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Critical thinking: A voyage of the imagination

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CRITICAL THINKING:
A VOYAGE OF THE IMAGINATION

BY

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DISSERTATION

Submitted to the University of New Hampshire
in Partial Fulfillment of
the Requirements for the Degree of

Doctor of Philosophy
in
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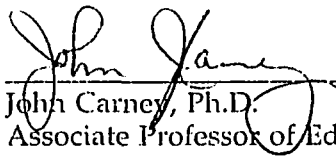
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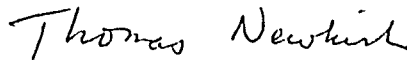
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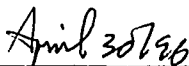
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DEDICATION

To my wife, Jan, and my son, Brett,
both of whom have supported me during the triumphs and trials
of writing this dissertation.
They deserve to share in the triumph of completing this dissertation.

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I could not have written this dissertation without the support and guidance of families, friends, and colleagues - individuals who modeled critical thinking and helped to shape my thinking. I especially acknowledge the guidance and direction of Barbara Houston, who served as my critical thinking mentor and model. She encouraged me to explore my ideas for a dissertation, helped me to get my ideas on paper, challenged me to make my thinking and writing more precise, provided resources to enable me to reach my goal, and listened sensitively to my thoughts and feelings throughout the process.

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ABSTRACT

CRITICAL THINKING: A VOYAGE OF THE IMAGINATION

by

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University of New Hampshire, May, 1996

In this dissertation I contend that there is a strong connection between critical thinking and the imagination, a connection which increases the dynamism and vitality of critical thinking. By acknowledging a role for the imagination, we are able to form a more coherent and complete critical thinking conception, which leads to the positing of a new theory of critical thinking. This new conception has pedagogical implications demanding that we alter or augment current approaches to critical thinking instruction.

Employing a conceptual analysis, I first focus on critical thinking conceptions found on a continuum from traditional conceptions, which focus on logic and argument analysis, to expanded conceptions, which are more eclectic and admit a role for the affective as well as the cognitive. In order to focus on the nature of the imagination, which I argue plays an important role especially in expanded conceptions of critical thinking, I examine first the philosophical and then the literary conceptions of the imagination, specifically considering the arguments by the philosophers Edward Casey and Mary Warnock and the writers William Wordsworth, Samuel Taylor Coleridge, and Wallace Stevens. These philosophers and writers reveal an imagination characterized by a connection to

creativity, the capacity to construct meaning, the generation of potentially unending possibilities, the capacity to enable the emotions to emerge and coexist with rationality. Other writers and literary theorists like Samuel Johnson, Toni Morrison, and Deanne Bogdan alert us to the epistemological and moral dangers of the imagination, dangers which need to be acknowledged and addressed in order to allow for the imagination to fully enrich and enhance critical thinking.

The new conception of critical thinking, which I call integrative critical thinking, fully employs the imagination to generate a variety of possible avenues for our thinking and our conclusions, evokes emotions held in creative tension with reason, envisages a conclusion (or conclusions) to one's thought process and the means to reach those conclusions, and allows for creativity during the critical thinking process. Integrative critical thinking incorporates criticism and judgment, but also recognizes that critical thinking occurs in and is affected by a social context. This conception integrates the three enduring approaches (knowledge, skills, and dispositions) to critical thinking and opens up the critical thinker not only to envision a liberated state of mind and being but also to act on that vision.

CHAPTER ONE

INTRODUCTION

Philip was a critical thinker. I first met him when we were in undergraduate courses together. I was in awe of his thinking abilities. He seemed to operate cognitively at a level above the rest of us, even though I believe that many of us were viewed as effective thinkers.

We could discuss the role of genius in examining individuals like Philip - people who excel to a degree unimaginable by their peers. Philip would dismiss the claim that his critical thinking had anything to do with genius. If individuals like him had a critical thinking genius (a natural or innate talent or inclination), he reasoned, then it would be much easier to dismiss critical thinking instruction in schools and there would be little incentive for improving one's own thinking. He firmly believed that his critical thinking abilities were not innate but learned through the observation of effective models of critical thinking and the instruction of challenging teachers. He zealously strove to encourage those with whom he associated to discover their own critical thinking ability. The ability to think effectively, according to Philip, was an empowering experience for him because this process gave him the tools to address issues and to contribute to the community in which he lived.

I often thought that Philip saw his life as a series of ongoing critical thinking exercises. Because he and I became close friends, I gained more insight into his thought processes than most individuals. Philip seldom acted precipitously. He studied and reflected on a problem, situation, or issue. I

remember when Philip was selecting a university to pursue his graduate studies. He established certain minimal criteria that a college would need to meet and weighed the pros and cons of selecting specific colleges according to the programs they offered, the professors teaching the courses, the location of the college, the school's facilities, and much more. He envisioned scenarios he might encounter and the environment he would experience while he was engaged in his studies and dealing with the stress of graduate work, trying to connect his own vision of an ideal graduate school with the reality of the colleges he was considering. He reflected on every piece of information he received - from catalogues, conversations with friends and acquaintances, interviews, and visits to the campuses. His thinking was always aimed at the culmination of the critical thinking process - a decision about which graduate school to attend - and his imagination was helping him to envision the problem in different ways in order to reach a decision. The imagination was providing him with a vehicle for moving toward his goal without settling on only one means of getting there.

