct ourselves according to maxims of freedom as if they were laws of nature.
>
> —*Immanuel Kant* (1785/1959, p. 82)

> [W]e must not only state this general account but also apply it to the particular cases. For among accounts concerning actions, though the general ones are common to more cases, the specific ones are truer, since actions are about particular cases, and our account must accord with these.
>
> —*Aristotle* (1985, p. 46)

By 1970, Kohlberg's theory was the pre-eminent approach to the study of moral development, especially with regard to adolescence and early adulthood. Research on adolescent morality has flourished since that time, and diverse theoretical views have been proposed (Arnold, 2000; Bergman, 2002, 2004; Blasi, 1984; Carlo, in press; Eisenberg & Fabes, 1998; Gibbs, 2003; Gilligan, 1982; Lapsley, 1996; Moshman, 1995b, in press; Nucci, 2001; Turiel, 1998, 2002). Many of the theoretical differences involve fundamental questions about the nature of morality. What do people mean by morality? What do theorists mean by morality? What theoretical, cultural, and/or individual differences might there be in conceiving the moral domain?

CONCEPTIONS OF THE MORAL DOMAIN

What should moral development researchers investigate? Most people would agree that violent behavior, and associated beliefs about when violence is or is not acceptable, constitute a reasonable focus for moral development research. Likewise, most would agree that moral development researchers should not focus their attention on adolescents' penmanship, which is generally not regarded as a moral issue.

But what about studies of adolescent drug use, sexual behavior, friendships, community activities, empathy, or character? Whether a given study is viewed as relevant to moral development depends not only on what is studied and what results emerge but also on how the moral domain is construed. Research on moral development always reflects the researcher's assumptions about what issues are moral issues. Such assumptions are often taken for granted, especially when they are widely shared. Since the 1970s, however, theorists have increasingly recognized the importance of being explicit about the conceptions of the moral domain that have guided, or should guide, research on moral development.

Three distinct conceptions of the moral domain can be identified in the moral development literature. One of these, presented in chapter 4, is Kohlberg's conception of morality as justice and respect for rights. A second conception construes morality as fundamentally a matter of care and compassion. A third conception highlights questions of character and virtue. After considering these two major alternatives to Kohlberg's conception of the moral domain, I conclude this chapter with a discussion of theories and research addressing potential cultural differences in such conceptions. Then, in chapter 6, in an effort to synthesize current theories and reconcile diverse empirical findings, I present a conception of moral development that is more pluralist than Kohlberg's, but retains his emphasis on the rational construction of moral rationality.

PROSOCIAL CONCEPTIONS OF MORALITY AS CARE

Carol Gilligan (1982), among many others, has argued that Kohlberg's theory is based on an overly narrow conception of the moral domain. Specifically, she saw Kohlberg's theory as based on a conception of morality as justice. His stages, she argued, are best construed as stages in the development of the concept of justice. But morality, in Gilligan's view, is more than justice. Thus, she attempted to expand the scope of theory and research on moral development by postulating a morality of care.

What is the difference, in Gilligan's analysis, between *justice* and *care?* Justice focuses on rights, whereas care focuses on responsibility to others. Justice glories in individual autonomy, whereas care values relationships. Justice aims to avoid improper interference, whereas care seeks to help. Justice emphasizes the application of abstract rules and principles, whereas care emphasizes sensitivity to social context. Justice stresses strict equality and fairness, whereas care stresses compassion. The development of morality as justice, then, moves toward individuation and abstraction, whereas the development of morality as care moves toward connection, inclusion, and contextual sensitivity.

The most controversial feature of Gilligan's (1982) theory is her claim that an orientation toward justice is male whereas care represents the female voice. She suggested that Kohlberg's focus on morality as justice reflected the fact that the philosophers who influenced his theory, and the research participants who provided his initial data, were all male.

Gilligan's own data, however, were largely anecdotal. More systematic overviews of the vast literature on gender differences in moral development have not supported her claims in this regard (Brabeck & Shore, 2003; Dawson, 2002; Jaffee & Hyde, 2000; Walker, 1984, 1991). Both males and females reason in terms of both justice and care. The actual reasoning used in each case has much more to do with the nature of the dilemma than with the gender of the thinker (Helwig, 1995a, 1997, 1998; Jadack, Hyde, Moore, & Keller, 1995; Pratt, Skoe, & Arnold, 2004; Smetana, Killen, & Turiel, 1991; Turiel, 1998; Wainryb, 1995; Walker, 1989; Wark & Krebs, 1996, 1997). Even when gender shows statistically significant correlations with measures of moral reasoning and behavior, these associations are generally modest in magnitude, and show complex and inconsistent patterns (Carlo, in press; Carlo, Koller, Eisenberg, Da Silva, & Frohlich, 1996; Eisenberg & Fabes, 1998; Turiel, 1998; Walker & Pitts, 1998). Whatever specific influences gender may have, moreover, are likely to vary across diverse cultural contexts (Turiel, 1998, 2002). Most psychologists are thus dubious of any notion that moral orientations be labeled *male* or *female*.

Nevertheless, even if there is nothing specifically feminine about morality as care, such a conception may highlight important aspects of the moral domain that Kohlberg initially overlooked. Kohlberg himself came to see benevolence and justice as dual aspects of an underlying respect for persons (Kohlberg, Boyd, & Levine, 1990; see also Strike, 1999). There is, moreover, a long tradition of research on prosocial reasoning and behavior in children (Eisenberg & Fabes, 1998), adolescents (Eisenberg, Carlo, Murphy, & Van

Court, 1995; Eisenberg, Zhou, & Koller, 2001), and adults (Colby & Damon, 1992; Eisenberg et al., 2002).

In an ambitious longitudinal investigation of prosocial moral development, Nancy Eisenberg and her associates (Eisenberg et al., 2002) have assessed prosocial reasoning and related characteristics in a group of individuals on 12 occasions from the time they were 4 and 5 years old until, most recently, they were 25 and 26. Although progress in prosocial reasoning continued into adolescence, developmental changes over the course of adolescence were less clear and robust than those of childhood (Eisenberg et al., 1995). Adolescents showing the most sophisticated prosocial reasoning tended to be those who were best in understanding the perspectives of others. This association of advanced morality with advanced perspective taking is consistent with other research on prosocial development (Carlo, in press; Eisenberg et al., 2001) as well as with Kohlbergian theory and research (Carpendale, 2000; Gibbs, 2003; Kohlberg, 1984; Moshman, in press).

The theoretical relationship of care to justice has been a matter of ongoing dispute. Some theorists have proposed that Gilligan's theory is superior to Kohlberg's in its recognition of a moral self that is fundamentally and inextricably embedded in social relationships (Day & Tappan, 1996). Research indicates, however, that, over the course of development, children and adolescents become increasingly able to reflect on their social relationships from an impersonal perspective, and that such development is positively related to moral development (Kohlberg, 1984). Most developmentalists see care and compassion as complementary to a concern for justice and individual rights, thus acknowledging the value of Kohlberg's theory as a theory of justice development, but favoring a broader conception of morality (Carlo, in press; Carlo et al., 1996; Eisenberg, 1996; Eisenberg & Fabes, 1998; Eisenberg et al., 1995; Pratt et al., 2004; Turiel, 1998; Walker & Hennig, 1997; Walker & Pitts, 1998).

EUDAIMONIST CONCEPTIONS OF MORALITY AS VIRTUE

Adding prosocial considerations of care, compassion, and relationships to Kohlbergian considerations of justice and human rights broadens our conception of the moral domain. Robert Campbell and John Christopher (1996a, 1996b), however, believe there is still more to morality. They have suggested that contemporary research on moral behavior and development, although apparently diverse, is overly influenced by the moral philosophy of Immanuel Kant (1724–1804). Kant's pervasive influence, they suggest, has resulted in

an overemphasis on formal principles of justice (in the case of Kohlberg and neo-Kohlbergians such as Elliot Turiel) and an overemphasis on concern for others (in the case of theorists such as Gilligan and Eisenberg).

Although Campbell and Christopher (1996a) suggested a number of alternative moral conceptions—including Confucianism, Tibetan Buddhism, and orthodox Hinduism—their primary focus is *eudaimonism*, a moral philosophy that dates back to the ancient Greek philosopher Aristotle (1985; Hursthouse, 1999). Eudaimonism highlights the moral relevance of character, virtue, and human flourishing, broadly interpreted to include personal values outside the Kantian moral realm of justice and concern for others:

> From the eudaimonic standpoint, rights to person and property are but a subset of moral standards and a consequence of deeper moral principles. Private moral standards, such as honesty with oneself, integrity, and pursuit of one's specific excellence, are central to the moral field ... as is practical wisdom, or skill in balancing and choosing among competing goods .... (p. 17)

Moving beyond Kant, in Campbell and Christopher's (1996a) view, is critical to the study of moral development:

> When we no longer accept a Kantian model of the study of moral development, many possibilities open up. Is moral development simply a department of cognitive development, as Kohlberg wanted to believe? Or must those who study it deal with goals, values, emotions, personalities, and habits of action? Are the issues around which people develop their moral orientations to be restricted to our relationships with other people, to questions of rights and justice, or to questions of caring for others? Or must we deal with self-conceptions, self-understanding, and the ideals and aims that individuals set for themselves? (p. 35)

In separate replies, Eisenberg (1996) and Helwig, Turiel, and Nucci (1996) argued that contemporary research on moral development reflects a variety of philosophical and psychological influences, including eudamonist concerns, and is not nearly so Kantian as Campbell and Christopher believe. They remain unconvinced that Kantian blinders have unduly limited the study of moral development.

Helwig, Turiel, and Nucci (1996), moreover, believe a eudaimonist perspective raises problems of its own. Following Kant (1785/1959), Piaget (1932/1965), Rawls (1971) and others, Kohlberg attempted to establish a rational basis for morality by limiting the moral domain to matters of justice and postulating principles that respect the fundamental rights of all persons in all societies. Although the rational basis for any given set of principles may be disputable, there is at least the possibility that such an approach

could lead to a justifiable morality. In expanding the scope of morality to include broad considerations of personality, one includes in the moral domain a variety of personal goals and values that vary widely across individuals and cultures. Campbell and Christopher consider this a good thing but Helwig, Turiel, and Nucci are not so sure. To what specific virtues are we referring? What sets of virtues constitute good character? Won't judgments of virtue and character vary across individuals and cultures? Although Campbell and Christopher explicitly reject moral relativism, and apparently seek a rational basis for morality, it is not clear how a eudaimonist approach avoids relativism, or establishes rationality (but see Hursthouse, 1999).

Even if eudaimonism fails to provide a sufficient basis for a moral philosophy, however, it seems clear that some individuals, at some developmental levels, in some cultures, apply eudaimonist conceptions to at least some issues that they deem, on eudaimonist grounds, to be moral in nature (Walker & Hennig, 1997; Walker & Pitts, 1998). At the very least, Robert Campbell, John Christopher, and Aristotle are three such individuals. A comprehensive theory of moral development must be able to account for this. More generally, a comprehensive theory of moral development may construe some conceptions of the moral domain to be more justifiable than others, but the theory must attempt to explain the development of all such conceptions, even those it deems inadequate.

CULTURAL DIFFERENCES IN CONCEPTIONS OF THE MORAL DOMAIN

I have presented three distinct conceptions of the moral domain—morality as justice, morality as care, and morality as virtue. One might wonder if these represent different cultural orientations. Perhaps some cultures stress justice whereas others stress care, and still others, virtue. Perhaps, then, adolescents in different cultures are in the process of developing qualitatively different ways of conceptualizing moral issues.

There is no doubt that people differ in their moral judgments and justifications, including their conceptions about what issues concern morality at all. For example, some people consider abortion to be morally wrong in most or all circumstances, some believe abortion is the moral choice in some circumstances, and some consider abortion a personal choice, outside the realm of morality, in most or all circumstances (Turiel, Hildebrandt, & Wainryb, 1991). Richard Shweder and others have provided substantial evidence that moral judgments and justifications vary across culture. Cultural

differences, moreover, include disagreement about what issues are moral issues, distinct from matters of social convention or personal choice (Haidt, Koller, & Dias, 1993; Shweder, Mahapatra, & Miller, 1987).

On the basis of such cultural differences, Mark Tappan (1997) proposed that "morality is not a naturally occurring universal concept, but is dependent on words, language, and forms of discourse that are socioculturally specific" (p. 93). Elaborating on this, he suggested that

> moral development does not occur in the same way, following the same sequence, for all persons around the globe, but rather it is specific to unique social, cultural, and historical contexts. Moreover, these unique sociocultural settings may well occur within the confines of a larger society—like the contemporary U.S.—defined, as such, by those who share similar experiences, values, or social, political, and/or economic assumptions. Thus, from this perspective, gender, racial, cultural, or socioeconomic differences in moral development, and in the forms of moral functioning/activity exhibited by members of different sociocultural groups, are to be expected, and they must be treated as differences, not deviations, by researchers and theoreticians alike. (p. 95)

Elliot Turiel and his associates (Helwig, Arnold, Tan, & Boyd, 2003; Killen & Wainryb, 2000; Neff & Helwig, 2002; Nucci, 2001; Turiel, 1996, 1998, 2002; Turiel, Killen, & Helwig, 1987; Wainryb, 1995; Wainryb & Turiel, 1995), however, have argued convincingly against the cultural determination of morality. In contrast to those who construe cultures as homogeneous entities that inculcate qualitatively distinct moral orientations, Turiel and his associates provided evidence for the internal heterogeneity of individual cultures and moral universality across cultures.

Cecilia Wainryb (1995), for example, studied judgments about social conflicts in 351 Israeli children, girls and boys, in Grades 3, 5, 7, 9, and 11, with mean ages (in years and months) of 8-10, 10-9, 12 -11, 14 -11, and 16-8 respectively. Approximately one half the children at each age were Druze Arabs from two exclusively Druze villages in northern Israel, and attended Druze schools. The Druze society is traditional and hierarchical, with a patriarchal family structure, fixed roles, and strong sanctions for violating duties and traditions. The other half of the children in each age group were Jews from a secular, Westernized population, and attended Jewish schools.

Each child in Wainryb's (1995) study was asked to make a judgment regarding what would be the right choice in each of a series of social conflicts pitting (a) justice against authority, (b) justice against interpersonal considerations, (c) personal against interpersonal considerations, or (d) personal considerations against authority. Examples of these conflicts follow:

- *Justice versus Authority (J-A)*—Hannan and his father were shopping and they saw that a young boy inadvertently dropped a 10 shekel bill. Hannan told his father that they should return the money to the boy (J). His father told him to hide the money in his pocket and keep it (A).
- *Justice versus Interpersonal (J-I)*—On a field trip, Kobby realized that the school did not provide enough soft drinks for all the children. Kobby had to choose between taking two drinks for his two younger brothers who were very thirsty (I), or alerting the teachers so that drinks could be distributed equally among all children (J).
- *Personal versus Interpersonal (P-I)*—Dalya was invited to a party, and she was looking forward to going there with her friends (P). Her young sister sprained her ankle and asked Dalya to stay home with her and keep her company (I).
- *Personal versus Authority (P-A)*—Anat loves music and wants to participate in an after-school music class (P). Her father does not like music; he tells her not to participate in the music class and [to] take another class instead (A). (pp. 393–394)

Results showed a strong orientation toward considerations of justice at all ages and in both cultures. With respect to the justice–authority conflicts, the justice alternative was preferred by 96% of the participants, with no significant differences across ages or cultures. With respect to the justice–interpersonal conflicts, the justice alternative was preferred by 83%. Again there was no cultural difference. The preference for justice increased significantly with age, from 75% to 92%. These results support the view that justice constitutes a core form of moral understanding that is constructed from an early age by children from diverse cultural backgrounds.

The two conflicts that did not involve issues of justice yielded quite different results—a complex pattern of differences among individuals, across cultures, and across age groups. With respect to personal/interpersonal conflicts, 60% selected the personal option and 40% the interpersonal option. Preference for the personal option increased from 44% in Grade 3 to 73% in Grade 11. Although the difference in personal choices between Jewish and Druze children (65% vs. 56%) was statistically significant, it was small compared to the individual differences within each culture and the age trend toward more personal choices that held for both.

The only substantial cultural difference in Wainryb's study was the stronger preference for the personal option over the authority option among Jewish children (79% personal) than among Druze children (49% personal).

Although this expected difference is consistent with the more hierarchical nature of the Druze culture, it is noteworthy that the Druze children, far from being uniformly respectful of authority, were almost evenly divided between the two options. Overall, personal choices increased from 35% in Grade 3 to 87% in Grade 11. Although personal choices were more common among Jewish than Druze children at each age, the same developmental trend held for both cultures.

Overall, Wainryb (1995) summarized the results as follows:

> Within each group, heterogeneity in judgments was found both between subjects and within subjects. Although Druze children appeared more oriented toward obedience to authority, this tendency was not overriding across contexts: Considerations of obedience clearly did not take precedence over matters of justice, and concerns with personal choice were often given priority over interpersonal considerations. Among Jewish children, who appeared more oriented toward personal choice, personal considerations indeed outweighed questions of obedience to authority but did not systematically override interpersonal responsibilities. (pp. 397–398)

Research on social reasoning with adolescents from three regions of mainland China yielded similar results (Helwig et al., 2003). Participants evaluated consensus, majority rule, and authority as bases for decisions in peer, family, and school contexts. Although judgments and explanations were sensitive to specific contexts, concepts of rights and individual autonomy were salient, and there was strong support for decision making based on majority rule.

> Overall, these findings present a picture of Chinese adolescents' social reasoning that is not consistent with global construals of Chinese psychology and culture as oriented toward collectivism, filial piety, and rigid adherence to authority [citations omitted]. References to collectivist concerns, such as maintaining social harmony, or simple appeals to adult authority, represented only a small proportion of justification responses. (Helwig et al., 2003, p. 796)

More generally, research on social cognition suggests that differences among individuals and social contexts within cultures are greater than differences between cultures:

> Broad and overarching conceptualizations or identifications of the social environment, such as those implied in the concept of culture, overlook important aspects of diversity in development. The research shows that individuals in traditional, hierarchical cultures (supposedly duty-oriented and sociocentric) do judge in accord with roles, duties, and traditions in the social system. At the same time, they are cognizant of consensual issues of conventionality, draw boundaries on the jurisdiction of author-

> ity commands, and are aware of personal choice, entitlements, and rights as components of social interactions. (Wainryb & Turiel, 1995, p. 308)

Individual cultures are less monolithic than they may appear to an external observer; differences among them are not so profound as to rule out universal principles of justice. In fact,

> [s]ince our society is multicultural, composed of individuals with diverse and conflicting notions of the good life, and since there is increasing interaction with other societies, perhaps with very different values and beliefs about the human good, principles of mutual respect and justice are likely to be called upon for resolution of conflicts that may ensue. (Helwig et al., 1996, p. 101)

Can there be mutual respect across cultures? Does justice have a core of common meaning across diverse social contexts? Would it be possible for representatives of divergent cultures to agree on a set of moral principles? International human rights law provides clear evidence that such agreements are indeed possible. To take just one example, the Universal Declaration of Human Rights, approved by the United Nations in 1948, contains principles of liberty, equality, privacy, due process, and social welfare that were accepted by representatives of societies around the world as valid across all cultures. Well over half a century later, it not only endures, but constitutes the foundation of an international network of human rights covenants, documents, and activities (Alves, 2000; Perry, 1997; Shestack, 1998).

Even if human rights are widely accepted, however, their precise formulation, application, and justification remain controversial (Brems, 1997). Female circumcision (see chap. 4) is but one of many unresolved issues. Even if moral principles are universal, their application to diverse social contexts may create diverse moral conceptions. We are left, then, with a fundamental question: Can a developmental theory accommodate moral diversity without lapsing into moral relativism?

6

The Construction of Morality

To explain the idea of reflective equilibrium we start from the thought (included in the idea of free and equal persons) that citizens have a capacity for reason (both theoretical and practical) as well as a sense of justice. Under the normal circumstances of human life, these powers gradually develop, and after the age of reason are exercised in many kinds of judgments of justice ranging over all kinds of subjects, from the basic structure of society to the particular actions and character of people in everyday life. The sense of justice (as a form of moral sensibility) involves an intellectual power, since its exercise in making judgments calls upon the powers of reason, imagination and judgment.

—*John Rawls* (2001, p. 29)

[E]veryone wants to live like a person.

—*Grace Paley* (1984, p. 5), quoting her mother

As seen in chapter 5, there are multiple perspectives on the nature of morality. Individuals may differ to some degree in their primary orientation and such differences may be subtly associated with gender and culture. For the most part, however, moral diversity appears to exist within each individual, rather than across individuals or groups. That is, most adolescents and adults are capable of *multiple moral perspectives*. In straightforward cases, situational factors may determine which of these perspectives drives our response. Observing someone in pain, for example, we may respond with compassion, whereas observing inequitable treatment may arouse our commitment to justice. Any given case may be construed from multiple moral perspectives, however. In complex cases, these multiple perspectives may

generate divergent interpretations of the moral issue and uncertainty regarding the most moral resolution.

MORAL REASONING AND MORAL DEVELOPMENT

Moral diversity has important implications for our understanding of moral reasoning. Especially at advanced levels, moral reasoning is in large part the reflective coordination of multiple social and moral perspectives (Carpendale, 2000). To construe moral reasoning as a process of coordination is to suggest that it typically does not involve a choice between two or more perspectives but rather an effort to find a resolution that is satisfactory from multiple points of view. To suggest that this coordination is reflective, moreover, is to propose that it does not occur automatically but rather involves a deliberate effort to construct a justifiable resolution. This is not to deny that we regularly make intuitive moral inferences, beginning at very early ages (Haidt, 2001; Walker, 2000). Consistent with the metacognitive conception of rationality proposed in chapter 2, however, the term *moral reasoning* should be reserved for those cases of moral inference that involve deliberate efforts to reach justifiable conclusions.

Although reflective coordinations may take place within an individual, they may also take place in the context of social interactions. It is useful in this regard to distinguish symmetric from asymmetric social interactions, as suggested in chapters 3 and 4. *Asymmetric social interactions*, in which the interacting individuals differ in status, authority, and/or power, may privilege the moral perspectives of some individuals over others. *Symmetric social interactions*, in contrast, in which no individual has the power to impose his or her will on another, are more likely to involve genuine coordination and reflection (Habermas, 1990). Thus, peer interactions, which are more likely to approximate the ideal of symmetric social interaction, may be a setting in which genuine moral reasoning is most likely to occur (Kruger, 1992, 1993; Moshman, 1995b; Piaget, 1932/1965; Youniss & Damon, 1992).

Moral reasoning, moreover, may result not just in rational judgments but in increasingly justifiable forms of moral understanding that coordinate formerly distinct moral perspectives. Thus, at higher levels of development it becomes increasingly difficult to distinguish reasoning from development. Both involve processes of reflection and coordination, often in the context of peer interaction. To the extent that moral reasoning generates long-term progress in moral rationality, it may be usefully construed as a process of moral development.

A PLURALIST CONCEPTION OF MORAL DEVELOPMENT

Orlando Lourenço (1996) identified *rationality* and *universality* among the core commitments of Kohlberg's theory of moral development. That is, Kohlberg believed that moral principles can be rationally justified without appealing to values specific to particular individuals or cultures, and that such principles thus apply to all individuals and cultures. Although Turiel and other social cognitive domain theorists do not subscribe to Kohlberg's developmental stages, they share his guiding vision of a rational and universal morality. Theorists like Day and Tappan (1996; Tappan, 1997), however, suggested that what is moral varies so fundamentally across cultures that morality cannot be justified on any basis that transcends particular cultures.

In addressing the theoretical controversies about moral development, it appears that rationality is more basic than universality to the formulation of a defensible theory. As a constructivist, Kohlberg held that morality is constructed, rather than determined by genes, culture, or the interaction of both. Following Piaget, he saw the construction of morality not as the arbitrary formulation of idiosyncratic moral preferences but rather as a rational process generating justifiable results (Arnold, 2000). I refer to this view, which I share, as *rational constructivism*.

Kohlberg also proposed that rational construction generates a universal sequence of stages. I refer to this as *universalist rational constructivism*. In contrast, without denying the existence of moral universals, and without claiming that every moral conception is equally justified, I propose that diverse moralities may be rationally justifiable. Call this *pluralist rational constructivism* (Moshman, 1995b; see also Neff & Helwig, 2002).

Pluralist rational constructivism, like universalist rational constructivism, is a *metatheory*, not a *theory*. A theory of moral development would provide a specific account of how morality develops and could be tested against data concerning the development of morality. A metatheory, in contrast, is a proposal about the basic assumptions that would undergird a plausible theory. Kohlberg's theory is an example of a theory within the metatheoretical framework of universalist rational constructivism. With respect to moral development, pluralist rational constructivism proposes five metatheoretical assumptions as a basis for theory and research:

First, rationality is fundamentally a matter of metacognition rather than a matter of logic (see chap. 2). Moral rationality, then, involves reflection about the nature and justification of one's moral intuitions rather than the

conformity of one's intuitive social inferences to some sort of moral logic. The equation of moral rationality with moral logic leads naturally to the idea that there is a universal moral logic that constitutes advanced morality for all individuals, contexts, and cultures. A conception of moral rationality as metacognitive reflection, in contrast, leaves open the possibility that the construction of morality may proceed in more than one justifiable direction.

Second, pluralist rational constructivism neither denies the possibility of moral universals nor assumes their existence. The issue of universality is a theoretical and empirical matter to be addressed on the basis of evidence and argument rather than an assumption built into the basic framework of research (Saltzstein, 1997).

The third metatheoretical assumption of pluralist rational construction, which follows from the second, is that research on moral development should seek evidence for both diversity and universality. To the extent that such evidence is found, theories of moral development must acknowledge and explain both differences and universals with respect to individual and cultural conceptions of the moral domain, including developmental changes in this regard. A comprehensive theory of moral development must account for all people in all cultures, including those who, at some levels of development, hold what the theory deems to be inadequate conceptions about the nature of morality.

Fourth, pluralist rational constructivism distinguishes symmetric from asymmetric social interactions. The fundamentally social nature of morality is often taken to suggest that because morality can only develop in the context of social interactions, it is therefore relative to culture. A distinction between symmetric and asymmetric social interactions, however, generates a useful distinction between the properties inherent to social interchange and those specific to particular cultures. Asymmetric social interactions involve authorities who transmit individual and cultural values. Such interactions may be a source of moral diversity. Symmetric social interaction, in contrast, is an idealized realm of dialogue, discourse, cooperation, and mutual respect among individuals who are, and perceive themselves to be, equal in knowledge, authority, and power (Habermas, 1990). Symmetric social interactions may especially encourage autonomous reflection on social relations among the interacting agents and thus be a context for the construction of a morality that is simultaneously social and rational. Symmetric social interactions may even have properties that are common across cultures and thus serve as a basis for the construction of moral universals. Peer interaction among children and adolescents may approximate the ideal of symmetric so-

cial interaction and thus play a special role in moral development (Kruger, 1992, 1993; Moshman, 1995b; Piaget, 1932/1965; Walker, Hennig, & Krettenauer, 2000; Youniss & Damon, 1992).

Finally, reflection on rules generates principles that explain and justify those rules and that may lead to the reconstruction of such rules. With respect to morality, moral rules may be learned from authorities and strongly reflect the values of particular cultures. The direction of moral development may vary to some extent depending on the particular rules that constitute the starting point for reflection. To the extent that moral reflection takes place in the context of peer interaction, however, it may yield coconstructed moral principles that are not only rationally justifiable but, in some cases, universal across cultures.

Pluralist rational constructivism, then, provides more room for moral diversity than does Kohlberg's theory, but avoids undermining the very concept of morality by lapsing into radical contextualism and relativism:

> For the universalist, differences among cultures are superficial compared to underlying commonalities in the direction and steps of moral development. The central point of cross-cultural research, then, is to show that individuals in all cultures proceed through the same stages in the same order. Some individuals may proceed further than others and differences across cultures may occur in this respect, but the primary focus of research is to show that individuals do not skip stages, that there are no reversals in the order of stages, and that there exist no forms of moral reasoning that do not fit one of the stages.
>
> For the pluralist, in contrast, cross-cultural research offers an opportunity to discover new structures of moral reasoning and understanding. The pluralist is wary of universalist efforts to force divergent moralities into the Procrustean bed of a specific theoretical sequence of stages. At the same time, the pluralist rejects the causal determinist view that people simply learn whatever their cultures teach. The pluralist also rejects the corresponding relativist view that comparisons across cultures can have no rational basis. The challenge is to distinguish levels of moral rationality without limiting the moral domain in advance to some small number of hierarchically ordered moral structures. (Moshman, 1995b, p. 276)

CONCLUSION

Kohlberg's primary focus, reflecting a Kantian moral philosophy, was on strict obligations and prohibitions dictated by universalizable principles of justice. Most psychologists favor a broader conception of morality encompassing behavior deemed obligatory, desirable, undesirable, or forbidden on the basis of considerations of others' rights or welfare. A comprehensive account of moral development, however, must acknowledge that some indi-

viduals at some developmental levels in some societies may construe the moral domain as extending, without sharp demarcation, into broad considerations of virtue, honor, duty, obedience, care, compassion, benevolence, courage, character, responsibility, integrity, fidelity, solidarity, sanctity, and so forth (Campbell & Christopher, 1996a; Carlo, in press; Haidt et al., 1993; Hart, 1998; Lapsley, 1996; Moshman, 1995b; Walker & Hennig, 1997; Walker & Pitts, 1998).

Kohlbergian theory and research provide a strong basis for believing that the construction of increasingly sophisticated moral conceptions continues, at least in some individuals, through adolescence and well into adulthood. Although Kohlberg's theory gives us considerable insight into the development of increasingly sophisticated conceptions of justice, we should keep in mind that there may be equally important aspects of morality (e.g., care, compassion, responsibility, character, and virtue) that the theory does not address adequately. It remains to be seen whether there are developmental changes in adolescence in these regards, and what course such changes take.

With respect to the process of developmental change, peer interaction emerges as a developmental context fundamental to most theoretical views, including both those emphasizing the social nature of morality and those emphasizing the autonomous nature of the rational moral agent. Peer interaction is clearly social, rather than individual, and yet potentially a context for rational reflection, rather than indoctrination. Thus, an emphasis on peer interaction enables us to see how morality comes about in interaction with others but is not simply internalized from others. Peer interaction, distinct from both cultural indoctrination and individual reflection, enables construction of a morality that is, simultaneously, social and rational.

Consistent with our focus on development, the present account of morality has highlighted progress toward higher levels of moral rationality, and thus has emphasized moral reasoning and understanding. A full account of adolescent morality would need to address the complex interrelations of intuition, emotion, motivation, and habitual behavior in multiple social contexts (Carlo, in press; Carlo et al., 1996; Gibbs, 2003; Grotevant, 1998; Haidt, 2001; Haidt et al., 1993; Nucci, 2001; Pizarro & Bloom, 2003; Turiel, 1998, 2002; Walker, 2000). Transformations and variations in moral reactions, feelings, motives, and actions, however, must have a rational basis to be designated progressive, and thus to be identified as developmental.

Recalling the metacognitive conception of rationality proposed in chapter 2, a focus on the rational nature of moral development suggests that we analyze moral changes from the point of view of the moral agent,

considering his or her reasons for moral transformation. This may involve analysis of moral-cognitive structures (e.g., Kohlbergian stages), but it also requires us to consider people's metacognitive attitudes toward their own moralities, relationships, and societies. Ideal moral agents not only have various moral competencies, but construe the social world and their relation to it with a "critical consciousness"—a disposition "to disembed from their cultural, social, and political environment, and engage in a responsible critical moral dialogue with it, making active efforts to construct their own place in social reality and to develop internal consistency in their ways of being" (Mustakova-Possardt, 1998, p. 13).

The concept of critical consciousness raises questions of moral motivation: Why do some people routinely construe social issues in moral terms, make moral judgments about such issues, and act on the basis of such judgments, whereas others, although equally capable of advanced moral reasoning, are less inclined to apply such reasoning in their daily lives? One intriguing possibility, noted by Augusto Blasi and others, is that moral action depends on how central morality is to one's sense of self (Arnold, 2000; Bergman, 2002, 2004; Blasi, 1984; Colby & Damon, 1992; Hart & Fegley, 1995; Lapsley, 1996; Moshman, in press; Mustakova-Possardt, 1998; Walker & Hennig, 1997; Walker & Pitts, 1998). If morality is not important to you, then you are less likely to apply moral reasoning in your daily life and act on the basis of moral judgments. If being moral is central to your deepest sense of who you are, however, then you are more likely to construe issues in moral terms, to reflect deeply on what you ought to do, and to do what you deem morally correct—the alternative is to betray yourself and suffer the self-imposed emotional consequences of your lack of integrity. Thus, at the level of behavioral choice and associated feelings, questions of morality direct us to questions of identity.

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III

Identity Formation

Self-conceptions change across the lifespan, and some of these changes are developmental. Adolescents and adults, operating at levels of rationality not seen in childhood, often construct reflective self-conceptions of a sort that have come to be referred to as identities. Erik Erikson was among the first to use the term identity in this way and to provide a theory of how identities develop.

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7

Erikson's Theory of Identity Formation

The lunatic is in my head
The lunatic is in my head
You raise the blade
You make the change
You rearrange me till I'm sane
You lock the door
and throw away the key
There's someone in my head but it's not me

—*Pink Floyd* (1973)

From early childhood we wonder and worry about ourselves. Young children typically see themselves as defined by their names, homes, families, physical characteristics, abilities, and so forth. As development progresses, however, individuals are increasingly likely to define themselves with respect to personality, ideology, and other such abstract characteristics (Garcia, Hart, & Johnson-Ray, 1997; Harter, 1998; Nucci, 1996). Moreover, as they move through adolescence, many increasingly see identity as something they can and must create for themselves. For adolescents, identity is both a matter of determining who one is and a matter of deciding who one will be.

Identity is generally seen as related to the self, with the understanding that neither term is easy to define and that the relationship of the two concepts is far from clear (Ashmore & Jussim, 1997). Psychological theorizing on consciousness of the self dates back at least to William James, who devoted a 111-page chapter to this topic in his classic *Principles of Psychology*

(1890/1950). Psychological theory and research specifically focused on adolescent identity formation is more recent, and generally seen as originating with the work of Erik Erikson (1902–1994). In this chapter, I summarize Erikson's (1950/1963, 1968) theory of personality development, including his highly influential conception of identity, and present James Marcia's (1966) reformulation of the identity concept. Then, in chapters 8 and 9, I consider how theory and research on identity formation have evolved since the 1970s.

ERIKSON'S THEORY OF PERSONALITY DEVELOPMENT

The centrality of identity formation in adolescence is a key insight in Erik Erikson's (1968) theory of personality development. Although Erikson's theory was highly influenced by Sigmund Freud's psychoanalytic theory of personality development, Erikson differed from Freud in three crucial respects.

First, in contrast to Freud's emphasis on biology and sexuality, Erikson also highlighted the role of social and cultural contexts in development. In his classic *Childhood and Society* (1950/1963), for example, he addressed child development in two Native American (American Indian) tribes—the Oglala Sioux of the Midwest and the Yurok of the Pacific coast—as an interaction of biological forces (Freud's general psychosexual stages) and social forces (the specific cultural histories and circumstances of these particular tribes). Erikson proposed eight stages of development, described shortly, that incorporate biological and sexual considerations from Freud, yet are generally construed as *psychosocial* rather than *psychosexual*.

Second, whereas Freud emphasized the role of unconscious and irrational forces, Erikson believed that conscious interpretations and adaptive choices also play important roles in development. Although Freud acknowledged a role for the *ego*, or self, as a mediator of biological drives (represented by the *id*) and cultural constraints (internalized as the *superego* or conscience), he typically presented the ego as engaged in a desperate effort to manage psychological forces largely beyond its control. Without denying the partial validity of that picture, Erikson presented a more positive conception of the ego as a conscious, rational coordinator of the personality. Erikson's version of psychoanalytic theory thus provides more room than does Freud's for Piagetian and Kohlbergian conceptions of the person as a rational and moral agent.

Finally, whereas Freud believed the personality is largely formed in early childhood, Erikson believed that personality development continues throughout the lifespan. In this regard, he postulated eight developmental

stages—four associated with childhood, one with adolescence, and three with adulthood.

Each of Erikson's stages is presented as a crisis or turning point in development. The first stage, associated with infancy, involves developing, or failing to develop, a basic sense of trust in the world. The second, associated with toddlerhood, involves development of a sense of oneself as an autonomous agent. The third, associated with the preschool years, involves development of a sense of initiative and ambition. The fourth, associated with the elementary school years, involves development of a sense of industry and competence.

To the extent that childhood goes well, in Erikson's scheme, the adolescent approaches identity formation, the fifth stage, with a sense of self as an autonomous, active, and competent agent in a relatively secure world. To the extent that there are developmental problems in one or more of the first four stages, the adolescent may be hindered by feelings of *mistrust* (a lack of *trust*), *shame and doubt* (the alternatives to *autonomy*), *guilt* (the alternative to *initiative*), and/or *inferiority* and *futility* (the alternatives to *industry*). Identity formation is a challenging process even under the best circumstances; problems in earlier development may render it even more difficult and decrease the likelihood of positive outcomes.

Erikson posited three additional stages associated with adulthood. The central task of early adulthood, in his view, is development of a capacity for intimate relationships. Middle adulthood focuses on the development of generativity, a commitment to future generations. Finally, later adulthood is concerned with formation of a sense of integrity with respect to one's life. Negative outcomes in adulthood involve feelings of *isolation* (as opposed to *intimacy*), *stagnation* (as opposed to *generativity*), and *despair* or *disgust* (as opposed to *integrity*). Although nothing can guarantee positive developmental outcomes in adulthood, Erikson believed the formation of a strong identity in adolescence helps set the individual on the right course.