He saw reflection as an analytical process, in which he appraised and reappraised situations and looked back at previous situations that might cast light on the current situations. In selecting a graduate school, he particularly reflected on his experiences when he was selecting his undergraduate college to ensure that he learned from his mistakes, remembering the valuable advice and suggestions he received during that process. When he saw a problem, he deliberated - analyzing the problem, considering it from different angles, looking at the myriad possibilities for casting the problem and solving it, and deciding on a course of action seemingly suitable at the particular moment.

What I found fascinating was his ability to gain energy and insight from the wisdom and passion of others. Critical thinking for Philip was seldom an action in isolation but a shared experience which helped to build a community of support

around him. During the process of deciding on a university, he drew each of us into the critical thinking process. Our minds were engaged in the problem as he posed questions and discussed the results of his reflection. He encouraged us to envision possibilities and to offer counterarguments to his own proposals. He continually relayed to us more than simply the facts he had uncovered; he painted a picture of each university and the life of a student in it. Many of us were drawn into this image-making process and began to modify the pictures Philip envisioned. Philip seemed to welcome this interactive process and the insights it offered him about the colleges. During the time we were engaged in this activity with Philip we were building a spirited, cooperative, inquiring community that not only enabled Philip to make a choice, but also enhanced our thinking and modified the way we made decisions. Philip once confided to me that he could make decisions much quicker if he did not spend so much time reflecting and engaging others in the critical thinking process, but he truly believed that the outcome justified the time he invested.

The ability to think critically is the focus of this dissertation. I believe that educators can and must enable young people to be effective thinkers not only in academic settings but more importantly in everyday life settings. I underscore the necessity for critical thinking instruction because, like Philip, I believe that effective critical thinkers can develop the facility to critically address their own affairs and can have a positive impact on their peers and their society. In the portrait of Philip we have a sense that critical thinking is more than a process of constructing and analyzing arguments. It is a dynamic process in which the mind seeks various methods of achieving its goal of solving a problem, making a decision, or exploring an issue.

As an educator, especially as an English teacher, I have often wondered how to make critical thinking more useful and compelling for students, how to

connect the works of creativity (such as literature) students experience in the classroom and the critical thinking they are encouraged to use in analyzing a work of literature. As a person responsible for curriculum development school-wide, I have often wondered how to encourage critical thinking in all classrooms, as well as outside of classrooms. I have pursued these questions for a number of years.

In this dissertation I develop the story of a relationship between two seemingly unlikely partners in the mind - critical thinking and the imagination. This study is a departure from current studies on critical thinking. Even though imagination and reason have been, each of them, extensively studied and either connected or contrasted, few theorists have focused on the role of imagination as a dynamic specifically in critical thinking. In this study I construct a conception of critical thinking that allows for the passion, richness, and meaningfulness of critical thinking for use not only in academic settings but in everyday situations as well. In this dissertation I contend that there is a necessary connection between critical thinking and the imagination, a connection which increases the dynamism and vitality of critical thinking. By acknowledging a role for the imagination, we form a more coherent and complete critical thinking conception, which leads to the positing of a new theory of critical thinking. This new conception has pedagogical implications demanding that we alter or augment current approaches to critical thinking instruction.

The Problem of the Dissertation

The central problem in education that prompts this dissertation is what I shall call the use problem: that is to say, students fail to use critical thinking in their everyday lives. As an educator who has taught and served as an administrator in several high schools and school districts, I have found critical

thinking a nearly universal concern for teachers and administrators alike. The ability to think critically can be found in almost every high school curriculum guide and is normally a part of a school's philosophy and objectives. Teachers acknowledge the critical thinking problem, which they observe in their classrooms and in contexts outside the school, since few adults think critically in any consistent way. Some teachers dismiss critical thinking as too vast a problem for them to address, too nebulous a concept to teach in the schools, or something inherently possessed by some individuals and not others and therefore incapable of being taught. These teachers retreat to the teaching of their subject areas and tend to ignore the problem of critical thinking. Most teachers, however, do recognize the problem and believe they can and must address it. They tend to do this by 1) offering a rich and engaging curriculum; 2) extracting thinking skills, teaching them separately, and then highlighting them in a context; and/or 3) creating a context in the classroom in which students interact, make decisions, and solve problems.

Critical thinking theorists as well as teachers and administrators also recognize the problem of young people and their adult counterparts failing to use critical thinking in their everyday lives. Their failure to use it appears often to result from either a lack of motivation or an inability to use critical thinking in a variety of contexts (or a combination of these two causes). In either case the result is the same, because we do not see its widespread adoption. Most of the major theorists acknowledge the motivational problem and attempt to address it by adding dispositions to their conceptions of critical thinking. In his work Richard Paul (1990) has outlined positive dispositions and methods to overcome our natural disinclination to think critically. Because we tend to be closeminded rather than openminded and nonreflective rather than reflective, we must foster critical thinking not only as a way of thinking but also as a way of life. Robert Ennis

(1962) and Barry Beyer (1987, 1988) believe that a more precise identification of critical thinking skills will solve the problem, since they believe that decontextualized skills can transfer to contexts other than the classroom, including everyday life. Nevertheless, both of them also introduce dispositions to address the motivational problem. Ennis' most recent definition of critical thinking (Ennis, 1985), for example, incorporates the disposition of reflective thinking and the "aspects" he identifies in his conception include not only skills but also dispositions.

Even John McPeck (1981, 1990), the theorist most committed to a knowledge-based conception of critical thinking, accepts a role for the development of dispositions when he posits a critical component to support his knowledge component of critical thinking. However, McPeck is unusual among the theorists discussed above in that he believes students fail to use critical thinking in everyday life not only because they are not disposed to do so, but also because they are unable to do so. They are unable to do so, he believes, first, because traditional conceptions of critical thinking, which he equates with argument analysis, focus on reconstructing past reasoning and on argument validity rather than on the truth of evidence. Second, because McPeck believes the knowledge component is paramount in critical thinking, he claims students cannot use critical thinking in their everyday lives as a result of critical thinking training in schools unless individuals have knowledge appropriate to the situation in which the thinking occurs.

I agree with many of the contentions of the theorists above, although I do not believe they go far enough in addressing the problem of using critical thinking in everyday life. Each addresses the motivational problem by introducing the development of dispositions into a critical thinking conception. Each addresses the problem of conceptualizing critical thinking by focusing on a particular

approach to critical thinking. These standard approaches can be limiting in everyday life. What I am positing is a theory that draws from and integrates the three approaches to critical thinking (the knowledge, skills, and dispositions approaches), eschews dichotomies (especially between thought and emotion), and acknowledges and draws upon the creative, generative, and constructive qualities of critical thinking. The element of critical thinking that I believe is overlooked in conceptions of critical thinking is the imagination. For the purposes of this dissertation, I define the imagination as the mental projection of possibilities, which transcend time and space and offer what could be rather than what is. The imagination is the element in our thinking that I believe enables critical thinking to expand beyond its traditional conception. The imagination can deepen, intensify, and enlarge our experiences and our thinking. It, therefore, can empower reasoning to employ all three approaches to critical thinking to solve problems and make decisions, allow emotion to support and provide the motivation for critical thinking use in multiple contexts, spark the creative impulse to serve critical thinking, and allow us to envision possibilities that enable solutions within the critical thinking process.

Verification of a Conceptual Question:
Is Imagination a Dynamic in Critical Thinking?

In this dissertation I argue for a particular conception of critical thinking. I believe that the dynamic in critical thinking that makes it generative, creative, and constructive is the imagination. It is a concept not wholly synonymous with logic and argumentation, although both are a part of critical thinking, but one that also has generative, creative, and constructive qualities that are useful for and energize everyday thinking. In order to fully understand this conception of critical thinking, then, I must examine and understand the nature of the imagination,

which is often set in opposition to critical thinking and the closely related concept of reason. Of primary usefulness in this investigation are the inquiries of philosophers like Edward Casey and Mary Warnock and the reflections of writers like William Wordsworth, Wallace Stevens, and Toni Morrison on the imagination, individuals who reveal a world “ever unfolding, as long as one can imagine its possibilities. . .” (Dove, 1995, p. 17).

Is the imagination truly a dynamic in critical thinking? The question is not solely a factual one; we cannot clearly and unequivocally answer it with a series of factual responses as we can if we ask which teachers teach critical thinking. Nor is it a question of value, since it is not a question of right or wrong as is the question about the danger of teaching critical thinking to young people. It is more often regarded as a conceptual question, one which will require conceptual analysis to answer it. Conceptual analysis, according to John Wilson (1966) in Thinking with Concepts, requires that we focus on the multiple uses of the concept, seeking examples to confirm the uses, considering counterexamples and related concepts, and posing hypothetical situations to find the limits of the concept. The process of conceptual analysis is designed to uncover the layers of meaning associated with a concept.