Erikson noted the important correspondences of the adult stages to the child stages with respect to relationships across the generations. In particular, positive outcomes in the early stages require generative adults who are concerned with, and supportive of, their own children, children in general, and/or the future of their society. At a more abstract level of analysis, Erikson (1950/1963) noted:

> Webster's Dictionary is kind enough to help us complete this outline in a circular fashion. Trust (the first of our ego values) is here defined as "the assured reliance on another's integrity," the last of our values. I suspect that Webster had business in mind

> rather than babies, credit rather than faith. But the formulation stands. And it seems possible to further paraphrase the relation of adult integrity and infantile trust by saying that healthy children will not fear life if their elders have integrity enough not to fear death. (p. 269)

ERIKSON'S THEORY OF ADOLESCENT IDENTITY FORMATION

Having discussed the nature of identity in many publications, Erikson acknowledged, in *Identity: Youth and Crisis* (1968), the difficulty of specifying exactly what an identity is:

> So far I have tried out the term identity almost deliberately—I like to think—in many different connotations. At one time it seemed to refer to a conscious sense of individual uniqueness, at another to an unconscious striving for a continuity of experience, and at a third, as a solidarity with a group's ideals. In some respects the term appeared to be colloquial and naive, a mere manner of speaking, while in others it was related to existing concepts in psychoanalysis and sociology. And on more than one occasion the word slipped in more like a habit that seems to make things appear familiar than as a clarification. (p. 208)

Augusto Blasi and Kimberly Glodis (1995) summarized Erikson's multifaceted conception of identity as consisting of the following 12 elements and their various interrelations:

> (a) Identity is an explicit or implicit answer to the question, Who am I?; (b) that consists of achieving a new unity among the elements of one's past and one's expectations for the future, (c) such that it gives origin to a fundamental sense of sameness and continuity. (d) The answer to the identity question is arrived at by realistically appraising oneself and one's past; (e) by considering one's culture, particularly its ideology, and the expectations that society has for oneself, (f) while, at the same time, questioning the validity of both culture and society and the appropriateness of the perceptions that others have of oneself. (g) This process of integration and questioning should occur around certain fundamental areas, such as one's future occupation, sexuality, and religious and political ideas. (h) It should lead to a flexible but durable commitment in these areas, (i) that guarantees, from an objective perspective, one's productive integration into society, and (j) subjectively, a basic sense of loyalty and fidelity, (k) as well as deep, subconscious feelings of rootedness and well-being, self-esteem, confidence, and sense of purpose. (l) The sensitive period for the development of identity are the adolescent years, even though its outline may become more precise and acquire age specific expressions throughout one's life. (pp. 405–406)

More briefly, Erikson's view was that adolescent exploration of alternatives ideally results in a sense of individuality, a role in society, an experience of continuity across time, and a commitment to ideals. By the standards of modern academic psychology, Erikson's formulation of this theory was vague and unsystematic, and his evidence for it was largely anecdotal. Nev-

ertheless, a great deal of research has followed up on Erikson's conception of identity formation as central to adolescence. Much of the credit for this goes to the influential work of James Marcia (1966), who transformed Erikson's observations and reflections into a clear, testable theory (Kroger, 1993; Marcia, Waterman, Matteson, Archer, & Orlofsky, 1993).

MARCIA'S THEORY OF IDENTITY FORMATION

Central to Marcia's (1966) approach is the concept of *identity commitments*. Mature identity, in his view, is a matter of having strong, self-conscious, and self-chosen commitments in matters such as vocation, sexuality, religion, and political ideology.

Marcia suggested that individuals entering adolescence typically fall in one of two categories. The *identity-diffused* individual has no strong commitments and is not seeking any. Such individuals are satisfied to live day by day and simply see where life takes them. The *foreclosed* individual, by contrast, does have clear commitments. Those commitments have been internalized from parents and other agents of culture; they are not self-chosen, in that no alternatives have been seriously considered.

It is possible for an individual in either of these identity statuses to move into the other. As adolescence proceeds, a diffused individual may accept the ideas of those she or he is close to with regard to matters of vocation, sexuality, religion, and politics. If these commitments become sufficiently strong, without being purposely chosen from a set of genuine alternatives, the individual now has a foreclosed identity. Alternatively, a foreclosed individual may become increasingly dubious of his or her commitments, yet have little or no interest in replacing these commitments with others. Such a decrease in concern with identity commitments would constitute a transition to identity diffusion.

It is possible, however, for an individual who is either foreclosed or identity-diffused to move into an *identity crisis*, which Marcia (1966) referred to as a state of *moratorium*. For the foreclosed individual, this would consist of questioning the specific commitments one has learned, seriously considering alternative possibilities, and seeking to construct new commitments of one's own. For the diffused individual, although there are no current commitments to be displaced, the transition to moratorium also involves an active effort to consider possibilities and form central commitments. Regardless of how one gets there, moratorium is a state where one has no current identity commitments, but is seeking to make such commitments.

Unlike identity diffusion and foreclosure, which may continue indefinitely, moratorium is a relatively unstable state. The individual is likely to resolve his or her identity crisis in one of two ways. The positive outcome would be to make commitments, thus leading to the status known as *identity-achieved*. The negative outcome would be to give up the search for identity, thus becoming identity-diffused. According to Marcia's original formulation, however, the individual can not go back to foreclosure. Once one has genuinely considered identity alternatives, foreclosure is no longer a possible status. One either makes commitments and becomes identity-achieved or fails to commit and becomes identity-diffused.

Identity-achieved is a relatively stable state. An individual who makes new commitments on a weekly or monthly basis is not making genuine identity commitments, and should not be considered identity-achieved. Nevertheless, it is possible for an identity-achieved individual to begin questioning his or her commitments, and seriously considering alternatives, thus moving again into moratorium status. This may be a key component of a midlife crisis, for example. It is also possible for identity commitments to lose their vitality, thus leading to a state of identity diffusion. The four identity statuses are not simply stages of development; their potential interrelationships are quite complex. Current evidence suggests that the most active period for identity formation is the period from adolescence through early adulthood (Kroger, 1993, 2003; Marcia et al., 1993; Meeus, Iedema, Helsen, & Vollebergh, 1999; Whitbourne & VanManen, 1996).

Figure 7.1 shows the possible developmental paths connecting Marcia's four identity statuses. You may wish to consider the meaning of each arrow and to think of an example of an identity transition to illustrate it. Note the absence of certain arrows. Note, in particular, that one cannot get to identity-achieved without going through moratorium, and that once one has been in moratorium one cannot return to foreclosure. The difference between foreclosure and identity achievement is not in the content of one's commitments—the specific ideas, goals, and values to which one is committed—but rather in whether those commitments are the outcome of an identity crisis, in the course of which various possibilities have been seriously considered.

Figure 7.2 shows how one determines an individual's identity status. It should be emphasized that the arrows here, unlike those in Fig. 7.1, do not represent developmental pathways but, rather, aspects of a decision procedure. Two of the identity statuses involve commitment; the other two do not. In each case, distinguishing the two statuses involves inquiry into the active search for commitment (Marcia et al., 1993).

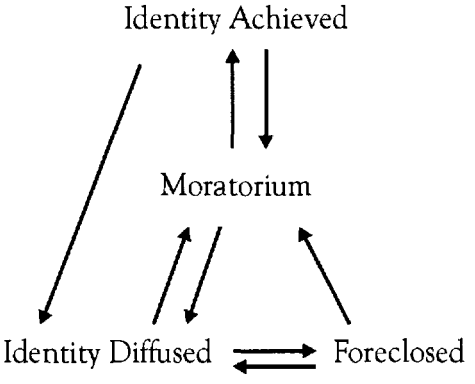

FIG. 7.1. Developmental pathways in identity formation.

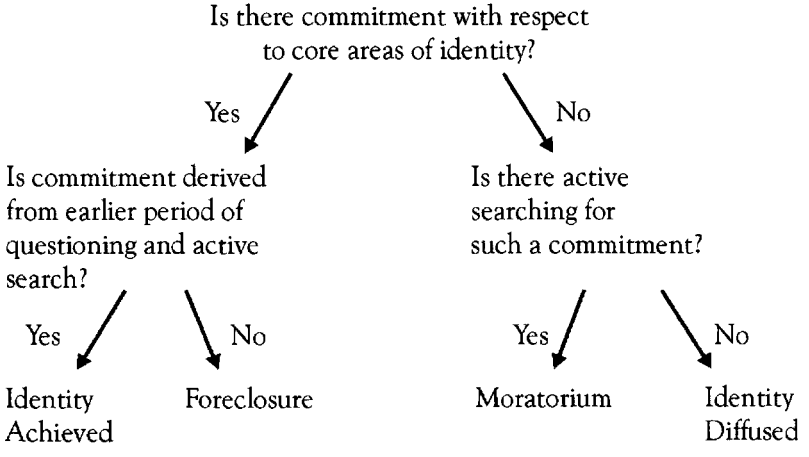

FIG. 7.2. Determination of identity status.

There is extensive research supporting Marcia's claim that adolescents and adults can be categorized into the four identity statuses, and that such categorization is useful in understanding their psychological characteristics and development (Marcia et al., 1993). A major focus of identity research has been identifying personality characteristics associated with each of the four statuses. In a review of this literature, Jane Kroger (1993) summarized the findings:

> Identity achievement individuals showed the highest levels of ego development, moral reasoning, internal locus of control, self-certainty and self-esteem, performance

> under stress on a concept attainment task, and intimacy in interpersonal relationships .... Moratorium adolescents consistently appeared as the most anxious and fearful of success among the identity statuses, although maintaining high levels of ego development, moral reasoning, and self-esteem .... Moratoriums are also most likely to be preintimate in their interpersonal relationships .... Adolescents in the foreclosure identity status evidenced the highest levels of authoritarianism and socially stereotypical thinking, obedience to authority, external locus-of-control, and dependent relationships with significant others; they also showed the lowest levels of anxiety .... Diffusion adolescents presented more mixed results, but generally demonstrated low levels of ego development, moral reasoning, cognitive complexity, [and] self-certainty, and poor cooperative abilities .... (p. 9)

Marcia's scheme is widely seen as a useful basis for understanding adolescent identity formation (Berzonsky & Adams, 1999; Kroger, 2003; Waterman, 1999). There is also consensus, however, on the need to modify or transcend Marcia's approach (Bosma & Kunnen, 2001; Grotevant, 1998; Kunnen & Bosma, 2003; Meeus et al., 1999; Schwartz, 2001; van Hoof, 1999a, 1999b).

One set of concerns involves the question of whether an individual's identity status can vary across domains (Grotevant, 1987; Schwartz, 2001). Do people form commitments in all domains simultaneously? Can a person be identity-achieved with respect to vocational choice, identity-diffused with respect to political ideology, and foreclosed with respect to religion? Are there domains of identity formation other than those highlighted by Erikson and Marcia? The Marcia framework can handle inconsistencies across multiple domains by defining identity status on the basis of those domains that a particular person deems central (Blasi & Glodis, 1995). Nevertheless, such considerations complicate the question of classifying individuals.

Another complication is that individuals within a given status may differ in ways that the Marcia scheme cannot fully comprehend. Several researchers, for example, have suggested the need for a more differentiated understanding of the sorts of foreclosed identities that individuals may have (Kroger, 1995; Valde, 1996). Some have proposed reconceptualizations of all four statuses (Meeus et al., 1999).

Theorists have also continued to question what identity means (Blasi & Glodis, 1995). Gregory Valde (1996) observed:

> A careful reading of Erikson leaves one with a somewhat paradoxical understanding of identity. Identity is something one ought to achieve yet can never finish. Identity is preferable to identity confusion, but a total lack of confusion or a total sense of identity is not considered ideal. Identity depends on expanding and opening one's perspective at the same time that one is limiting and narrowing one's perspective. Identity, as a

> state of active tension constantly in a process of reevaluation, almost defies operationalization. Yet operationalize identity we must, if we are to apply contemporary scientific methods of examination to it. (p. 252)

Others have noted that, despite the strong emphasis on exploration and commitment in the work of Erikson and Marcia, research in this tradition has not enlightened us very much about how an individual moves from one identity status to another (Bosma & Kunnen, 2001; Grotevant, 1987). What are the developmental processes involved in constructing an identity?

Responding to questions and issues such as these, theorists and researchers since the 1980s have increasingly attempted to provide a fuller picture of the nature and development of identity. We turn now to this work.

8

The Nature of Identity

> [W]hat appears to be missing in the standard identity measures is the basic identity question "Who am I?"
>
> —*Augusto Blasi* (1988, p. 228)

Marcia's extension of Erikson's work on identity formation (see chap. 7) transformed a rather diffuse psychoanalytic concept into a fruitful basis for empirical research. The Marcia framework and associated research continue to be held in high regard (Berzonsky & Adams, 1999; Kroger, 2003; Waterman, 1999). Since the 1980s, however, there has been increasing concern among adolescent identity theorists that Marcia's identity statuses do not fully encompass Erikson's concept of identity, much less the diverse uses of that concept in theoretical and popular discourse (Bosma & Kunnen, 2001; Grotevant, 1998; Kunnen & Bosma, 2003; Meeus et al., 1999; Schwartz, 2001; van Hoof, 1999a, 1999b). Efforts to interpret and expand identity research have generated a variety of proposals about what is, or should be, meant by *identity*.

Obviously, no one can dictate how the term *identity* must be used. Nevertheless, if identity meant something utterly different to everyone who used or encountered the term, there would be a serious failure of communication among theorists, researchers, practitioners, and the general public. Fortunately, although not everyone means precisely the same thing by identity, there does appear to be considerable overlap among various uses of the term. In this chapter I suggest a conception of identity that captures a core of common meaning. I then discuss considerations of gender and culture, and note

the multiplicity of domains within which, and across which, identity is constructed. In chapter 9 we turn to the developmental processes that account for identity formation.

IDENTITY AS A THEORY OF ONESELF

What is identity? Answering this question is complicated by differences among theorists in how they define identity and differences within and among individuals in their various self-conceptions. No definition of identity has ever achieved universal acceptance and it seems unlikely that any ever will.

Nevertheless, having considered a variety of definitions and conceptions in the current literature, I have devised a brief definition of identity that captures most of the elements highlighted by most contemporary theorists and provides a useful framework for addressing the construction of identity in adolescence: *An identity is, at least in part, an explicit theory of oneself as a person.* Let me explain what I mean by this.

Identity as a Conception of Oneself

Theorists of identity universally agree that identity has some relation to the self (Ashmore & Jussim, 1997; Blasi, 1988). Augusto Blasi and Kimberly Glodis (1995), for example, argued that any defensible definition of identity must acknowledge the subjective awareness of self:

> [C]entral to the description of identity is a special experience of self characterized by the following: a direct focus on one's own person aimed at capturing what is basic about it; the realization of what is true, real, genuine about oneself, namely, the experience that certain aspects are indispensable to the sense of self, while others are marginal and superficial; finally, the subjective experience of unity produced by such a realization. (pp. 406–407)

Conceptions of the self become increasingly sophisticated over the course of development; the emergence and transformation of identity may be explained, in part, in terms of such changes (Garcia et al., 1997; Harter, 1998). Larry Nucci (1996), for example, proposed five levels in conceptions of personal issues that reflect increasingly sophisticated conceptions of the self that emerge over the course of childhood, adolescence, and early adulthood, with substantial individual differences in the rate and extent of development:

1. *Establishing concrete self-other distinctions.* The individual conceptualizes the personal domain as an observable body and an equally concrete realm of things and activities ....
2. *Establishing a behavior style* .... The individual extends the conception of the person to include the notion of personality, defined as a set of characteristic behaviors ....
3. *Establishing the self as an individual defined in terms of a unique set of ideas or values.* The individual begins to define the self in terms of internal cognitive processes ....
4. *Coordinating the self esteem.* The individual views control over events within the personal domain as essential to coordinating all aspects of the self into an internally consistent whole. Consciousness is understood as having depth. At the center of consciousness the individual [perceives] an immutable essence around which the self system is constructed ....
5. *Transforming the labile self.* Instead of viewing the self as an essence the individual comes to view the self as labile, as a constantly evolving product of one's personal decisions .... (p. 55)

An identity, however, is not simply a conception of oneself. Even young children have conceptions of themselves (Garcia et al., 1997; Harter, 1998; Nucci, 1996). At least in the Eriksonian sense of *ego identity*, an identity is an advanced sort of self-conception that would not normally be seen in childhood.

Identity as a Theory of Oneself

An identity, then, is a sophisticated conception of oneself. Taking this a step further, a number of theorists have proposed that an identity is a *theory* of oneself (Berzonsky, 1993; Garcia et al., 1997; Grotevant, 1987). Michael Berzonsky took this to mean that an identity is "a conceptual structure composed of postulates, assumptions, and constructs relevant to the self interacting in the world" (1993, p. 169).

Two characteristics of theories are particularly relevant here. First, theories are (at least ideally) coherent. To say one's identity is a theory of oneself is to say it is not just a collection of beliefs about oneself, but rather is organized to generate an integrated conception.

Second, theories are explanatory. To say one's identity is a theory of oneself is to say it is not just a description of oneself; rather it is an attempt to ex-

plain oneself. That is, an identity is a conception of the self that is structured in such a way as to enhance self-understanding. An identity is not just an attempt to *describe* one's typical behavior; an identity is an account of the core beliefs and purposes that one construes as *explaining* that behavior.

Identity as an Explicit Theory of Oneself

Psychologists have long recognized that even young children have highly structured knowledge, including structured knowledge about themselves. It has become increasingly common to highlight the structured nature of knowledge by referring to structures of knowledge as theories. For example, there is a huge domain of research related to what is commonly referred to as *4 year olds' theories of mind* (Flavell & Miller, 1998; Wellman & Gelman, 1998).

Review of this literature, however, suggests that, although 4 year olds use what psychologists call a theory of mind, the children themselves are not aware of their theories as theories. To say an individual's identity is, at least in part, explicit, is to say it is not simply an implicit theory of self that is inferred by a psychologist to explain behavior. Rather, it is a theory known to the individual.

This is not to deny that a person's identity is deeply interconnected with a variety of implicit assumptions, unconscious dispositions, and socially imposed roles. These assumptions, dispositions, and roles may even be considered part of the person's identity, in a broad, Eriksonian sense of that term. Unless there is an explicit theory of self at the core, however, such assumptions, dispositions, and roles do not constitute an identity.

Construing the Self as a Rational Agent

To say one's identity is an explicit theory of oneself *as a person* is to say it is a theory that construes the self as a *rational agent*. To see oneself as a rational agent, moreover, is to see oneself as *singular* and *continuous*. Elaborating on this, I consider the nature of agency, rationality, singularity, and continuity, and what it means to construe oneself as having such characteristics.

An *agent* is one who acts, who engages in action and thus has (or at least attempts to have) an impact on the world (Blasi, 1988; Blasi & Glodis, 1995; Côté & Levine, 2002). A *rational* agent has *reasons* for his or her actions (see chap. 2, especially Fig. 2.1). Rational agency thus entails autonomy and responsibility (Audi, 1997, 2001). In the words of the distinguished philosopher Isaiah Berlin (1969), to be a rational agent is

> to be a subject, not an object; to be moved by reasons, by conscious purposes, which are my own, not by causes which affect me, as it were, from outside. I wish to be somebody, not nobody; a doer—deciding, not being decided for, self-directed and not acted upon by external nature or by other men as if I were a thing, or an animal, or a slave incapable of playing a human role, that is, of conceiving goals and policies of my own and realizing them. This is at least part of what I mean when I say that I am rational, and that it is my reason that distinguishes me as a human being from the rest of the world. I wish, above all, to be conscious of myself as a thinking, willing, active being, bearing responsibility for my choices and able to explain them by references to my own ideas and purposes. (p. 131)

Ideas and purposes, and thus the content of identity, will of course vary from person to person and culture to culture. To say that an identity is an explicit theory of oneself as a rational agent, however, is to say that identity is necessarily built around a conception of oneself much like what Berlin described. To lack such a self-conception, in other words, is to lack an identity in the present sense of that term. Consciousness of one's rational agency, moreover, entails an orientation toward two additional characteristics that are much discussed in the literature of identity formation: singularity and continuity.

Singularity

Rational agents determine and are responsible for their actions. To have an identity is to conceptualize oneself as a rational agent—that is, as a self that determines and is responsible for its actions (Craig, 1997). If you attribute your actions to multiple autonomous agents, you do not have an identity. To have an identity is to see yourself as singular.

Are singular self-conceptions justified? Researchers and theorists interested in the self have long debated issues of unity and multiplicity (Ashmore & Jussim, 1997; Harré, 1998; Harter, 1998). Does the typical person show a sufficient degree of behavioral consistency across contexts to be construed as a unitary self? Alternatively, is behavior so variable across contexts that each of us is best construed as having or being multiple selves? Given evidence for both consistency and variability, there is no simple resolution to this issue.

No self is fully coherent. Identity formation is neither the discovery of a pre-existing unity nor the establishment of a fully coherent self. This does not mean, however, that coherence, consistency, and unity are irrelevant to identity formation. Identity, by definition, is something we can only have one of. Identity formation is an effort to identify or create a sufficient degree of consistency to justify construing the self as singular (Schachter, 2002).

The construction of identity does not begin or end with a fully unitary self, but it does take unity as a guiding ideal.

Continuity

Commitment to a singular or unitary self, moreover, includes a sense of continuity across time. As Blasi and Glodis (1995) observed, "[u]nity in one's self experience is reflected in the attempt to bring together different elements of one's personality and to find a principle, simple or complex as it might be, by which past and present events as well as future expectations are integrated into a coherent biography" (p. 417). To see myself as a rational agent includes taking responsibility for what I have done, and for what I will do. This entails commitment to a conception of myself that extends from the past through the present to the future (Chandler, Lalonde, Sokol, & Hallett, 2003; Craig, 1997; Erikson 1950/1963; 1968; Lalonde & Chandler, 2004). One's theory of oneself as a person assumes and encompasses a narrative of a continuous self that extends across time (Grotevant, 1993, 1998; Habermas & Bluck, 2000; Sarbin, 1997).

Identity, however, is not simply any old story we choose to tell about our lives. To qualify as an identity, a story of self must have some degree of theoretical coherence and must provide a sense of oneself as a person. At the very least, it must be a story that one believes in and to which one is committed. Many such stories may be possible. But not just any story will do (Schachter, 2002).

Personhood and Identity

Four characteristics of personhood have been suggested—agency, rationality, singularity, and continuity. At the very least, persons are rational agents extending across time, acting in diverse contexts on the basis of their own reasons, and responsible for their actions. There may be other features necessary to any conception of personhood, and additional features deemed necessary to personhood in certain social or cultural contexts. Whatever constitutes personhood, however, to have an identity is not just to have an explicit theory of oneself, but to have an explicit theory whereby one construes oneself as a person.

GENDER, CULTURE, AND IDENTITY

Many factors are known to influence identity. Gender and culture are two such factors that have been the basis for fundamental critiques. As

Patterson, Sochting, and Marcia (1992) noted, "researchers have questioned the appropriateness of applying the identity construct to women, and whether the construct of identity itself is biased toward the Western, masculine ideal of individualism over relatedness" (p. 14).

Most researchers and theorists are skeptical of the view that identities are constructed only by some categories of individual (e.g., men) or only within certain cultures (e.g., Western culture). It is clear that identities are constructed by women and men in varied cultures. One might nevertheless wonder whether the nature of identity or the processes of identity formation differ for women and men or for members of different cultures. I consider gender first and then culture, keeping in mind that the effects of gender vary across culture, and the influences of culture are often mediated by gender (Cross & Madson, 1997; Rotheram-Borus & Wyche, 1994).

Gender Differences

A number of identity theorists have proposed that women's identities are qualitatively different from those of men. Erikson (1968) suggested that intimacy, which for men is the developmental stage following identity, is a central aspect of identity for women and thus critical to female identity formation. Carol Gilligan (1982) criticized Erikson for identifying the male developmental sequence as the basic stages of human development but agreed with his conception that interconnections with others are typically fundamental to women's identities but not to men's. For women, Gilligan argued, "identity is defined in a context of relationship and judged by a standard of responsibility and care" (p. 160).

In a review of research on models of the self, Susan Cross and Laura Madson (1997) placed more emphasis than Erikson on cultural (as opposed to biological) bases for gender differences, and were more cautious than Gilligan to note that gender differences may be specific to particular cultural contexts, rather than reflecting differences in the essential natures of women and men. Nevertheless, Cross and Madson concluded that, at least among North Americans toward the end of the 20th century, "social factors ... channel the creation and maintenance of divergent self-construals by men and women" (p. 8). Women, they suggested, typically construct *interdependent self-construals*, reflecting self-representations that highlight relatedness to others, whereas men typically construct *independent self-construals*, based on more autonomous self-representations.

Cross and Madson (1997) did acknowledge individual differences among women and among men, but in my view underplayed the extent and impor-

tance of these. Although they reviewed substantial evidence showing statistically significant differences between the genders, these differences are not substantial enough, compared to the variability within each gender, to justify the categorical conclusions reached, or the equally strong claims made by gender-difference theorists such as Erikson and Gilligan. On the contrary, the literature on identity formation indicates that mean gender differences, where they exist at all, are generally minimal when compared to the enormous variability within each gender. In other words, gender accounts for surprisingly little of the variability among adolescents in matters of identity formation.

This is not to say gender is irrelevant. There is indeed evidence for gender differences with respect to particular commitments in particular domains, and with respect to the interrelations among these commitments (Marcia et al., 1993). We must be careful not to overinterpret such differences, however. Research does not support categorical—Venus and Mars—claims that women and men form fundamentally different types of identities, or that identity formation follows qualitatively different routes for males and females (Côté, 1996; Côté & Levine, 2002; Harter, 1998; Kalakoski & Nurmi, 1998). Rather, the prevailing view is probably close to this conclusion from Sally Archer (1994):

> Males and females use the processes of exploration and commitment comparably. The timing of their identity activity is comparable. They address the identity task similarly in numerous domains of life [including] career, religion, gender role, marriage, and parenting .... [F]emales have been found to have engaged in more sophisticated identity activity [in] the areas of sexuality, friendship, and [marriage/career] prioritizing, whereas males have been more likely to become committed to political ideology than have females. (p. 4)

Culture

Evidence for cultural differences in matters of self and identity has led to strong claims that people in different cultures have qualitatively different sorts of self-conceptions. The standard distinction, which parallels the gender difference claims just discussed, is between (a) Western conceptions of the self as individual and independent and (b) alternative conceptions of the self as relational and interdependent (Shweder et al., 1998). Hazel Markus and Shinobu Kitayama (1991), for example, put the matter thus:

> People in different cultures have strikingly different construals of the self, of others, and of the interdependence of the [two]. These construals can influence, and in many

> cases determine, the very nature of individual experience, including cognition, emotion, and motivation. Many Asian cultures have distinct conceptions of individuality that insist on the fundamental relatedness of individuals to each other. The emphasis is on attending to others, fitting in, and harmonious interdependence with them. American culture neither assumes nor values such an overt connectedness among individuals. In contrast, individuals seek to maintain their independence from others by attending to the self and by discovering and expressing their unique inner attributes. As proposed herein, these construals are even more powerful than previously imagined. (p. 224)

Evidence from diverse cultures, however, suggests that categorical views of this sort are overly simplistic (Oyserman, Coon, & Kemmelmeier, 2002; Turiel, 1998, 2002). Without denying the reality and importance of cultural diversity, many psychologists and anthropologists have concluded that (a) human cultures do not fall neatly into two categories, (b) the influences of culture are subtle and complex, and (c) people within any given culture show much more variability than cultural determinist views lead one to expect. Anthropologist Melford Spiro (1993), for example, argued that

> a typology of self and/or its cultural conception which consists of only two types, a Western and non-Western, even if conceived as ideal types, is much too restrictive. Surely, some non-Western selves, at least, are as different from one another as each, in turn, is different from any Western self. In short, ... there is much more differentiation, individuation, and autonomy in the putative non-Western self, and much more dependence and interdependence in the putative Western self, than these binary opposite types allow. (p. 117)

Similarly stressing intracultural heterogeneity and individual differences, Elliot Turiel (1996) proposed

> that cultures are not adequately characterized as cohesive or homogeneous, but rather as dynamic and multifaceted, in many instances entailing struggles and disputes among people furthering different values. Varying interests and goals among members of a culture, especially when they hold different roles and status in the social hierarchy, can produce conflict and tensions to go along with sources of cooperation and harmony. Whereas cultures are often portrayed through analyses of social institutions and public ideology as reflecting a cohesive social orientation, ... analyses of individuals' moral, social, and personal concepts ... show that within cultures there is heterogeneity in social orientations and diversity in people's judgments and actions. (pp. 75–76)

Diversity within cultures, it should be emphasized, exists not just *across* individuals but *within* individuals. Explicit conceptions of oneself as individual and interdependent routinely coexist within individual minds. Identity formation is neither the cultural imposition of individualism or interdepen-

dence nor a choice between these. Rather it is a coordination of both (Killen & Wainryb, 2000; Schachter, 2002; Shimizu, 2000).

Cultures differ in the opportunities for choice and commitment they provide with respect to various potential domains of identity, and in their general level of support for the construction of identities (Côté, 1996; Rotheram-Borus & Wyche, 1994). An adequate theory of the construction of identity must consider "the multitude of ways in which women and men struggle to come to terms with their membership in societies and with their own sense of who they are in the midst of a vast but structured field of signs, symbols, and voices from the culture(s) in which they live" (Penuel & Wertsch, 1995, p. 90). There is little or no evidence, however, to support stronger claims of cultural differences in the basic processes of identity formation or in the fundamental nature of the resulting identities.

In summary, research does not support suggestions of categorical differences in identity formation between women and men or among some finite number of cultures. Rather, it appears that the reflective construction of identity proceeds in multifaceted cultural contexts, with complex patterns of individual and cultural differences in the domains explored, possibilities considered, beliefs constructed, and commitments made.

DOMAINS OF IDENTITY

Four standard domains of identity formation have been stressed in the Erikson/Marcia tradition: career, sexuality, religion, and political ideology. Although research shows that these are all important domains, there is no reason to think they are the only domains in which adolescents explore possibilities, make commitments, and construct theories of themselves. Additional domains that have been proposed and investigated in recent years include gender role, ethnicity, values, morality, marriage, parenting, and friendship (Kroger, 1993; Marcia et al., 1993; Schwartz, 2001).

It is important to keep in mind, moreover, that individuals vary in the domains they explore and in the relative importance of these various domains to their conceptions of who they are. In fact, in addition to constructing specific commitments, adolescents construct the identity domains within which they make those commitments. One has an identity to the extent that one has an explicit theory of oneself that addresses those aspects of the self that one sees as central to personhood. To have an identity, then, is not necessarily to have commitments in every domain that psychologists have iden-

tified as potentially relevant to identity. Rather, to have an identity is to have commitments in those domains you yourself see as central to personhood, and to have an overriding theory of self that coordinates these commitments (Blasi & Glodis, 1995). We now turn to the developmental question of how identities, thus defined, are constructed.

9

The Construction of Identity

> Between what a man calls *me*
> and what he simply calls *mine*
> the line is difficult to draw.
>
> —*William James* (1890/1950, Vol. 1, p. 291)

How does identity develop? What developmental processes account for the emergence of an explicit theory of oneself as a person? In this chapter I consider the process of identity formation first at a general level and then, more specifically, with regard to two illustrative domains—ethnic identity and sexual identity.

DEVELOPMENTAL PROCESS

At a time when Marcia's approach still dominated the study of identity formation, Harold Grotevant (1987) complained that "[m]ost of the identity status research ... has focused on the correlates of the identity statuses rather than on the processes [of development]" (p. 204). That is, in their zeal to demonstrate how individuals in each of the four identity statuses differ from each other, researchers had largely overlooked the fundamental question of how one achieves an identity. As the basis for a stronger focus on developmental processes, Grotevant noted that "the identity status work has pointed to the importance of two key processes involved in identity formation: *exploration* of alternatives and *commitment* to choices" (p. 204).

Taking this as a starting point, Grotevant (1987) devised what he called a *process model of identity formation*. Exploration, he proposed, is a process of

gathering information and testing hypotheses about oneself, one's roles, and one's relationships. Consideration of multiple possibilities and consequences ideally leads to choices that represent self-conscious long-term commitments.

Grotevant discussed in detail a variety of individual and contextual factors that affect identity formation. The extent and success of identity formation depends, he argued, on (a) personality factors such as flexibility, self-esteem, tendency to monitor one's behavior, and openness to experience; (b) cognitive competence to consider possibilities, draw appropriate inferences, and coordinate multiple perspectives; (c) characteristics of one's social context such as cultural support for making personal choices, family communication patterns, peer reactions, educational and career opportunities, and exposure to multiple options and viewpoints; and (d) the individual's general orientation, at a given point in his or her life, to engage in or avoid identity exploration and commitment.

Oddly, although Grotevant's model succeeds in focusing attention on the process of identity formation, it has much more to say about factors affecting that process than about the dynamics of the process itself. Michael Berzonsky (1993) provided a model that extends Grotevant's process orientation to highlight the internal dynamics of constructing an identity. Extending the conception of identity as a theory of self, Berzonsky suggested that we view the individual as a *self-theorist*, engaged in a process of theorizing about the self. Taking a constructivist view of theorizing, he argued that theorizing is not simply a matter of gathering and summarizing data and testing predictions. Rather, theorizing involves an active process of interpreting one's experiences and generating new ones.

Berzonsky (1993) distinguished three types of self-theorists marked by different styles of theorizing: *scientific self-theorists*, *dogmatic self-theorists*, and *ad hoc self-theorists*. Scientific self-theorists

> tend to be self-reflective, skeptical about self-constructions, and open to self-relevant information .... Such information-oriented individuals deal with personal decisions and identity concerns by deliberately seeking out, processing, and evaluating self-relevant information. (p. 173)

Dogmatic self-theorists, in contrast, conform to "the values and expectations of significant others (including parents)." This includes

> self-serving efforts ... to defend against potential threats to their self-constructions. Individuals who utilize this protectionist approach to self-theorizing have been found to endorse authoritarian views, to possess rigid self-construct systems, and to be closed to novel information relevant to hard core values and beliefs. (p. 174)

Finally, ad hoc self-theorists

> react continually to situational demands. A poorly organized, fragmented self-theory leads them to procrastinate and avoid dealing with personal conflicts and decisions. If one waits long enough, situational demands and consequences will eventually determine behavioral reactions .... [S]ituation-specific accommodations are likely to be short-term, ephemeral acts of behavioral or verbal compliance, rather than long-term, stable revisions in the identity structure. (p. 174)

Based on Marcia's characterization of his four identity statuses, one might expect that scientific self-theorists would be most likely to be in moratorium or to have an achieved identity, that dogmatic self-theorists would tend to have foreclosed identities, and that ad hoc self-theorists would tend to have diffused identities. Berzonsky summarized research demonstrating precisely these relationships. It appears, then, that Berzonsky's theory is largely continuous with the earlier work of Marcia, but with a shift of focus, as urged by Grotevant, from the characteristics of various identity statuses to the nature of the processes involved in the construction of identity.

Recent theory and research on identity formation extend the constructivist approach seen in the work of Grotevant and Berzonsky (Berman, Schwartz, Kurtines, & Berman, 2001; Habermas & Bluck, 2000; LaVoie, 1994; Schwartz, 2002). As we have seen, however, constructivism is a metatheoretical orientation that can give rise to a variety of specific theories (see chap. 11 for further discussion). With respect to identity, some theorists have highlighted the creative nature of constructive processes, whereas others have tried to devise rigorous psychological models of such processes. Sarbin (1997), for example, emphasized the creative construction of narratives about our lives. The various stories we encounter in novels, plays, movies, and other art forms, he suggested, provide the plot structures for our own self-narratives. Kerpelman, Pittman, and Lamke (1997), in contrast, presented a cybernetic "control theory," involving ongoing comparison of immediate self-perceptions with the self-definitions that comprise identity. Incongruities are typically resolved via behavioral changes, but if such changes are repeatedly inadequate the individual may restore equilibrium by engaging in fundamental transformations of the identity itself (see also Kunnen, Bosma, & van Geert, 2001).

DISCOVERY OR CREATION

Perhaps the major critique of the constructivist view of identity formation comes from those who see identity formation as a process of discovery. Alan Waterman (1992), for example, proposed that

> a person's search for identity is an effort to identify those potentials that correspond to the "true self." The metaphor for identity development used here is one of discovery ... rather than one of construction .... According to the discovery metaphor, for each person there are potentials, already present though unrecognized, that need to become manifest and acted upon if the person is to live a fulfilled life. For many people, the task of recognizing and acting upon these potentials is not an easy one, as evidenced by the stresses associated with an identity crisis. Feelings of eudaimonia or personal expressiveness can serve as a basis for assessing whether identity elements are well-chosen. The presence of such feelings can be used as a sign that identity choices are consistent with an individual's potentials and thus can provide a basis for self-fulfillment. (p. 59)

In a similar vein, Blasi and Glodis (1995) proposed that identity formation consists of "the 'discovery' that one is, inevitably and necessarily, a certain kind of person" (p. 412). It is noteworthy, however, that Waterman, in the first sentence of the quoted passage, put scare quotes around the term *true self* and that Blasi and Glodis did the same with respect to the term *discovery*. It seems clear that we do not discover our true selves in the same straightforward way that a child might find a ball that has been hidden under a couch.

Theodore Sarbin (1997), in fact, doubted that we discover true selves in any sense at all. Explaining how he came to his title *The Poetics of Identity*, he wrote:

> My first pass at a title was 'The Narrative Construction of Identity.' While this title conveys my general meaning, the use of 'construction' carries a nuance reminding us of the precise manipulation of materials by architects and carpenters. A more apt metaphor is 'poetics,' a word that calls up images of a person creating, shaping and molding multidimensioned *stories*. (p. 67)

Thus, for Sarbin, identity is created, not discovered.