I will examine the concepts of critical thinking and the imagination, both of which have common ordinary definitions and technical accounts of them in academic discourse as well. Critical thinking, for example, has a philosophical heritage that goes back to Socrates and has often been associated with logic and argumentation, although contemporary educational theorists have developed more expanded conceptions of critical thinking than their predecessors. The imagination is used to describe myriad conditions from the creative impulse to the generation of pictures in the mind. It, too, has a long philosophical heritage, but our culture has also closely associated it with the production of art. This

dissertation develops an analysis of the concepts of critical thinking and imagination as well as related concepts (such as perception and memory), an analysis which considers both their ordinary use and influential academic notions of them. Through this process I hope to delineate a more complete picture of the two concepts, which will afford us grounds for describing and recommending their connection in a new conception of critical thinking.

How will I know whether the two concepts are justifiably linked? To make the connection, I will need to do more than establish an operational definition from which to measure my observations and comments, since the concepts are much too complex to be reduced to a single operation or measurement, a concern that Michael Scriven (1988) shares as he too advocates for conceptual analysis whether or not the researcher establishes an operational definition. Rather, I intend to uncover relationships between critical thinking and imagination. One might compare this process to a case being built against a person on trial where no person witnessed the crime. The prosecution must systematically introduce circumstantial evidence linking the individual with the crime. The lawyer responsible for establishing such a case attempts logically to prove a person's guilt by offering enough evidence to support the connection between the crime and the evidence and to address any questions raised by the defense attorney.

In this dissertation I am the prosecutor trying to offer the evidence to link critical thinking and the imagination and to demonstrate the dynamic of imagination in critical thinking. Some philosophers find the conceptual connections verified if they can be shown to consist of necessary and sufficient conditions; that is to say, if a series of links is identified connecting the imagination and critical thinking, each of which is necessary for that connection to be established and all of which offer sufficient reason to accept the connection. Although it would certainly be advantageous to this study if the imagination and

critical thinking could be explained by referring to necessary and sufficient conditions to verify my claims, many fruitful analyses (including mine) do not lend themselves to verification by calling on necessary and sufficient conditions.

The general argument of the dissertation, therefore, goes as follows:

P₁ Expanded conceptions of critical thinking exhibit certain significant characteristics.

P₂ Each of these characteristics requires the use of the imagination. Therefore, the imagination is a necessary part of expanded critical thinking.

Moreover, in investigating the conceptions of critical thinking and the imagination, I discover more than simply the conceptual connections between these notions. I believe that, because the imagination's role in critical thinking has not hitherto been fully explored or utilized, we also discover interesting ways in which the imagination can bolster critical thinking. Once we begin to explore the dynamic of imagination in critical thinking, we find that the imagination can free critical thinking to reach the potential its advocates have claimed for it.

The Argumentation of the Dissertation

In this dissertation I am developing an argument that constructs, chapter by chapter, a conception of critical thinking that acknowledges the presence of the imagination and discloses its role in making reasoning creative and generative. The following is the line of thinking in the dissertation:

Chapter 2 focuses on the full continuum of critical thinking conceptions, emphasizing especially the philosophical perspective on critical thinking. The purpose of this chapter is to demonstrate that contemporary theorists have tried to expand the conception of critical thinking beyond the traditional conception,

because of their belief that the traditional conception, which generally focuses on logic and argumentation, is inadequate for developing young people's thinking abilities for use in multiple contexts (including use in everyday life). This chapter highlights some of the characteristics of these conceptions and leads into chapter 3, which examines the way that these expanded conceptions have affected the three distinctive approaches to critical thinking. I argue that these expanded conceptions of critical thinking, which seem to be more generative, creative, and constructive than traditional conceptions, are connected to the imagination.

In chapters 4 and 5 I begin to uncover a conceptual connection between the imagination and critical thinking. If my hypothesis is that imagination is that part of our consciousness that makes critical thinking generative, creative, and constructive, then I need to focus on various conceptions of the imagination to determine if this is actually conceptually possible. I begin with philosophical conceptions of the imagination because philosophers try to place the imagination in the context of the whole mind and being, to analyze and address the tensions that tend to emerge in our conceptualizations of the mind, and to develop an overall conception of critical thinking. The purpose of these chapters is to prove that the imagination is indeed conceptualized as generative, creative, and constructive and that this conceptualization can be coherently connected with the expanded conceptions of critical thinking.

In chapters 6 and 7 I tease out the relationship between the imagination and creativity, reinforce the connections between the imagination and critical thinking in the previous chapters, and suggest new possibilities for critical thinking. If we correctly assume that the imagination is a generative, creative, and constructive capacity and that these creative qualities are important to expanded conceptions of critical thinking, then in order to better understand the creative nature of the imagination it makes sense to focus on artists' conceptions of the imagination. For

them the imagination is their lifeblood; they regularly, systematically even, rely on the imagination to create a work of art. Chapter 7, in particular, begins to explore how the connection between the imagination and critical thinking leads us toward a new conception of critical thinking, which will be explained in more detail in chapter 9.