James Marcia saw identity formation as involving both discovery *and* creation, although acknowledging the difficulties this poses for both the individual and the theorist. In a discussion published as part of Berzonsky (1993), Marcia said:

> [I]t seems to me that there are some elements that have the characteristic of feeling as if they emerge. There are some grooves in which you find yourself moving that feel as if this is the right place to be, and when you begin to deviate from those situations, it feels as if you are out of sync with something. Now that something, whether or not it is totally constructed or whether there is some part that is given, has a quality for me of just being given. Then there is the additional task of somehow constructing an identity, accounting for that rut- or pathlike quality of one's life. So for me, I have got a kind of a mixed model that relies heavily on construction but with allowance for things that seem also to thrust themselves on my experience that I cannot account for by construction. (p. 189)

Without denying genuine and interesting differences among identity theorists, it seems to me that part of the problem in this debate is ambiguity concerning what it means to take a constructivist view. As discussed in the Introduction, constructivism is best understood with respect to how it differs from the more traditional *nativist* and *empiricist* perspectives. A nativist view of identity formation would suggest that our identities are innate. Even if they are not present at conception, they emerge, regardless of later experience, in a manner determined by our genetic programming. An empiricist, in contrast, would suggest that our identities are imposed on us by our environments, shaped by our specific experiences in various cultural contexts.

Contemporary identity theorists agree that neither of these alternatives is adequate. At the very least, identity emerges out of a complex interaction of hereditary and environmental factors. A constructivist would go beyond this, however, to insist that individuals play an active role in generating their own identities through their actions, interpretations, reflections, and coordinations (Lerner, Freund, De Stefanis, & Habermas, 2001). A radical constructivist, taking this position to its extreme, might deny the possibility of any sort of real self, and thus see the creation of an identity as an unconstrained act of free will.

Within the field of developmental psychology, however, most constructivists take a position I term *rational constructivism* (see chap. 6). Rational constructivists assume that there exist realities outside our constructed cognitions. Thus, although such realities do not determine our cognitions, some constructions are indeed more justifiable than others. As Berzonsky (1993) put it,

> we ... live and act within an objective reality that exists independent from our construction of it, even though we have no way of directly understanding it .... Objective reality does constrain the utility and viability of the constructs or theories we generate: We cannot simply make up and continue to use any "story." (p. 170)

With respect to selves and identities, then, I suggest that there is a reality within us that bears a complex relation to the reality outside us. Our efforts to construct an identity are constrained not only by external social factors but by a need to be true to ourselves (Schwartz, 2002). But we can never know ourselves in a direct, simple, and final sense, any more than we can know the reality outside us. We have no choice but to *construct* our understanding of who we are. To the extent that we focus on the identification of alternatives, and on autonomous interpretations and commitments, such construction looks and feels like a process of creation. To the extent that we

focus on the necessary relation of identity to a pre-existing though dimly perceived self, such construction looks and feels like a process of discovery. The actual construction of identity may sometimes partake more of creation, and sometimes more of discovery, but in general it involves elements of both. Identity, then, is a construction, but it is a construction constrained by realities without and realities within (Schachter, 2002).

Having proposed the existence of a real self that constrains, without determining, the construction of identity, I hasten to add that the real self should not be viewed as an intrinsic, unalterable part of the person; the self itself is subject to change. The construction of identity may involve processes of reflection and coordination that increase the level of agency, rationality, unity, and continuity manifested in one's behavior. Somewhere at the border of metacognition and metaphysics lies the possibility that the reflections and coordinations involved in constructing and reconstructing my identity may change not only who I think I am but who I *really* am.

ETHNIC IDENTITY

Thus far, I have addressed the process of identity formation at a general level. We now turn to the construction of identity with regard to two illustrative domains: ethnicity and sexuality.

Within the United States, a distinction is commonly made between members of the "White" majority and members of various "racial" and "ethnic" minority groups, who in the late-20th and early-21st centuries have typically been classified into four broad categories: African American, Asian American, Hispanic American, and Native American (Indian). Categories of this sort are social and political rather than biological. That is, although there is substantial genetic diversity among members of the human species, there is no empirical justification for the widespread notion that human beings fit naturally into some finite number of races or other such biological categories (Birman, 1994; Fisher, Jackson, & Villarruel, 1998; Garcia et al., 1997; Graves, 2001; Helms, 1994). Even at the social level, ethnic categories and labels are highly imprecise and often misleading, masking the fact that on most psychological measures there is far more variability within groups than among them (Fisher et al., 1998; Phinney, 1996). Nevertheless, Americans perceive each other as members of various racial and ethnic groups, and these perceptions, justified or not, have real psychological consequences.

The major theorist and researcher in the area of ethnic identity formation is Jean Phinney, who, along with a variety of associates, has been investigat-

ing the construction of ethnic identity for many years. Although Phinney (1996; Phinney & Rosenthal, 1992) acknowledged that White majority adolescents may see themselves as White or as members of various specific ethnic groups (e.g., Italian American), she argued that such identifications usually play little role in identity formation. For minority adolescents, in contrast, the situation is quite different:

> For adolescents from ethnic minority groups, the process of identity formation has an added dimension due to their exposure to alternative sources of identification, their own ethnic group and the mainstream or dominant culture. Growing up in a society where the mainstream culture may differ significantly in values and beliefs from their culture of origin, these youth face the task of achieving a satisfactory and satisfying integration of ethnic identity into a self-identity. The ease, or difficulty, with which this task is accomplished depends on a number of factors .... In particular, minority adolescents may have to confront issues of prejudice and discrimination, structural barriers which limit their aspirations and hinder their achievements, and other features of the mainstream society that differentiate them from the majority. If minority youth are to construct a strong, positive, and stable self-identity, then they must be able to incorporate into that sense of self a positively valued ethnic identity. (Phinney & Rosenthal, 1992, p. 145)

Phinney (1996) defined *ethnic identity* as "an enduring, fundamental aspect of the self that includes a sense of membership in an ethnic group and the attitudes and feelings associated with that membership" (p. 922). This is much more than the sort of label a child might learn (e.g., "I am Black" or "I am a Vietnamese American"). Rather, ethnic identity is constructed in adolescence or beyond as part, and often a core part, of the more general process of identity formation:

> Individuals progress from an early stage in which one's ethnicity is taken for granted, on the basis of attitudes and opinions of others or of society; through a period of exploration into the meaning and implications of one's group membership; to an achieved ethnic identity that reflects a secure, confident sense of oneself as a member of a group. Furthermore, an achieved ethnic identity is not necessarily a static end point of development; individuals are likely to reexamine their ethnicity throughout their lives .... (p. 923)

Research within this developmental framework has indicated that ethnic identity increases with age (Lysne & Levy, 1997; Phinney, Ferguson, & Tate, 1997). Higher levels of ethnic identity are associated with more positive attitudes toward one's own group, which in turn are associated with more positive attitudes toward members of other ethnic groups (Phinney et al., 1997). It also appears that ethnic identity achievement is associated with higher levels of self-esteem (Phinney & Alipuria, 1996; Phinney, Cantu, & Kurtz, 1997).

Central to the challenge of forming a minority ethnic identity, as noted, is coordinating one's relation to a specific ethnic group with one's relation to the mainstream culture (Birman, 1994; Phinney & Rosenthal, 1992). A variety of resolutions are possible. In a study of African-American and Mexican-American adolescents, for example, Phinney and Devich-Navarro (1997) concluded that most of the adolescents had bicultural identities but that these identities took a variety of different forms.

For multiethnic adolescents, whose parents represent different ethnic groups, the coordination process is potentially even more complex. Although this may create difficulties for some adolescents at some points in their development, multiethnic background does not seem to be associated with marginalization or lower self-esteem (Phinney & Alipuria, 1996). In fact, the flexibility and cognitive challenge of having more alternatives for identity commitment may, in the long run, enhance one's development.

Ethnic identity formation is also very much influenced, in many cases, by discrimination against one's group and the associated sense of oppression (Fisher et al., 1998). Erikson (1968) lamented "the sad truth that in any system based on suppression, exclusion, and exploitation, the suppressed, excluded, and exploited unconsciously accept the evil image they are made to represent by those who are dominant" (p. 59).

Even if such internalization of a negative self-image is less inevitable than Erikson thought, the experience of oppression may take its toll in other ways. Members of oppressed minority groups may, for example, form an "oppositional identity" that substantially hinders academic performance in schools perceived as White (Ogbu, 1993). Responses to social oppression, moreover, must consider the identity issues of the oppressors. As Erikson (1968) noted, "where dominant identities depend on being dominant it is hard to grant real equality to the dominated" (p. 264).

Many of the complex issues of ethnic identity formation are addressed in a personal account by Sharri Clark (1997). Clark wrote that her "heritage includes, in order of purported degree: Irish, Cherokee, Choctaw, Scottish, French, and German ancestry (p. 36)." Although her primary ancestry is Irish and she is, by her calculation, more White than Native American, this does not determine her identity. Having heard since early childhood the story of the "Trail of Tears," the deadly expulsion and relocation of the Cherokee from their homeland in 1838, she has constructed an identity that provides her with a sense of continuity, not only with her own past, but with the history of those she takes to be her people. In her own words:

> Who is Native American? Am I? Who has the authority to define the category "Native American?" Do I identify with the majority or the minority, with both or with neither? One fact is indisputable—I am a Native American descendant. I am a descendant of survivors of a bitter forced migration that has become so integral to the identity of Oklahoma Cherokees and others that I cannot remember a time when I did not know about the Trail of Tears. (p. 37)

Earlier I raised the general question of whether identities are discovered or created. I concluded that this simplistic dichotomy is misleading: Identity formation is neither the discovery of a true self nor the free creation of whatever sense of self one chooses to have. Rather, identity is constructed: It is a creation constrained, but not determined, by a complex interaction of inner and outer realities. The construction of ethnic identity illustrates this point.

SEXUAL IDENTITY

Sexuality is a domain in which scientific understanding has been especially hindered by unjustified and misleading assumptions that reflect a discovery versus creation dichotomy. Part of the reason for this is political. Both supporters and opponents of gay rights often assume that the case for gay rights depends on sexual orientation being an innate and unchangeable characteristic. Specifically, it is assumed that if sexual orientation is genetically determined, there is a strong case for laws forbidding discrimination on the basis of this characteristic, whereas if sexual orientation is a free choice to engage in certain behaviors, the case for gay rights is undermined. Given this widely shared assumption, some supporters of gay rights accept flimsy evidence as a basis for strong claims that sexual orientation is genetically determined, whereas opponents of gay rights often maintain, without evidence, that people simply choose to engage in homosexual behavior and could choose to be heterosexual instead. In effect, many supporters of gay rights view *sexual identity formation* as the discovery of one's innate sexual orientation; many opponents of gay rights view sexual identity formation as a creation, a series of choices that society should channel in socially, morally, and religiously acceptable directions.

The association of gay rights with genetic determinism, however, is dubious. Although it is indeed true that we often forbid discrimination on the basis of innate characteristics such as skin color, it is not true that genetic determination of a characteristic is central to the case against discrimination. For example, no one believes that political or religious commitments are genetically determined, but almost everyone agrees that it is wrong to discriminate against people on the basis of their personal beliefs, religious

practices, or political activities. Similarly, racial discrimination remains fully objectionable even if race is a set of sociopolitical categories rather than a biological reality. Thus, scientific conclusions about the development of sexual orientation and identity do not mandate particular positions on issues of gay rights.

Turning, then, to the scientific issues, what can be said about the development of sexual identity? Sexual identity, it appears, is constrained, but not determined, by sexual orientation. It will be useful to begin with the development of sexual orientation and then turn to the construction of sexual identity.

Research in many domains of development has convinced most psychologists that complex psychological characteristics are virtually always the result of complex interactions of hereditary influences; environmental (including cultural) influences; and the individual's actions, interpretations, and constructions. Nativists stress the role of genes, empiricists stress the role of environment, and constructivists stress the role of the individual, but most developmentalists agree that all three considerations are important.

There is no reason to think that the development of sexual orientation is an exception to this general rule. There is evidence that hereditary variations influence sexual orientation but no evidence that any gene or set of genes causes a person to be heterosexual or homosexual (Bailey, 1995; Hershberger, 2001). Similarly, it is likely that environmental factors influence sexual orientation but there is no evidence that particular events or experiences cause people to become homosexual or heterosexual. Finally, it appears that behaviors and interpretations over the course of childhood play a role in the emergence of later sexuality but it is clear that people do not simply choose their sexual orientations.

Daryl Bem (1996, 2001) provided a developmental theory of sexual orientation consistent with this general perspective. He proposed that

> biological variables, such as genes, prenatal hormones, and brain neuroanatomy, do not code for sexual orientation per se but for childhood temperaments that influence a child's preferences for sex-typical or sex-atypical activities and peers. These preferences lead children to feel different from opposite- or same-sex peers—to perceive them as dissimilar, unfamiliar, and exotic. This, in turn, produces heightened nonspecific autonomic arousal that subsequently gets eroticized to that same class of dissimilar peers: Exotic becomes erotic. (1996, p. 320)

Bem added that the extent to which sexual orientation is organized around gender may depend on the extent to which the culture in which the child develops is organized around gender. Critics of Bem's theory have

noted a variety of other theoretical possibilities and empirical uncertainties (Peplau, Garnets, Spalding, Conley, & Veniegas, 1998; for a reply, see Bem, 1998). Whatever the fate of Bem's specific theory, however, it seems likely at a general level that children in various cultures move into adolescence with varied and complex patterns of sexual dispositions and desires that result from the interactions of genetic, environmental, and cognitive influences over the course of childhood (Carver, Egan, & Perry, 2004).

Sexual orientation does not determine sexual identity, however. Rather, the construction of sexual identity in adolescence and beyond is influenced not only by sexual orientation, the inner reality of one's sexual dispositions and desires, but also by the categories of sexuality fostered by one's culture and cultural attitudes toward these various categories (Floyd & Stein, 2002). Cultural categories and attitudes, moreover, change over time, and vary widely across cultures (Bem, 1996; Herdt, 2001; Jagose, 1996).

In the mid-20th century United States, for example, there was a widely accepted cultural distinction between heterosexuals, who were construed as normal, and homosexuals, who were construed as pathological. Homosexuality was deemed at best a mental illness and at worst a sin; homosexual behavior was illegal in every state. Although this state of affairs did not by itself determine sexual identities, it restricted the potential self-conceptions of anyone whose sexual orientation did not fit the category of *normal heterosexuality*.

In the 1960s and 1970s, however, the term *gay* became increasingly accepted for those who would earlier have been classified as homosexual. This was not merely a change of label. Although the term *homosexual* continued to be used in a neutral sense, the term *gay* reflected a more positive evaluation of homosexuality and thus made it easier for many people to define themselves positively. To be sure, simply calling oneself gay does not generate a positive sexual identity. The existence of a *gay* category, however, enhances the prospects for many individuals to construct positive theories of themselves as sexual persons, and thus to construct positive identities that encompass their sexual orientations.

A simple distinction between heterosexuals and gays, however, is inadequate to encompass human sexual diversity. Gay women, for example, often label themselves *lesbians* to highlight that they are a distinct group (Diamond, 2000; Jagose, 1996; McConnell, 1994; Schneider, 2001). This yields three potential categories of sexual identity: heterosexual, lesbian, and gay male. But some individuals are attracted to both opposite-sex and same-sex individuals, leading to a four-fold set of categories common in the 1980s:

heterosexual, lesbian, gay male, and bisexual (Fox, 1995; Herdt, 2001). There are, moreover, transsexuals, transvestites, and others who can not be assimilated to these categories; they have often been grouped since the 1990s into a fifth category termed *transgender*. Such categories do not determine sexual identity but create a richer set of options for individuals trying to construct a conception of themselves that is true to their own pattern of sexual dispositions and desires.

The use of five categories rather than some smaller number, however, does not resolve the problems of categorization. Heterosexuals, for example, are highly diverse in their sexual inclinations and desires. At the very least, we could distinguish male from female heterosexuals; further distinctions within the heterosexual category could surely be justified. Bisexuals, to take another example, are attracted to both women and men, but this does not mean that bisexuals are attracted to everyone—Woody Allen was joking when he said being bisexual doubles one's chances of getting a date. Bisexual orientations may be organized on the basis of characteristics other than gender. There may, in fact, be a variety of little-understood dimensions of sexual orientation that cut across, and thus undermine, the standard gender-based categories (Jagose, 1996). The transgender category gets at some of this complexity but transgenderism itself is an umbrella for a variety of potential sexual categories.

Human beings, then, do not come in some finite number of sexual categories, and they do not choose from some universal set of such categories. The construction of a sexual identity is neither the discovery of one's true sexual self nor the free creation of an ideal sexual self. Rather it is a creative act constrained, but not determined, by the complex interrelations of one's sexual dispositions and desires and the categories and dimensions of sexuality highlighted by one's culture.

For sexual minorities, as for ethnic minorities, the construction of identity is further complicated by social disapproval, discrimination, and oppression (Rivers & D'Augelli, 2001; Savin-Williams, 1995, 1998). To extend Erikson's (1968) observation about the internalization of a negative image, sexual minorities may "accept the evil image they are made to represent by those who are dominant." (p. 59) This problem is likely exacerbated by the fact that children often internalize negative images of homosexuals before they have any inkling of their own sexuality. As Anthony D'Augelli (1994) put it, "[i]n contrast to other groups, lesbians, gay men, and bisexual people have grown up absorbing a destructive mythology before they appreciate that it is meant for them" (p. 315).

Most individuals succeed in constructing positive adult identities. But to do this they must survive adolescence, a period when suicide is common, especially among sexual minorities (Hershberger, Pilkington, & D'Augelli, 1997). Depending on cultural reactions to their sexual dispositions and desires, some adolescents find the construction of sexual identity more difficult than others, and some find themselves in circumstances where it appears to be impossible.

CONCLUSION

We have come a long way since Erik Erikson's theoretical proposal that identity formation is central to adolescent development (see chap. 7), not to mention since Piaget's conclusion that adolescents reason at a qualitatively higher level than children (see chap. 1). The work of James Marcia has been central in generating empirical research on the nature and development of identity. In many ways, however, the field is now moving beyond Marcia's four identity statuses. As we have seen, there is increasing emphasis on developmental processes. Contrary to traditional and current stereotypes, there are strong indications that the basic processes and outcomes of identity formation are common to women and men in diverse cultural contexts. There is also increasing research on the specifics of identity formation in an increasing number of domains.

Identity formation can not be fully understood, however, without considering its interrelations with rationality and morality, and the development of rationality and morality in adolescence and beyond can not be fully understood without reference to each other and to identity formation. At the intersection of rationality, morality, and identity lies advanced psychological development—the developmental transformations of adolescence and beyond.

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IV

Advanced Psychological Development

In the study of psychological development it is useful to distinguish advanced development from basic development. *Basic development* is child development—the universal and predictable progress of the first 10 to 12 years of life. *Advanced development* refers to the developmental changes of adolescence and beyond—changes that are neither universal nor tied to age. Despite the subtle nature of advanced development, we have seen evidence for developmental changes in adolescence and early adulthood in rationality (chaps. 1–3), morality (chaps. 4–6), and identity (chaps. 7–9). We now consider, in a more general sense, the nature and process of advanced psychological development (chaps. 10–11) and its promotion in secondary education (chap. 12).