The purpose of chapter 8, then, is to grapple with the problem that the imagination can have a deleterious effect in the mind and lives of individuals and to assert the possibility of the education of the imagination. The creativity we seek in critical thinking is intended to be positive, but there is of course the potential for the imagination to be used for evil or wrongdoing. Thus, we need to ask how we foster the positive rather than the negative imaginative capacity. In our examinations of the philosophical and literary imagination we see that reason is often viewed as controlling the more negative tendencies of the imagination. Since critical thinking is often equated with reason, we need to explore more fully the ways in which theorists construe the relationship between imagination and reason. Specifically, we need to consider whether reason renders the imagination educable.

The purpose of chapter 9 is to argue for the advantages of this new conception of critical thinking. With the expanded conceptions of critical thinking explained and confirmed, the conceptual connection between critical thinking and the imagination established, and the need to educate the imagination to strengthen and balance critical thinking noted, I am ready to delineate my own conception of critical thinking, which I call integrative critical thinking. It is a critical thinking which draws on the imagination's generative, creative, and constructive powers to free the mind and to blur the distinctions among the three enduring approaches to critical thinking so as to enable them to operate in unison. I argue for the advantages of a new conception by showing that such a conception: 1) allows us

to integrate the three competing approaches to the teaching of critical thinking and
2) holds greater promise for liberating the mind as a foundation for an education
for freedom.

CHAPTER TWO

THE EMANCIPATION OF CRITICAL THINKING

In June of 1983 the Kappan printed a pair of cartoons (Herzog, 1983). In the first we see a custodian removing the statue of Rodin's *The Thinker*, while a group of people are surrounding and admiring a new thinker, a computer. In the second cartoon we again see the statue of *The Thinker* overlooking a class of students sitting in rows, holding calculators, and watching a videotape entitled "Today: Thinking Skills." The message in these cartoons seems clear and disturbing: we are replacing our model for thinking - the reflective critical human being - with human-made machines, which ostensibly do the thinking for us. Thus, we extol the virtues of "thinking" machines rather than our own critical thinking. We lose our sense of wonder of our own mind to explore, discover, and solve problems. The second cartoon suggests that students do not engage in active, critical thinking in their classes or schools, but rather sit passively and rely on pre-packaged thinking skills programs. In Rexford Brown's book, Schools of Thought (Brown, 1991), he calls these types of programs "talkinbout," a term coined by Brown and his fellow researchers because they saw much more talking about a subject like thinking than actually doing it; engaging in "a peculiarly stiff, jargon-ridden language of process, of how to do things" (p. 234) rather than a more open, natural, social process characterized by "mystery, uncertainty, disagreement, important questions, ambiguity, curiosity" (p. 234).

We might consider the cartoons instructive in another sense. Finding the best way to enable students to discover the ineffable qualities of critical thinking

may have as much to do with the conceptualization of critical thinking as the method of instruction. Certain conceptions may more likely alienate students' thinking from their daily lives than others, mainly because some conceptions of critical thinking require much training within a particular logical framework and a separation from the social context in which thinking occurs. Operating within such frameworks has an effect similar to demanding that students master grammatical rules before they begin to write - many students will never engage in the act of writing. In the case of what I call narrow, specialized, academic conceptions of critical thinking, students may never discover the relevance of critical thinking to their lives and consequently will not use the tools for thinking in contexts other than the classroom.

Edward de Bono (1983) suggests that effective thinking needs to incorporate "generative, constructive, or creative elements" (p. 706) - elements which traditional conceptions of critical thinking, at first glance, overlook. We might compare this effective, generative thinking to generative transformational grammar. Like transformational grammar, which takes a set of rules to both generate and transform sentences and phrases consisting of a phonological surface structure and a semantic deep structure, critical thinking can generate and transform our thoughts both at the surface level manifested in our language and actions and at a deeper level from which the power and richness of our thinking comes.

In this chapter I examine the narrower traditional conceptions of critical thinking and show how theorists in almost all of the current approaches to teaching critical thinking attempt to reconceptualize critical thinking to make it more expansive and generative. I make a case that the reconceptualizations of critical thinking are more beneficial for educating young people, more useful in multiple contexts, and more likely to have an impact on the society in which

critical thinkers live and act. This chapter explores the nature and shape of critical thinking and argues that critical thinking theorists have developed critical thinking conceptions, which render it a more expansive and generative mode of thought. As we consider the pedagogical effects of expanded conceptions of critical thinking on the three significant instructional approaches to critical thinking, we find that advocates of initially quite distinctive approaches begin, in their enlarged conceptions, to integrate features of the other approaches.

The Critical Thinking Continuum

As happens with most attempts to classify a type of thinking, efforts at clarifying critical thinking have yielded multiple definitions, which tend to make the territory confusing. While critical thinking has a more limited focus than "higher-order thinking," an umbrella term incorporating such concerns as critical and creative thinking, problem solving, and strategies to challenge us to use our minds more expansively, in actuality we often speak of critical thinking and higher-order thinking in similar terms, since the definition of critical thinking has tended to expand over the years and the higher-order thinking conception has focused more on reasoning elements than the other subsets identified under the rubric of "higher-order thinking." Nevertheless, this study uses the "critical thinking" terminology because it denotes a more enduring and more commonly used label for the kind of thinking we hope to foster in education.