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10

Rational Moral Identity

> [E]verywhere there is a need for calm and thorough reflection on the best way to tame the wild beast of identity.
>
> —*Amin Maalouf* (2001, p. 157)

To speak of development, we must specify what constitutes progress (Sen, 1999). In the realm of advanced psychological development, a conception of rational moral identity is useful for this purpose. Rational moral identity, however, is not a state of maturity achieved by some or all persons. Rather it is a developmental ideal that enables us to identify psychological progress, and thus development, at advanced levels.

Rational moral identity is not just the sum of rationality, morality, and identity. In the first three sections of this chapter, I discuss moral rationality, rational identity, and moral identity. Having partially integrated rationality, morality, and identity, two at a time, I then turn to rational moral identity.

MORAL RATIONALITY

Rationality is central to Kohlberg's theory of moral development (Arnold, 2000) and arguably central to any developmental conception of morality (Moshman, 1995b). If morality is nothing more than conformity to the norms of your social group, then moral change is simply the learning of those norms, whatever they happen to be. It is the rational aspect of morality, if there is one, that has the potential to develop (see chap. 4).

Perspective taking has often been highlighted as a particularly important link between rationality and morality. To be rational is to transcend your own perspective, and to be moral is, in large part, the same thing. Thus, the development of perspective taking connects cognitive and moral development (Gibbs, 2003).

Moral rationality includes not just rational judgments about what actions are right or wrong but *meta-ethical cognition* concerning the basis for and justification of moral judgments. A judgment about what Heinz should do in response to his dilemma may be considered rational to the extent that it is supported by reasons, but the reasons are moral reasons directly related to the judgment. In contrast, meta-ethical cognition addresses epistemological questions in the domain of morality. In thus connecting the moral domain to the domain of epistemology, research on the development of meta-ethical cognition addresses the development of *moral epistemologies*.

Tobias Krettenauer (in press-a) provided the most systematic research on the development of meta-ethical cognition in adolescence. First, on the basis of the existing literature and a series of pilot studies, he identified three moral epistemologies: (1) intuitionism, (2) subjectivism, and (3) transsubjectivism. These correspond to the more general epistemologies identified in research and theory on the development of epistemic cognition (see chap. 2). *Intuitionism*, corresponding to the more general stance of objectivism, holds that moral rightness or wrongness can be determined by moral intuitions, which serve a role parallel to direct perception in the determination of truth. *Subjectivism* holds that moral judgments are neither right nor wrong but simply a matter of opinion, a position that may be part of a more general subjectivist epistemology that questions the meaning and possibility of truth. Finally, *transsubjectivism* holds moral judgments to be justifiable but fallible, a position that may be associated with a more general rationalist stance regarding judgments of truth and falsity.

Krettenauer (in press-a) used a semistructured interview procedure to assess meta-ethical cognition in 200 German high-school students in Grades 7, 9, 11, and 13 (with mean ages of 13, 15, 17, and 19 respectively). The students were presented with moral dilemmas as a basis for initial judgments and were then asked about the sources, certainty, and justification of their judgments, and the possibility of equally justifiable alternatives. Krettenauer found that responses could be reliably classified with regard to the three moral epistemologies and that individual adolescents were somewhat (although not perfectly) consistent across dilemmas in their moral epistemology. Age differences were consistent with developmental expectations of a general

trend from intuitionism to subjectivism. Transsubjectivism was seen in some of the older students and was the predominant meta-ethical stance in a comparison group of graduate students with background in moral philosophy. Moral epistemologies were substantially, but not perfectly, correlated with general epistemologies.

In sum, rationality is central to morality, and adolescents increasingly understand the ways in which this is so. But whatever the relation of rationality to morality, why be rational or moral in the first place? Identity may play a crucial role in providing the motivation to formulate, and act on the basis of, your own reasons, moral or otherwise.

RATIONAL IDENTITY

Constructivist views of identity formation all assume an individual operating at a sophisticated level of cognitive competence. Erikson (1968) himself proposed that formal operations may be a necessary, but not sufficient, condition for the construction of identity:

> The cognitive gifts developing during the first half of the second decade add a powerful tool to the tasks of youth. Piaget calls the gains in cognition made toward the middle teens the achievement of "formal operations." This means that the youth can now operate on hypothetical propositions and can think of possible variables and potential relations—and think of them in thought alone, independent of certain concrete checks previously necessary. As Jerome S. Bruner puts it, the child now can "conjure up systematically the full range of alternative possibilities that could exist at any given time." Such cognitive orientation forms not a contrast but a complement to the need of the young person to develop a sense of identity, for, from among all possible and imaginable relations, he must make a series of ever-narrowing selections of personal, occupational, sexual, and ideological commitments. (p. 245)

Formal operations, as discussed in chapter 1, includes the ability to systematically generate a framework of possibilities that are not merely direct extensions of a given reality, and to use hypothetico-deductive reasoning to infer the consequences of such hypothetical possibilities. Identity formation, correspondingly, involves consideration of multiple potential selves and the consequences of commitment to a particular conception of oneself. It does seem plausible, then, that formal operations would be a prerequisite for identity formation.

As seen in chapter 2, however, current theory and research provide a complex picture encompassing advanced forms of rationality far more diverse than anticipated in Piaget's conception of formal operations. Recent research on the relation of cognitive development to identity formation has

accordingly focused on identifying the specific cognitive abilities associated with the construction of identity. Given that the construction of identity raises questions of being true to oneself, one might expect conceptions of knowledge and truth would play a key role in such construction. With this in mind, several researchers have investigated the relation of epistemic cognition (see chap. 2) to identity (Boyes & Chandler, 1992; Chandler et al., 1990; Krettenauer, in press-b)

Michael Boyes and Michael Chandler (1992), for example, identified 61 high-school students who could be clearly classified with respect to Piagetian stage, level of epistemic cognition, and Marcia identity status. With respect to Piagetian stage, 12 students were classified as concrete operational and 49 as formal operational. With respect to epistemic level, 22 students showed the sort of epistemic orientation that was described in chapter 2 as objectivist, and 39 showed more sophisticated epistemic orientations of the sort described in chapter 2 as subjectivist or rationalist, involving explicit insight into the constructed nature of knowledge. Finally, with respect to identity status, 28 were classified as diffused or foreclosed (the less advanced identity statuses), and 33 were classified as in moratorium or as identity-achieved (the more advanced identity statuses).

Of central interest were the interrelations of (a) Piagetian stage with identity status, (b) Piagetian stage with epistemic level, and (c) epistemic level with identity status. Comparison of Piagetian stage and identity status suggested that formal operational thinkers may be more likely to be in one of the more mature statuses, but the relationship was not statistically significant. The other two interrelationships, however, were clear and significant. Formal operational thinking was strongly associated with higher epistemic levels, and higher epistemic level, in turn, was strongly associated with more advanced identity status. A more fine-grained analysis indicated that rationalist epistemologies were most strongly associated with identity achievement.

These results indicate that cognitive development is indeed important to the construction of identity, but that the traditional distinction between concrete and formal operations, though perhaps relevant, provides an insufficient account of this relationship. Epistemic cognition appeared to be a critical connecting link in the cognition/identity relationship. That is, students who saw knowledge as simple and absolute were likely either to have foreclosed identities or to be unconcerned with identity formation. Students who understood that knowledge is a subjective construction, in contrast, typically were constructing or had constructed identities. Among this latter

group, moreover, students who understood the potential for rational judgment despite subjectivity were most likely to have constructed an identity.

Research on young adults' narratives of their own identity formation has shown a constructive process in which individuals constrain their choices and commitments on the basis of what they deem to be rational criteria for a "good" identity. They may insist, for example, that identity must "allow for a sense of consistency, sameness and continuity," and/or "include all significant identifications," and/or "allow for mutual recognition between individual and society," and/or "allow for feelings of authenticity and vitality" (Schachter, 2002, p. 422).

Also highlighting the rational construction of identity, Michael Berzonsky and colleagues (Berzonsky & Adams, 1999; Berzonsky, Macek, & Nurmi, 2003; see also Berman et al., 2001; Klaczynski, in press-b; Schwartz, Mullis, Waterman, & Dunham, 2000) have found that rational identity processing orientations are associated with the sort of active exploration that typifies moratorium individuals and enables identity achievement:

> Information-oriented individuals negotiate identity issues by actively processing, evaluating, and utilizing self-relevant information. They are skeptical about their self-constructions and willing to test and revise aspects of their identity structure when confronted with self-discrepant information .... They have been found to engage in high levels of effortful self-exploration, introspection, and private self-awareness and to have high levels of need for cognition, problem-focused coping, cognitive complexity, and openness to experience .... Self-exploring individuals, classified as being identity achieved or moratoriums according to the identity status paradigm, have been found to rely on this social-cognitive orientation .... (Berzonsky & Adams, 1999, p. 579)

But if some types, forms, or levels of rationality are prerequisite for some types, forms, or levels of self-conception—such as Eriksonian identity—it is equally true that the construction of identity contributes, in turn, to rationality by providing increasingly organized and justified reasons for belief and action. Consider, for example, the role of the *life story*—the narrative aspect of identity—in enabling *autobiographical reasoning*:

> The life story is usually used in a piecemeal fashion ... through what we term autobiographical reasoning. Autobiographical reasoning is a process of self-reflective thinking or talking about the personal past that involves forming links between elements of one's life and the self in an attempt to relate one's personal past and present .... Autobiographical reasoning indicates the evolution of a biographical perspective that frames one's individuality in terms of a specific developmental history. It relies on autobiographical remembering but goes beyond it by enhancing

> understanding through actively creating coherence between events and the self. (Habermas & Bluck, 2000, p. 749)

Although identity may enhance rationality in ways such as these, identity is also a serious and ongoing threat to rationality. Paul Klaczynski and others have shown that self-serving biases incline us uncritically to accept and accumulate evidence and arguments consistent with our beliefs, especially those beliefs central to our identities, while critically scrutinizing and dismissing evidence and arguments threatening to our beliefs and identities (Klaczynski, 1997, 2000, in press-b; Klaczynski & Fauth, 1997; Klaczynski & Gordon, 1996a, 1996b; Klaczynski & Narasimham, 1998; Kuhn et al., 1988; Moshman, 2004a; Paul, 1990; Schauble, 1996; Stanovich & West, 1997). Identity commitments may thus undermine rationality, and the strongest identities may pose the most serious problem.

If identity poses a problem, however, it may also present a solution. We all see ourselves, to varying degrees, as rational agents, which is why we try to explain and justify our actions to ourselves and others. To the extent that you come to see your rational agency as central to who you are, you have a *rational identity*. Rational identity does not guarantee good reasoning, but it does motivate efforts to be rational, including deliberate efforts to identify and overcome biases in seeking and processing information.

Individuals whose identities are strong but for whom rationality is not a self-conscious commitment may fail to engage in good reasoning because they identify too strongly with their present beliefs. As philosopher Jerry Cederblom (1989) put it, "the chief drawback of identifying myself with my set of beliefs is that this view leads me to see a mistaken belief as a defect in myself. This inclines me to reject a belief that conflicts with my own, even when I have good reason to accept it" (p. 149). A better alternative, he suggested, is to identify oneself as a *belief-forming process*. Individuals who see themselves this way are more likely to change their beliefs appropriately, in light of evidence and argument, because they see such change not as acknowledgment of a fundamental shortcoming but as an affirmation of themselves as rational agents.

Critical scrutiny of one's identity, then, is more likely if one has the sort of identity that values such scrutiny. This may be a key difference between foreclosed and achieved identities (Marcia et al., 1993; see chap. 7). Thus identities may undermine rationality or may support it, or both.

We now turn from rational identity to moral identity. Identities may differ not only in the extent to which we see ourselves as rational, but also in the extent to which we see ourselves as moral.

MORAL IDENTITY

Chapter 6, concluding three chapters on morality, ended with a suggestion that we need to study identity because, among other things, identity may be important in motivating moral perception, reflection, and behavior. Identity, to be sure, can motivate many things, not all of them morally justifiable (Maalouf, 2001; Moshman, 2004a, 2004b). Many people, however, have explicit theories whereby they construe themselves as moral agents, and for some, to varying extents, commitment to moral agency is central to the organization of their self-conceptions. Augusto Blasi (1984) and others have proposed that such persons be understood as having *moral identities* (Arnold, 2000; Bergman, 2002, 2004; Colby & Damon, 1992; Hart & Fegley, 1995; Lapsley, 1996; Moshman, 2004a, in press; Mustakova-Possardt, 1998; Walker & Hennig, 1997; Walker & Pitts, 1998).

To have a moral identity is to have an explicit theory of yourself as a moral agent—as one who acts on the basis of respect and/or concern for the rights and/or welfare of others. Several aspects of this definition warrant explanation and elaboration.

As discussed in chapter 8, to have an identity is to see yourself as a rational agent—as one who acts on the basis of beliefs and values of your own. Even if your beliefs and values are demonstrably wrong or evil, if you are consciously committed to acting on the basis of those beliefs and values because you see them as fundamental to who you are, then you have an identity.

To have a moral identity is to see yourself as a moral agent—as one who acts on the basis of moral beliefs and values. Regardless of whether your moral beliefs or values are correct or justifiable, your fundamental commitment to them as central to your personhood constitutes a moral identity. If you see yourself as the sort of person who notices, reflects, and acts on moral issues, then you have a moral identity, regardless of the accuracy of your perceptions, the quality of your reasoning, or the justifiability of your judgments and actions.

But what counts as a moral issue? What beliefs and values fall within the moral domain? How can we accommodate individual and cultural diversity in moral perception, reasoning, and judgment? Is morality what anyone says it is?

As seen in chapter 5, there is substantial evidence that, beginning in early childhood, people in normal human environments, regardless of specific cultural contexts, construct some conception of a moral domain encompassing

respect and/or concern for the rights and/or welfare of others (Gibbs, 2003; Moshman, 1995b; Nucci, 2001; Piaget, 1932/1965; Rest et al., 1999; Turiel, 2002). Some conceptions of the moral domain may highlight respect for rights and justice as most fundamental, some may put more emphasis on care and compassion for others, and some may see these as deeply interconnected with each other and/or with related values, but there is sufficient agreement on the meaning of morality among diverse children, adolescents, adults, and theorists to justify an objective specification of the moral domain.

Thus to have a moral identity is to have an explicit theory of yourself as systematically acting on the basis of respect and/or concern for the rights and/or welfare of others. This definition does not require a commitment to any particular set of moral beliefs, values, rules, or principles, and is thus consistent with moral diversity among those who have strong moral identities. It does, however, require that one's theoretical commitment be objectively moral, not in the sense of being morally correct but in the sense of falling with an objectively defined moral domain.

People cannot be neatly divided into those who have moral identities and those who do not. On the contrary, people can have moral identities to varying degrees. Probably almost all people, beginning in childhood, have moral self-conceptions entailing commitments to others. In cases of moderate moral identity, the commitment to others is an important aspect of a person's explicit theory of self but may be colored or compromised by other identity commitments. In cases of strong moral identity, the commitment to others is so central as to direct and coordinate other commitments, in which case moral identity may be seen as a type, not just an aspect, of identity (Colby & Damon, 1992).

Even people with strong moral identities, however, may fail to act morally. Powerful commitments to what we see as the rights or welfare of others may motivate actions that cannot be justified on the basis of such commitments. Theories can be false, and this includes theories of ourselves as moral agents. That is, we can have *false moral identities* (Moshman, 2004a).

False theories are still theories, and false moral identities are moral identities. If you have an explicit theory of yourself as a moral agent, then you have a moral identity. If your theory is false—if you do not really act on the basis of respect and/or concern for the rights and/or welfare of others, although you think you do—then you have a false moral identity. This raises the question of how moral identities can be true, reminding us once again that issues of morality and identity immediately raise questions of epistemology and rationality (Moshman, 2004a).

RATIONAL MORAL IDENTITY

The phenomenon of false moral identity reminds us that the construction of identity does not necessarily entail progress toward more advanced forms of rationality or morality. Identity formation may entrench and reinforce irrational and biased commitments and ideologies. If by progress in identity we simply mean progress toward stronger identity structures, then identity formation is by definition a developmental process. From the broader perspective of advanced psychological development, however, it is clear that the construction of identity may undermine rationality and/or morality, and thus does not always constitute progress. Identities can motivate oppression and violence, for example, up to and including genocide (Maalouf, 2001; Moshman, 2004a, 2004b).

The development of identity, then, is not simply the formation of whatever identity you happen to form. The developmental aspect of identity formation is the rational construction of theories that enable us to explain ourselves to ourselves and others. Much of what must be explained, moreover, pertains to our relations to others and our roles within social institutions. Rationality and morality are thus intrinsic to identity formation, at least to the extent that it is a developmental process. The developmental ideal is to construct identities that are not only rooted in rationality and morality but that enable us to see ourselves as rational and moral agents. The developmental ideal for identity formation is the self-regulated construction of a *rational moral identity*.

Rational moral identity, it should be clear, is not a state of maturity. There is no stage of rational moral identity reached by some or all people. Self-conceptions qualify as identities in multiple aspects and to varying degrees. Identities, in turn, vary in the strength and self-consciousness of their commitments to rationality and to morality, and in the extent to which these commitments are intertwined such that the moral commitments have a rational basis. Identity formation is progressive to the extent that our theories of ourselves increasingly highlight and motivate our rationality and morality. This is the sense in which rational moral identity is a developmental ideal.

The concept of rational moral identity overlaps with related conceptions of advanced psychological development that construe rationality as much more than a set of advanced cognitive skills. Harvey Siegel (1988, 1997) and other philosophers of education have addressed the broader aspects of rational functioning in terms of the *critical spirit:*

> The "critical spirit" ... refers to a complex of dispositions, attitudes, habits of mind, and character traits. It includes ... the dispositions to seek reasons and evidence in making judgments and to evaluate such reasons carefully; ... a respect for the importance of reasoned judgment and for truth, and rejection of partiality, arbitrariness, special pleading, [and] wishful thinking; ... habits of reason seeking and evaluating, of engaging in due consideration of principles of reason assessment, of subjecting proffered reasons to critical scrutiny, and of engaging in the fairminded and non-self-interested consideration of such reasons; and character traits consonant with all of this. People who possess the critical spirit *value* good reasoning, and are disposed to believe, judge and act on its basis. (1997, pp. 35–36)

Susan Silverberg and Dawn Gondoli (1996) highlighted the development of autonomy. An autonomous individual is not one whose behavior is never influenced by others, or whose thoughts are never influenced by emotions, or who has transcended the need for relationships and intimacy. Rather, to be autonomous is to be *self-directed* or *self-governed*—that is, to make one's own choices and to be responsible for the consequences of those choices. This is central to what it means to be a rational and moral agent (Audi, 1997, 2001; Berlin, 1969), and your autonomy is enhanced to the extent that you are consciously committed to this vision of yourself.

Advanced psychological development is not simply the sum of cognitive development, moral development, and identity formation, nor does it end with the attainment of maturity in one or more of these domains. Advanced psychological development encompasses the development of rationality, including rational aspects of morality, and the development of identities committed to rationality and morality. Rationality and morality each come in diverse forms, however, and diverse identities can be committed to these ideals in multiple ways. Thus we return to pluralist rational constructivism, a metatheory of advanced psychological development.