Placing the various conceptions of critical thinking on a continuum helps us to understand the relative relationships among the different conceptions and creates a typology or framework that will structure our later discussions. We may posit two possible continuums to situate various critical thinking theories. The first continuum is historical, placing critical thinking conceptions on a continuum

from traditional conceptions associated with logic and argument analysis to more recent expanded conceptions influenced by ideological perspectives related to critical theory. Along the historical continuum we find critical thinking conceptions that focus on knowledge or content either to situate skills or to replace them and dispositions that provide the affective dimension to critical thinking to motivate critical thinkers to want to engage in the critical thinking enterprise.

The second continuum, which we may call a breadth continuum representing the scope of the conceptions of critical thinking, bisects the first, creating quadrants signifying the elements of knowledge or content, skills, dispositions, and the imagination. Narrow conceptions of critical thinking on this continuum focus on one of the elements - knowledge, skills, or dispositions. Broad critical thinking conceptions are characterized by a combination of three or four elements and often incorporate the imagination. Conceptions at the middle of the continuum include some combination of two elements (such as skills and dispositions or knowledge and the imagination).

At one end of the historical continuum, which may be defined on the conceptual continuum as narrow, we observe conceptions that focus on logic and argument analysis and tend to dismiss the affective, emotional, generative elements of critical thought. They seem to be more concerned with the surface structure relating to the language of logic and argumentation than with the deep structure characterizing the complexity and "messiness" of our thought processes as they are affected by the emotions and the realities of our lives. They tend to be far more focused on retaining objectivity and neutrality - "a critical perspective on social norms requir[ing] a point of view neutral to particular social situations" (Hostetler, 1994, p. 135). I focus on conceptions of critical thinking inclined to this perspective in the next section of this chapter. In his earlier work Ennis serves as the most prominent example of a proponent of this conception of critical

thinking.

At the other end of the historical continuum we see broader, more expansive conceptions, in which critical thinking admits both the cognitive and the affective, thought and emotion. These expanded conceptions, which may be located on the broad end of the conceptual continuum, incorporate knowledge, skills, and dispositions (along with the imagination, which we will discuss in chapters four and five). Those who hold these conceptions of critical thinking emphasize its usefulness in contexts other than academic ones. They recognize that critical thinking occurs in a social context. Some also acknowledge that politics, economics, and history all contribute to the features of that social context and influence our use of critical thinking. The contentions of theorists holding views at this end of the continuum are the focus of this dissertation, for I claim that, if we hope to develop critical thinkers who take action based on their thinking, we must have the educational framework - the theories - to foster this type of thinking in the various contexts in which these young people live. I call this type of thinking integrative critical thinking because it demands that we think critically by adopting new approaches that may vary radically from traditional approaches and represents a change in critical thinking induced by the acknowledgement that it occurs in a social context and is in part influenced by the dynamics that constitute that context. Integrative critical thinking does not dismiss logic as a part of critical thinking (certainly one of several aspects integrated in critical thinking), but it does recognize that logic has a more limited role in a fuller conception of critical thinking. As we explore these expanded conceptions of critical thinking in this chapter, we can locate Richard Paul's prominent theories as well as Karl Hostetler, Laura Kaplan, Kerry S. Walters, and Danny Weil at this end of the historical and conceptual continuums. The center of gravity of the conceptions of critical thinking developed by Richard Prawat, Matthew Lipman,

Harvey Siegel, Michael Scriven, and Robert Ennis (in his more recent writings) draws closer to the midpoint of the continuums. Lipman's and Siegel's conceptions tend to lean toward the more expansive conceptions, while Scriven's and Ennis' conceptions lean toward more narrow, traditional conceptions.

Traditional Conceptions of Critical Thinking

As I have indicated, then, at what we might call the narrower, more traditional end of the continuum we find conceptions of critical thinking characterized by the absence of affective qualities, controlled by the rules of logic, and concerned with excluding the social context in which individuals engage in critical thinking, purportedly to ensure the "illusion" of objectivity and neutrality of this type of thinking. As philosophers have traditionally conceived it, critical thinking is associated with "the correct assessment of statements" (Ennis, 1962) or the "spotting of faults" (de Bono, 1983, p. 706). For Robert Ennis assessment of statements demands a mastery of logic. In his book, Logic in Teaching (Ennis, 1969a), Ennis devotes an appendix to "Selected Texts from which Students Might Study about Clear and Critical Thinking." These critical thinking texts examine such areas as logical thinking, fallacies, the use of reason, and practical logic. In Ordinary Logic (Ennis, 1969b), he uses exercises from ordinary language, but continues to focus on formal logic and avoids practical problems. The testing program Ennis and Millman (1985) have developed views critical thinking as simply a matter of mastering logic. Undoubtedly the assessment of statements advocated by Ennis is a useful tool for individuals engaged in the critical thinking process, but it restricts our critical thinking to a relatively narrow, rule-driven approach that does not easily lend itself to non-academic contexts. In short it is hard to see how helpful such critical thinking would be in solving what Paul

(1990) calls the important problems of everyday life.

John McPeck (1990) suggests that the focus of critical thinking as defined in this way is on argument analysis. But he argues that such a focus has limited value in everyday life because "argument analysis is always an ex post facto reconstruction of past reasoning" (p. 6) and because it purports "to determine the validity of arguments, not the truth of premises or evidence" (p. 6). I believe that McPeck focuses accurately on the problems with the conceptions of critical thinking proposed by Ennis and other similar theorists. His observations explain why critical thinking of this sort is not readily applied in other contexts, where our arguments must focus on present reasoning and on the evidence to support that reasoning. Although we may value this mental operation of correct assessment of statements in certain circumstances, McPeck emphasizes its narrowness and negativity; he reminds us that such thinking is bereft of the generative qualities so essential for reasoning in a person's daily life.

We find a response to these worries if we trace the evolution of the Cornell Critical Thinking Test under Ennis and Millman (1985), a test which in 1964 focused solely on syllogistic reasoning and was later revised to accommodate an expanded conception of critical thinking, including a number of dispositions essential for the fostering of critical thinking. Ennis includes such dispositions as open-mindedness, locating and using credible sources, examining a number of points of view, stating a problem or question clearly, being objective, etc. He still recognizes the underpinning of logic, but acknowledges that critical thinking consists of more than argument analysis.

In his book on critical thinking entitled Reasoning, Michael Scriven (1976) also shifts away from syllogistic reasoning and employs only natural language in his accounts of critical thinking. He identifies the following seven useful steps for analyzing an argument:

1. Clarify the meaning of the argument and its components.
2. Identify the stated and unstated conclusions.
3. Portray the structure of the argument.
4. Formulate the unstated assumptions.
5. Criticize the premises (given and "missing") and the inferences.
6. Introduce other relevant arguments.
7. Judge the argument in light of operations 1 through 6. (p. 39)

In this seven-step analytical model we may note some of the features associated with traditional conceptions of critical thinking, especially those related to the construction and judgment of an argument.

Nevertheless, Scriven (1976) emphasizes informal rather than formal logic, and he urges us to develop a sensitivity to the context in which argument analysis occurs. This sensitivity to context is especially important to a full conception of critical thinking, I believe, because it is the context that determines the meaning of our thinking. While Scriven adumbrates a more expanded conception of critical thinking, he fails to explore the different nature of various contexts and their effects on critical thinking. The analysis of arguments can serve the real purposes of making decisions, solving problems, and establishing beliefs. Although John McPeck (1981) commends Scriven for expanding his conception of critical thinking, he also notes that Scriven's seven-step model of reasoning is still virtually coextensive with logical reasoning. He observes that Scriven himself occasionally abandons his own thesis about the complexity of reasoning and equates reasoning with traditional argument analysis. I suspect that Scriven fails to honor the complexity of reasoning because the seven-step process he advocates limits complexity in order to prescribe a line of reasoning that follows a logical process rather than one that interacts with the context in which the reasoning occurs.

Although prescriptions for critical thinking may be useful in establishing a frame for the thought process, they have a tendency to make the process limiting.

Whatever benefits we can obtain from the rigors of logic and argument analysis, the fact is that this conception of reasoning remains narrow, separates critical thinking from other types of thinking (such as creative thinking), is divorced from the social context in which thinking occurs, and focuses too much on skills to analyze and assess arguments. Accepting McPeck's argument that the skills involved are limited, not generalizable, and hence not usable for everyday thinking, theorists have offered several different reconceptualizations of critical thinking.

Expanded Conceptions of Critical Thinking

The sensed need to recast critical thinking as a more generative process useful in everyday life reasoning has encouraged theorists to expand their conceptions of critical thinking, to shift their emphasis from a narrow, logic-driven approach to one more usable in everyday situations and contexts. On the historical critical thinking continuum these conceptions lie on the more expansive end and tend to be broad on the conceptual continuum. In this section we first examine conceptions that more nearly fall at the center of the continuum and move on to consider increasingly expanded conceptions that adopt the use of "critical" as it is used in critical theory and critical pedagogy. My own conception of critical thinking, which I label integrative critical thinking, is situated at this end of the continuum. Its contours will become clearer as I explore other expanded conceptions of critical thinking.