11

Pluralist Rational Constructivism

pluralism, yes;
radical relativism, no.

—*Harvey Siegel* (1987, p. 159)

Theories of development invariably rest on metatheoretical assumptions about the nature of developmental processes. In the Introduction, I presented constructivism as a metatheory distinct from the more traditional nativist and empiricist perspectives. In the subsequent chapters, I have shown the utility of a constructivist approach for explaining various aspects of adolescent psychological development. As we have seen, however, a variety of contructivist theories and perspectives are possible. They vary with respect to whether the constructive process is construed as rational, and whether its outcomes are assumed to be universal (Chiari & Nuzzo, 1996; Marshall, 1996; Overton, 1998; Phillips, 1997; Prawat, 1996). We now revisit these issues. Drawing on theory and research regarding the development of rationality, morality, and identity, I identify and discuss a metatheoretical perspective I term *pluralist rational constructivism.*

CONSTRUCTIVISM

Constructivism has been presented in the context of the historic nature–nurture debate. On the nature side, nativism proposes that development is a causal process directed by our genes. That is, the mature forms of our

knowledge, reasoning, and behavior are determined by hereditary factors that direct the development of our species. On the nurture side, empiricism proposes that development is a long-term process of learning from, or being shaped by, our environments. Thus, knowledge, reasoning, and behavior are determined by cultural and other environmental forces.

Developmentalists generally agree that both hereditary and environmental factors are important in development, and that the effects of each depend on the other. Thus, although some developmentalists put more emphasis on genetic considerations, and others on environmental considerations, most take an interactionist position somewhere along the continuum from nativism to empiricism.

As we have seen, however, constructivists believe an interactionist position does not go far enough. Constructivist metatheory assumes that individuals play an active role in constructing their own knowledge and reasoning and in generating their own behavior. As we have seen, there is substantial evidence for the active role of adolescents in the construction of rationality, morality, and identity. Thus, it appears that neither nature nor nurture, nor an interaction of the two, is sufficient to explain adolescent psychological development. Rather, we must move off the nature–nurture continuum into a dimension that recognizes the active role of the individual.

If we think of the three corners of the triangle in Fig. 11.1 as representing theories that recognize only a single type of developmental factor—*genes*, *environment*, or *individual construction*—it is safe to say that few contemporary theories fall into one of these corners. Most posit the importance of at least two of these potential influences. Annette Karmiloff-Smith (1992), for example, suggested a theory that might fit midway along the nativism–constructivism side of the triangle. She argued that heredity provides a more substantial starting point for cognition than Piaget was willing to acknowledge, but that further development is, as he insisted, an active, constructive process. Alternatively, Lev Vygotsky's theory of development (Penuel & Wertsch, 1995), which emphasizes the active roles of both individual and culture, might be placed along the empiricism–constructivism side of the triangle. Theories that encompass the roles of all three potential considerations would fall somewhere inside the triangle, although genuinely integrating all three sets of considerations is easier said than done.

Constructivism, then, need not deny the role of heredity or environment, but insists that the individual is an active agent in his or her own development, and that this third factor cannot be reduced to heredity, environment, or an interaction of both. Developmental changes, a constructivist would

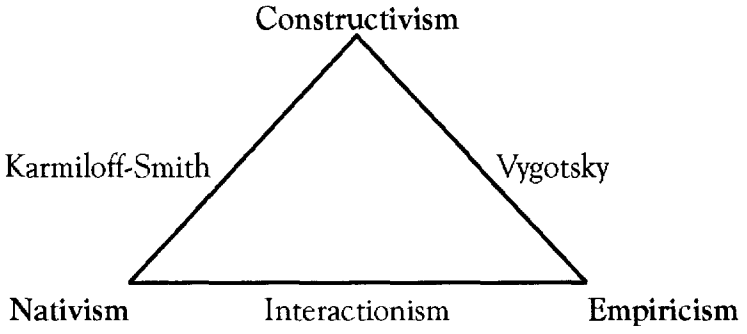

FIG. 11.1. Nativism, empiricism, and constructivism.

argue, must be understood, at least in part, from the point of view of the developing person.

RATIONAL CONSTRUCTIVISM

If individuals construct their own knowledge and cognitive processes, it might seem that each individual would construct his or her own idiosyncratic beliefs and modes of processing, with no legitimate basis for evaluating the adequacy of such constructions. A *radical constructivist* would argue that our conceptions, moralities, and identities are indeed free creations, and there can never be neutral criteria for evaluating the adequacy of whatever we choose to believe or however we choose to think.

Radical constructivism, however, undermines the fundamental conception of development as progress (Chandler, 1997; see Introduction). Developmental constructivists generally maintain a view that I have termed *rational constructivism* (chaps. 6 and 9). Rational constructivism construes the construction of knowledge and reasoning as a rational process that generates justifiable outcomes. Given an individual at a certain stage of moral development, for example, potential reconstructions of the moral reasoning associated with that stage can be evaluated with respect to whether or not they provide a more defensible moral framework—for example, a perspective that can resolve a wider range of moral issues. Developing individuals make such judgments about their own constructions. Thus, they increasingly commit to conceptions that, both from their own perspective and from the external perspective of a moral theorist, represent moral progress. Moral change is thus constrained by rational considerations that render such change developmental in nature.

Rational constructivists highlight reflection, coordination, and peer interaction as key developmental processes. Reflection on one's inferential processes, for example, may enable the abstraction of logical necessities (Smith, 1993). Reflection on one's beliefs and/or behaviors may enable the abstraction of common patterns that one comes to see as aspects of one's identity (Erikson, 1968). Coordination of two social perspectives may enable an individual to construct a structure of moral understanding that accommodates both (Piaget, 1932/1965, 1995). Peer interaction may enable two or more individuals to construct a line of reasoning that they could not have constructed individually (Moshman & Geil, 1998). Although there is much more to be learned about such processes, it does seem plausible that they might constrain our constructions in such a way as to enable developmental progress (Piaget, 1985, 2001).

Like any metatheory, rational constructivism has a variety of advantages and limitations. The relative balance of advantages and limitations depends on the phenomena to be explained. In particular, rational constructivism directs attention to the active role of rational agents in constructing higher levels of understanding and reasoning. As suggested throughout this volume, this may be critically important in explaining the development of advanced forms of rationality, morality, and identity in adolescence and early adulthood. Attention to rational agency may also be helpful (along with other considerations) in explaining other aspects of psychological development, including development in earlier and later portions of the lifespan, in a variety of social and cultural contexts. A rational constructivist approach may be unhelpful or even misleading, however, in explaining (a) processes of anatomical or physiological development that are largely driven by the genes, or (b) processes of social influence or cultural indoctrination that circumvent or undermine rational choice.

Another limitation of rational constructivism, it may be argued, is that its commitment to universal developmental sequences cannot accommodate the reality of individual and cultural diversity. Elaborating on the analysis in chapter 6, however, I now return to my proposal that such a limitation is not inherent to rational constructivism.

PLURALIST RATIONAL CONSTRUCTIVISM

Rational constructivist theories have traditionally posited universal sequences of development. As seen in chapter 1, for example, Piaget believed that a particular logical structure—formal operations—is the basis for adolescent and adult cognition; construction of this structure, in his view, is the

only pathway beyond concrete operations. Similarly, Kohlberg believed there are six possible structures of moral reasoning, and these develop in a fixed sequence (see chap. 4). An individual can only transcend the form of moral reasoning Kohlberg labeled Stage 4, for example, by constructing the form of moral reasoning he labeled Stage 5.

The rational constructivist perspective, however, does not require a commitment to universal pathways of development or universal forms of psychological maturity. There could, for example, be two or more justifiable logical structures that transcend concrete operations; a rational agent might construct either or both. Similarly, we cannot rule out the possibility that some individuals at Kohlberg's Stage 4 may construct a form of moral understanding that is demonstrably superior to Stage 4 but different from Kohlberg's conception of Stage 5. Pluralist rational constructivism shares with universalist rational constructivism a developmental vision of justifiable reconstructions that constitute progress in rationality. It differs, however, in highlighting the possibility of diversity in the pathways and/or outcomes of development (see Fig. 11.2).

Thomas Bidell and his collaborators (Bidell, Lee, Bouchie, Ward, & Brass, 1994), for example, proposed a five-step sequence in the development of conceptions of racism among young White adults participating in cultural diversity coursework. Their sequence involves progress toward increasingly differentiated and coordinated conceptions, each of which is more justifiable than the previous one. Thus, they posited a developmental process of rational construction. Nevertheless, they did not claim that their proposed sequence is universal across persons or contexts. On the contrary, they argued that

> researchers seeking to decide the sequence of constructions through which individuals make sense of a problem such as racism must also carefully define the context in which the individuals under study are attempting to construe the problem. It cannot be assumed that the same sequence of understandings observed in one context would emerge in a different context. For example, the present model is tightly restricted to the description of conceptual development in the specific context of cultural diversity coursework on a predominately white, affluent college campus. Other developmental pathways, leading to different conceptions of the problem than we have described, are both possible and likely. It would be a mistake, for instance, to assume that the sequence of ideas about racism constructed by middle to upper-middle class white students in the context of cultural diversity coursework would replicate the construction of ideas about racism among young white adults from a working class neighborhood where racial tensions have been exacerbated by competition for scarce social resources. (pp. 189–190)

Diversity and universality were both salient in a study of identity formation in Canadian adolescents that included both culturally mainstream

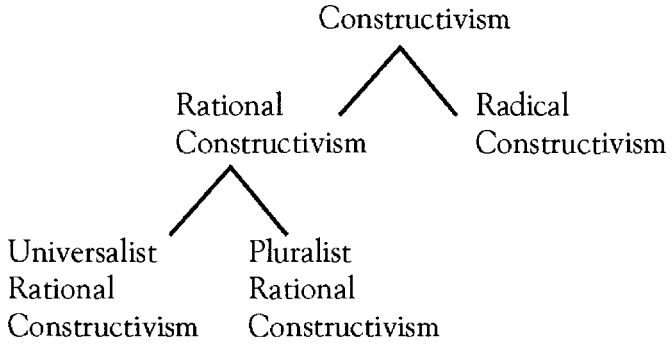

FIG. 11.2. Constructivist metatheories.

youth and Aboriginal youth affiliated with Canadian "First Nations." Michael Chandler and his associates (Chandler et al., 2003; Lalonde & Chandler, 2004) found no reason to doubt that identity is important in diverse cultural contexts and universally involves issues of continuity over time (see chap. 8). Two distinct approaches to establishing personal continuity were identified, however, with a hierarchy of developmental levels within each. *Essentialist accounts of continuity* construe the self as an essence unaffected by time. *Narrative accounts of continuity* are people's stories of their lives. Some accounts of continuity over time—whether postulated fundamental essences or life stories—are more abstract and/or self-conscious than others. Thus the two approaches to continuity may be considered two parallel developmental tracks.

Must each of us take one track? Not necessarily. In fact, Chandler et al. (2003) found that some adolescents were taking both tracks. There were also individual and cultural differences, however. First Nations youth were substantially more likely to offer narrative accounts of their own continuity, whereas mainstream Canadian youth tended to favor essentialist accounts, but there were exceptions within each cultural category. Thus, as is often the case, there was evidence for diversity within individuals, across individuals, and across cultures.

Consistent with such research and theory, Charles Helwig (1995b) endorsed perspectives that

> chart a middle ground between global stage theory and recently emerging contextualist perspectives .... [T]he role of social context in social cognition can be adequately addressed neither through abstract, decontextualized global structures of

> reasoning, nor by a narrow contextualism that essentially equates individuals with their environments. In between these two extremes may be a local-structural analysis of development that maintains important distinctions between individuals and environments, between structural and functional processes .... (p. 194)

As we have seen here and in chapters 2, 5, and 8, there is a great deal of diversity in the beliefs, values, self-conceptions, and forms of reasoning individuals construct, and thus in the developmental pathways they traverse. A rational constructivist in the universalist tradition would not deny the clear evidence for such diversity but would question its importance. The universalist might, for example, dismiss such diversity as representing superficial variations that fall outside the realm of rational justification and are, thus, secondary to the universal stages and outcomes of development. Pluralist rational constructivism, in contrast, suggests that rational construction may lead in more than one direction, that differences are no less important than universals, and that many aspects of diversity can and should be explained within a rational constructivist framework.

Outside the realm of rational constructivism are radical or *postmodern* versions of constructivism, contextualism, and relativism that not only accept the reality and importance of diversity but deny the existence of universals and the possibility of rational evaluation (Gergen, 2001; for critiques of such views, see Bickhard, 1995; Chandler, 1997b; Kahn & Lourenço, 1999; Lynch, 1998; Perry, 1997; Phillips, 1997; Shestack, 1998; Siegel, 1987, 1997). Pluralist rational constructivism does not go this far. There may indeed be forms of reasoning, morality, and/or identity that represent advanced levels of development in any cultural context and there may be important commonalities across individuals and cultures in the pathways to advanced forms of rationality. On the general question of diversity and universality, pluralist rational constructivism takes a middle ground, open to both universals and differences (Chandler et al., 2003; Moshman, 2003a; Perry, 1997; Saltzstein, 1997).

Three Aspects of Diversity

Taking diversity seriously requires recognition of three potential aspects of diversity, and careful scrutiny, with respect to these aspects, of all claims of variation. Diversity may exist within individuals, across individuals, and across groups.

Research in many domains of performance shows that individuals of all ages typically have at their disposal a variety of ideas, strategies, and perspec-

tives. These observations have led a number of researchers and theorists to highlight the importance of diversity *within* individuals (Fischer & Bidell, 1998; Killen & Wainryb, 1998; Kuhn et al., 1995; Siegler, 1996; Turiel, 1998; Wark & Krebs, 1997). As seen in chapter 2, for example, multiple types of reasoning coexist in any given adolescent. Any account of thinking must explain how the individual selects from, or coordinates, diverse types of reasoning in responding to a given task or dilemma (Kuhn, 1999, 2000).

Diversity can also be seen *across* individuals. That is, people differ from each other. Specific claims of differences across or among individuals must be critically scrutinized, however. In particular, such claims must be evaluated with regard to the relation of these differences to differences *within* individuals.

Extending distinctions made in chapter 5, for example, suppose it were proposed that, with respect to morality, some adolescents are justice reasoners, some are care reasoners, and some are virtue reasoners. A universalist in the Kohlberg tradition might try to show either that care and virtue reasoning are special cases of justice reasoning rather than distinct forms of morality or that considerations of care and virtue represent nonrational values outside the domain of morality. A pluralist version of rational constructivism acknowledges the possibility that there are indeed three justifiable forms of morality, but would require both philosophical and empirical justification of the proposed distinctions.

Suppose we were convinced that the proposed three types of morality are indeed philosophically distinct and meaningful. Suppose, in addition, we had data showing statistically significant differences among adolescents in the use of such reasoning on a range of moral dilemmas. Does it follow that we can meaningfully distinguish teenage Kohlbergs, Gilligans, and Aristotles? Before accepting the idea that individuals can be usefully classified into the three proposed moral categories, we should consider the relationship of differences *across* individuals to differences *within* individuals.

Imagine, for example, that careful scrutiny of our data showed that 30% of all adolescents use justice reasoning at least 80% of the time, 30% use care reasoning at least 80% of the time, and 30% use virtue reasoning at least 80% of the time (with nondominant forms of reasoning rare in each case). Such results would support the utility of distinguishing *justice*, *care*, and *virtue* reasoners, with the understanding that a few adolescents may be hard to classify, and that even those who clearly fit one of the categories will not be 100% consistent in using the reasoning associated with their category.

Actual research on moral reasoning, however, does not generate such results (Wark & Krebs, 1996, 1997). A more likely finding across a range of moral dilemmas might be that most adolescents use each of the three kinds of reasoning at least 25% of the time, and few favor one particular kind of reasoning most of the time. In this case, classification of the adolescents as justice, care, or virtue reasoners would be highly misleading. A better conclusion would be that most people use a combination of justice, care, and virtue reasoning. Individuals may differ somewhat from each other in the relative frequency of the three types of reasoning, but it would be important to emphasize that these differences across individuals are minor compared the substantial variability *within* individuals. In this case, we should emphasize distinct types of moral *reasoning* but not distinct types of moral *reasoners*.

Claims of diversity across various biological and social groupings require similar scrutiny with respect to how the group differences compare to differences across individuals and differences within individuals. As seen in chapters 2, 5, and 8, strong claims have been made about gender and cultural differences with regard to rationality, morality, and identity, but such claims are not supported by empirical research.

Consider, for example, Carol Gilligan's much cited association of justice reasoning with men and care reasoning with women. Many studies have failed to show such a difference (for reviews, see Brabeck & Shore, 2003; Dawson, 2002; Jaffee & Hyde, 2000; Walker, 1984, 1991). Even if research consistently showed statistically significant gender differences in this regard, however, that would not suffice to support Gilligan's claim. Rather, we would need to consider the magnitude of the gender difference relative to the extent of variability among and within individuals. If, for example, we found that 80% of all women use care reasoning rather than justice reasoning at least 80% of the time and 80% of all men use justice reasoning rather than care reasoning at least 80% of the time, it would be reasonable to assert (with due allowance for exceptions) that women construe morality as a matter of care whereas men construe it as a matter of justice. As noted in chapter 5, however, the association of gender and morality is not nearly this strong. At most, one might conclude that, in the United States in the late-20th and early-21st centuries, women have been slightly more likely than men to be among those individuals who use care reasoning slightly more often than justice reasoning, whereas men have been slightly more likely than women to be among those who use justice reasoning slightly more often than care reasoning. Even this modest conclusion, moreover, overlooks the fact that most moral reasoning involves coordi-

nating diverse moral and nonmoral considerations, not simply choosing among them (Turiel, 1998, 2002).

Pluralist rational constructivism, then, can accommodate diversity within individuals, across individuals, and across various social and biological groupings of individuals, but it need not, and should not, accept all claims uncritically. In addition to the obvious question of whether or not an asserted difference really exists, we must consider what the evidence shows about the locus and extent of variability. In particular, substantial variability within individuals often undermines categorical claims about differences among individuals and groups.

CONCLUSION

Part of the reason for rational constructivism's traditional commitment to universalist conceptions of development may be an assumption that to give up universality is to abandon rationality. Given that appreciation of human diversity has so often been associated with radical forms of constructivism, contextualism, and relativism, this is an understandable and appropriate concern.

There is no need, however, to choose between (a) a conception of change as progress through universal pathways toward universal outcomes and (b) a conception of change as an arbitrary process with no particular direction, and without justifiable outcomes. Pluralist rational constructivism accommodates diversity in pathways and outcomes without relinquishing a rationalist conception of progress. To say more than one pathway is justifiable is not to say all pathways are equally progressive. To identify multiple forms of advanced reasoning, morality, and identity is not to say all inferences, frameworks, and self-conceptions are equally sophisticated. Evidence for diversity need not undermine a rational constructivist conception of psychological development (Chandler et al., 2003; Clinchy, 2002; Demetriou, Christou, Spanoudis, & Platsidou, 2002; Floyd & Stein, 2002; Lalonde & Chandler, 2004; Schachter, 2002).

Rational constructivism, moreover, in contrast to nativism, empiricism, and radical constructivism, provides a conception of socially facilitated rational change that enables education to be distinguished from training and indoctrination. In chapter 12, applying a rational constructivist perspective to secondary education, I propose that the promotion of rationality should be the primary purpose of education, and that the construction of rationality is best facilitated in a context of intellectual freedom.

12

Rationality and Liberty in Secondary Education

> Our beliefs about teenagers are deeply contradictory: They should be free to become themselves. They need many years of training and study. They know more about the future than adults do. They know hardly anything at all. They ought to know the value of a dollar. They should be protected from the world of work. They are frail, vulnerable creatures. They are children. They are sex fiends. They are the death of culture. They are the hope of us all.
>
> —*Thomas Hine* (1999, p. 11)

> [F]reedom to differ is not limited to things that do not matter much. That would be a mere shadow of freedom. The test of its substance is the right to differ as to things that touch the heart of the existing order.
>
> —*West Virginia v. Barnette* (1943, p. 642)

Secondary schools present information and ideas—plenty of both—and expect students to express themselves orally and in writing. At the same time, secondary schools routinely exclude politically unacceptable ideas from the curriculum, limit student access to alternative sources of information, and censor or punish students and teachers who address controversial topics or express views that school authorities deem offensive or dangerous (Brown, 1994; Gaddy, Hall, & Marzano, 1996; Lent & Pipkin, 2003; Moshman, 1989, 1993; Pipkin & Lent, 2002).

Within the United States, historic Supreme Court decisions set important restrictions on censorship and indoctrination in public schools (*Tinker v. Des Moines*, 1969; *West Virginia v. Barnette*, 1943). Since the 1980s, how-

ever, federal courts have generally deferred to the authority of public school administrators and school boards to control the curriculum and set the parameters of intellectual freedom. In particular, in *Hazelwood v. Kuhlmeier* (1988), the U.S. Supreme Court ruled that public schools have broad authority to censor student and faculty expression in classrooms, school newspapers, and all other curriculum-related contexts. Such authority, the Court believed, is necessary for education (Moshman, 1989, 1993).

Any systematic approach to education must consider what we are trying to achieve through education and how we can best achieve it. I have suggested throughout this volume that adolescent psychological development is best understood from the perspective of *rational constructivism*. Extending the rational constructivist perspective to education, I propose here that the primary purpose of education should be the promotion of rationality. I then argue that the single most important thing secondary schools can do to promote rationality is to provide an environment of intellectual freedom. In contrast to the Supreme Court, I conclude that censorship and indoctrination are not necessary to education. In fact, they are counterproductive, at least if education is conceived as the promotion of rationality.

EDUCATION FOR RATIONALITY

Education, it is often suggested, should aim at the promotion of development (Baker, 1999). With respect to adolescent development, this appears to mean it should aim at the promotion of rationality, morality, and identity. With regard to morality, however, what develops is largely moral rationality. With regard to identity, it is the development of a rational basis for identity that constitutes progress rather than foreclosure. Identity formation is truly developmental when it makes progress toward rational moral identities (chap. 10). Thus the promotion of advanced psychological development is fundamentally the promotion of rationality, broadly conceived to encompass the realms of morality and identity.

Although education potentially serves many purposes, a number of theorists have argued that its core purpose should be the promotion of rationality (Lipman, 1991; Moshman, 1990b; Paul, 1990; Scheffler, 1997; Siegel, 1988, 1997; Stanovich, 2001; see also Kuhn, in press, on education for thinking, and Sternberg, 2001, on teaching for wisdom). For philosopher Harvey Siegel, this is most fundamentally a matter of moral obligation to students. There is simply no distinction between the sort of education that promotes rationality and the sort that respects students as persons:

> [C]onceiving and conducting education in ways which do not take as central the fostering of students' abilities and dispositions to think critically fails to treat students with respect as persons, and so fails to treat them in a morally acceptable way. (Siegel, 1997, p. 4)

> [W]hat does it mean for a teacher to recognize the equal moral worth of students and to treat them with respect? Among other things, it means recognizing and honoring the student's right to question, to challenge, and to demand reasons and justifications for what is being taught. (Siegel, 1988, p. 56)

Education for rationality can also be justified on the basis of the needs and progress of society, especially in a democratic society. Philosopher Israel Scheffler (1997) argued:

> To choose the democratic ideal for society is wholly to reject the conception of education as an *instrument* of rule; it is to surrender the idea of shaping or molding the mind of the pupil. The function of education in a democracy is rather to liberate the mind, strengthen its critical powers, inform it with knowledge and the capacity for independent inquiry, engage its human sympathies, and illuminate its moral and practical choices. This function is, further, not to be limited to any given subclass of members, but to be extended, in so far as possible, to all citizens, since all are called upon to take part in processes of debate, criticism, choice, and co-operative effort upon which the common social structure depends. (p. 29)

A strong case can be made, in fact, that any form of education not aimed at the promotion of rationality tends to undermine genuine democracy. In the middle of World War II, in a case involving a mandatory flag salute and pledge of allegiance, the U.S. Supreme Court ruled that the use of public schools to indoctrinate students is forbidden by the Constitution:

> There is no mysticism in the American concept of the State or of the nature or origin of its authority. We set up government by consent of the governed, and the Bill of Rights denies those in power any legal opportunity to coerce that consent. Authority here is to be controlled by public opinion, not public opinion by authority. (*West Virginia v. Barnette*, 1943, p. 641)

Both concern for individual students and concern for the welfare of society thus lead to the conclusion that we want our educational institutions to contribute to the development of rationality. To paraphrase Isaiah Berlin (1969), whose conception of the rational agent was quoted in chapter 8, we want the graduates of our educational institutions to be subjects, not objects; to be moved by reasons, by conscious purposes, of their own, not by external causes. We want them to be doers—deciding, not being decided for, self-directed and not acted on by external nature or by other people as if they were things, or animals, or slaves, incapable of playing a human role, that is,

of conceiving goals and policies of their own and realizing them. We want them, above all, to be conscious of themselves as thinking, willing, active beings, bearing responsibility for their choices, and able to explain those choices by references to their own ideas and purposes.

Education for rationality, then, rests on a vision of educated persons as rational and moral agents with rational moral identities. If something like this is indeed our guiding ideal, how can we promote the construction of rationality?

THE ROLE OF LIBERTY IN THE CONSTRUCTION OF RATIONALITY

As seen throughout this volume, rationality is neither the inevitable result of genetically directed maturation nor a set of thinking skills internalized from the environment. Rather, the rational agent applies forms of epistemic cognition that are constructed by the individual in the course of social interaction, especially with peers, and self-reflection. Thus, one would expect the construction of rationality to be facilitated by social environments in which individuals have free access to information and ideas and are encouraged to formulate, express, discuss, and justify ideas of their own (for related research and theory see Dimant & Bearison, 1991; Kuhn et al., 1995; Moshman, 1995a, 1995b, 1998, 2003b; Silverberg & Gondoli, 1996; Youniss & Damon, 1992).

Recall, for example, the five students in chapter 3 who were discussing which cards to turn over on the selection task. Consider four important features of this discussion. First, each student had multiple opportunities to present and defend his or her views. Second, each student was exposed to a variety of alternative views and justifications. Third, students were encouraged to reach agreement on a conclusion they all deemed most justifiable. And fourth, students were not required to change their views if they remained unconvinced by the critiques and alternatives. Thus freedoms of belief and expression were fully respected but there was no presumption that all views are equally good. As we saw, groups operating under such conditions were surprisingly successful in constructing justifiable solutions to a notoriously difficult task (Moshman & Geil, 1998).

In contrast to this idealized experimental context, actual school discussions, especially with regard to controversial matters, often take place in contexts where the presentation of disfavored viewpoints is subtly discouraged or explicitly forbidden, access to disfavored alternatives is similarly

restricted or prevented, and teacher authority or peer pressure channel thinking in socially acceptable directions (Brown, 1994; Chomsky, 1989; Gaddy et al., 1996; Moshman, 1989, 1993; Pipkin & Lent, 2002). A rational constructivist perspective suggests that such contexts may maximize behavioral and ideological conformity, but will not promote the rational construction of justifiable beliefs, moralities, identities, and forms of reasoning. Rationality is encouraged and enhanced by an environment of intellectual freedom.

INTELLECTUAL FREEDOM IN SECONDARY EDUCATION

Even if one accepts the argument that intellectual freedom is essential to the development of rationality, and thus to any educational program that aims to promote rationality, one might wonder how this applies to students of various ages. If children and adolescents do not understand the nature and purpose of intellectual freedom, they may be unable to operate effectively in an environment that presents multiple viewpoints and encourages them to think and speak for themselves.

Research indicates, however, that children as young as age 6 show meaningful conceptions of intellectual freedom (Helwig, 1997, 1998) and that adolescents do not differ substantially from college students in this regard (Dunkle, 1993; Helwig, 1995a; Wainryb, Shaw, Laupa, & Smith, 2001; Wainryb, Shaw, & Maianu, 1998). Charles Helwig (1995a), for example, assessed conceptions of freedoms of speech and religion in eight males and eight females at each of Grades 7 and 11, and at the college level. Students were asked to evaluate potential laws restricting these freedoms and to evaluate various applications of these freedoms, including cases where the freedom was exercised in a manner potentially offensive or harmful to others (such as speech involving racial slurs). In each case, students were asked to justify their responses.

Virtually all students at all three age levels showed substantial support for freedoms of speech and religion. Although there were differences in opinion with regard to the more complex dilemmas in which freedom conflicted with other values, these individual differences were found at each of the three ages. Even the seventh graders justified their responses in ways that showed clear appreciation of the issues involved. The results, concluded Helwig (1995),

> show that sophisticated conceptions of civil liberties emerge by early adolescence and are used to evaluate social events .... Abstract conceptions of rights were judged in accordance with moral criteria ... and justified by diverse and sophisti-

> cated rationales differentiated according to type of freedom. These abstract rights were also applied to judgments of social events in context .... These aspects of individuals' judgments and reasoning were found to be continuous across the age-span studied. (p. 162)

Other research has generated similar results (Dunkle, 1993; Ruck, Abramovitch, & Keating, 1998; Wainryb et al., 1998, 2001). Cecilia Wainryb and her associates (1998), for example, interviewed 20 males and 20 females at each of Grades 1, 4, 7, and college level about hypothetical cases in which a parent or teacher holds a dissenting belief, expresses such a belief, or acts on such a belief. The dissenting beliefs were views that every participant disagreed with (e.g., that children learn best by being ridiculed for their mistakes, or that girls are not as smart as boys and thus more likely to get into trouble). Overall there was greater tolerance for the holding of dissenting beliefs than for the expression of those beliefs, and, in turn, more tolerance for the expression of dissenting beliefs than for actions based on those beliefs. These results suggest that rather than being generally tolerant, or generally intolerant, individuals across a wide age range make differentiated judgments about when tolerance is appropriate and when it is not.

More specifically, participants at all ages showed little or no tolerance for cases in which (a) based on her beliefs about children, a teacher ridicules students who make mistakes, or (b) based on his beliefs about girls, a father denies his daughters freedoms available to his sons. Most saw these actions as harmful or unfair to others, and therefore not to be tolerated. There were substantial age differences, however, in tolerance for the underlying beliefs. Most notably, first graders were less likely than the three older groups to be tolerant of the holding and expression of the beliefs in question, and more likely to be concerned that the holding or expression of these beliefs would lead to harmful action. Differences between seventh graders and college students, in contrast, were minimal: Most seventh graders and college students were tolerant not only of the holding of these beliefs but also of the expression of these beliefs, explaining that the mere expression of a belief does not harm others and/or that the exchange of opinions may generate progress toward better ideas. Wainryb et al. (2001) found similar patterns of results for dissenting views about a wide variety of topics, and showed that adolescents, like college students, made reasonable judgments about when intellectual diversity should be celebrated (e.g., with regard to metaphysical beliefs) and when it should be merely tolerated (e.g., with regard to beliefs that are clearly false and potentially harmful).

Developmental research, then, suggests that intellectual freedom is meaningful and important even in elementary schools, and that there is little basis for distinguishing secondary from higher education in this regard. To promote advanced psychological development, secondary schools should facilitate access to all sources of information and should actively encourage reflection and discussion (Moshman, 1989, 1993).

Educational theorists have elaborated on this general theme. Keating and Sasse (1996) argued that secondary schools should actively encourage critical thinking and critical habits of mind. Dreyer (1994) proposed that secondary schools should systematically foster identity formation and that "an identity-enhancing curriculum [is one that] promotes exploration, responsible choice, and self-determination by students" (p. 129). Lipman (1991) argued that the ideal classroom would be a "community of inquiry" in which students challenge each other to supply reasons, assist each other in drawing inferences and identifying assumptions, and coordinate their various ideas. Silverberg and Gondoli (1996), noting the hierarchical structure of authority in secondary schools, suggested that extracurricular activities are often more likely than the curriculum itself to permit the sort of peer interactions that foster autonomy.

Although rational constructivism is a metatheory of psychological development, its application to education is fully consistent with the acquisition of traditional academic content. In a review of the literature on the use of peer groups in classrooms, for example, Cohen (1994) concluded that freedom of expression and discussion are critical to higher levels of conceptual learning. It is important to note, moreover, that rational constructivism does not preclude the direct presentation of specific facts or systematic training in particular skills (Harris & Alexander, 1998). In fact, rational constructivism can encompass a variety of instructional strategies. What marks a rational constructivist approach is an overarching context of liberty, where students are free to disagree with what is presented and ultimately to decide for themselves what to believe.

Education for rationality is not just the absence of censorship and indoctrination, however. To promote rationality in more than a minimal sense, educators must confront the universal human tendency to shield favored views from serious critique (Chomsky, 1989; Klaczynski, 1997, 2000, in press-b; Klaczynski & Fauth, 1997; Klaczynski & Gordon, 1996a, 1996b, Klaczynski & Narasimham, 1998; Kuhn et al., 1988; Moshman, 2004a; Schauble, 1996; Stanovich & West, 1997; see chap. 10). In its stronger forms, education for rationality involves active efforts to foster a critical

spirit (Siegel, 1988, 1997) or rational identity (chap. 10) by encouraging students to identify their fundamental assumptions and commitments and subject them to critical evaluation (Paul, 1990).

In summary, there is good reason to believe that restrictions on intellectual freedom are antithetical to development and education; there is no reason to believe that adolescents or secondary schools are exceptions to this general rule. Contrary to the Supreme Court's decision in *Hazelwood* (1988), secondary education is a setting that requires strict protection of, rather than special restrictions on, the right of adolescents to formulate, express, and discuss their own ideas. Ideally, secondary education would not only respect students' rights but would actively encourage reflection, coordination, and peer interaction in order to foster advanced psychological development.

ADOLESCENTS AS YOUNG ADULTS

It appears that secondary school students do not differ substantially from college students in their ability to operate in, and profit from, an environment of intellectual freedom. More generally, research discussed throughout this volume indicates that, with respect to a wide range of basic psychological competencies, adolescents are far more easily distinguished from children than from adults.

As discussed in chapter 11, categorical distinctions between groups of people require more than evidence of statistically significant differences. To support a categorical distinction, there should be evidence that the difference between the groups is substantial compared to the diversity among and within individual members of the groups.

With regard to a distinction between adolescents and children, I believe this criterion can be met. Adolescents routinely show forms and levels of knowledge and reasoning rarely seen in children before approximately age 11. These include hypothetico-deductive reasoning, explicit conceptions of inferential validity, dialectical reasoning, reflective coordinations of theories and evidence, sophisticated forms of epistemic cognition, principled forms of moral reasoning, and reflective self-conceptions (Basseches, 1984; Boyes & Chandler, 1992; Campbell & Bickhard, 1986; Chandler et al., 1990; Efklides et al., 1994; Erikson, 1968; Franks, 1996, 1997; Habermas & Bluck, 2000; Inhelder & Piaget, 1958; King & Kitchener, 1994; Klaczynski et al., 2004; Kohlberg, 1984; Kuhn, 1989; Marcia et al., 1993; Markovits & Vachon, 1989; Moshman, 1990a, 1993, 1998, 2004c, in press; Moshman & Franks, 1986; Overton, 1990).

Development does continue over the course of adolescence and early adulthood; many individuals construct concepts and forms of reasoning that go far beyond the competencies they had in early adolescence. I am not aware, however, of any form or level of knowledge or reasoning that is routine among adults but rarely seen in adolescents. On the contrary, there is enormous cognitive variability among individuals beyond age 12, and it appears that age accounts for surprisingly little of this variability. Adolescents often fail to reason logically, but the same is true of adults. Adolescents often fail to adequately test and revise their theoretical understandings, but adults fail in the same ways. Adolescents often show simplistic conceptions of knowledge and primitive forms of social and moral reasoning, but so do adults. Adolescent thinking is subject to peer pressure, emotional biases, cognitive distortions, and self-serving denial, but so is that of adults. Adults as well as adolescents can be found in all four of the Marcia identity statuses. Adolescents are still developing (Cauffman & Woolard, in press; Steinberg & Scott, 2003), but development extends well into adulthood (Moshman, 2003a).

Research simply does not support categorical distinctions between adolescents and adults in rationality, morality, or identity (Millstein & Halpern-Felsher, 2002; Moshman, 1993). The distinction between adolescence and adulthood is more a matter of cultural expectations and restrictions than of intrinsic psychological characteristics (Hine, 1999). With the understanding that development is not limited to childhood, adolescence may best be construed as the first phase of adulthood. One implication of this perspective is that secondary education should be more like higher education than like elementary education.

CONCLUSION

Rational constructivism suggests that education should be aimed at the promotion of rationality, and that rationality is promoted by intellectual freedom. It follows, then, that schools should present multiple perspectives and justifications, facilitate student access to all viewpoints and sources of information, and encourage students to formulate, express, discuss, and justify their own ideas. "Such a direction in schooling," noted Israel Scheffler (1997),

> is fraught with risk, for it means entrusting our current conceptions to the judgment of our pupils. In exposing these conceptions to their rational evaluation we are inviting them to see for themselves whether our conceptions are adequate, proper, fair. Such a

> risk is central to scientific education, where we deliberately subject our current theories to the test of continuous evaluation by future generations of our student scientists. It is central also to our moral code, *in so far as* we ourselves take the moral point of view toward this code. And, finally, it is central to the democratic commitment which holds social policies to be continually open to free and public review. In sum, rationality liberates, but there is no liberty without risk. (p. 32)

How great are those risks? If we convey to adolescents that they are free to believe and do what they choose because we have no basis for our own beliefs and actions, we may undermine rationality, including the rational construction of morality and identity. If, on the other hand, we communicate the reasons for our commitments and encourage adolescents to form justifiable commitments of their own, much of what we value will endure. To think otherwise, as the Supreme Court noted in *West Virginia v. Barnette* (1943), "is to make an unflattering estimate of the appeal of our institutions to free minds" (p. 641).

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