Robert Ennis (1985) himself expands his own definition of critical thinking to incorporate "reasonable reflective thinking that is focused on deciding what to do or believe" (p. 54). He now, I think more correctly, defines critical thinking as more of an active process used by thinking individuals. Ideally, critical thinking occurs in the context of everyday life decisions, which we resolve through a

rational, reflective process. Reflection, I believe, is a key component of critical thinking, a disposition which transforms "a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clean, coherent, settled, harmonious" (Dewey, 1933, pp. 100-101). Reflection helps to clarify our thinking, which is engaged by perplexity, to solve a problem. If we are "willing to endure suspense" during the reflective and critical thinking process and "to undergo the trouble of searching" (p. 16), we will be able to reach a powerful conclusion. Thus, I think Ennis is on the right track in including this element in an expanded definition of critical thinking.

No longer, then, is critical thinking viewed solely as a fault-finding (and often esoteric) process. It is primarily an operation useful to individuals in everyday life situations. Critical thinking is not simply a matter of recalling facts quickly but rather is a process in which we ponder alternatives before making choices and decisions or solving problems. In fact, Ennis (1987) contends that his revised definition of critical thinking does not preclude creativity that may generate alternatives, since "formulating hypotheses, alternative ways of viewing a problem, questions, possible solutions, and plans for investigating something are creative acts" (p. 10). We may disagree with Ennis' conception of creativity. Nevertheless, I believe that Ennis makes a valuable observation about the nature of critical thinking as a creative process. During reflective, critical thinking we hope to find a creative solution. We often hold up critical thinking, as Ennis has more recently begun to conceive it, as an ideal of education. We think it essential for citizens in a democratic society, individuals who, at least theoretically, share the task of governance.

Ralph H. Johnson (1992) identifies three problems with Ennis' revised definition - problems which need to be noted when considering Ennis' conception of critical thinking and conceptions of other theorists attempting to respond to the

need to expand their critical thinking theories. The first is the network problem, according to Johnson. Johnson is suggesting that Ennis fails to sort out the relationships among a network of terms such as "problem solving, decision making, metacognition, rationality, rational thinking, reasoning, knowledge, and intelligence" (p. 41) - all related to critical thinking. The second is the scope problem, which focuses on the need to identify what critical thinking includes. Does it include actions as well as belief formation? Does it enter the realm of moral reasoning? The third problem deals with the issue of the proficiencies and tendencies that Ennis identifies and uses as the basis of his critical thinking test. Johnson asks where these proficiencies have come from and whether or not the list of proficiencies and skills is inclusive of all proficiencies and skills. Because Ennis tends to equate critical thinking with rationality, he encounters these problems, which result from extending his definition of critical thinking without significantly modifying his belief in the primacy of logic and argument analysis. Thus, he adds dispositions to his growing list of proficiencies, which reveal a problem with the scope of his definition and encourages people to question the relationship of the different terms he uses in order to justify the inclusion of additional proficiencies.

Ennis (1987) expands his own definition of critical thinking without losing the more rational elements of his original definition - elements which he regards as central to this concept, a belief which other writings of many contemporary theorists and researchers echo. Like Ennis, these advocates of expanded conceptions of critical thinking do not necessarily dismiss the more narrow conceptions (even though they move farther away from them than Ennis does), but, rather, they attempt to demonstrate that critical thinking incorporates much more than logical analysis and argumentation. I do not believe that Ennis goes far enough in acknowledging the various factors that influence and so become a part

of critical thinking. His conception remains closer to the center of the historical and conceptual critical thinking continuums outlined earlier in this chapter; however, he has begun to deal with the concerns that our narrow conceptualizations of critical thinking keep us from fostering better thinkers who think critically throughout their lives. Other theorists, while accepting some of the expanded features inherent in his reconceptualization, move beyond Ennis' latest definition.

Initially Harvey Siegel (1988) seems to accept a narrow view of critical thinking when he declares it "coextensive with rationality" (p. 30). He contends that both critical thinking and rationality require "believing and acting on the basis of good reasons" (p. 30). In disagreeing with McPeck that critical thinking cannot be generalized for use in everyday life situations, he conceives of a type of critical thinking that offers more than simply a reaffirmation of the narrow conceptions of critical thinking that focus on logic and argumentation.

Siegel (1988) connects critical thinking with actions and beliefs by two different but central components of critical thinking - the reason assessment component, which emphasizes effective evaluation of reasons, and the critical spirit component, which focuses on the dispositions or habits needed to engage in reason assessment. Like Ennis, Siegel incorporates dispositions into his overall conception of critical thinking; however, he is more methodical about exploring the relationship between dispositions and reasoning than is Ennis. Siegel very carefully examines the connection between what he calls the critical spirit and the reason assessment components of critical thinking. Additionally, Siegel (1988), noting the mistaken stereotype of the critical thinker as an unfeeling automaton, insists that reasons and emotions must be connected because emotions provide us with the passions to engage in reason assessment. For Siegel the critical spirit component is a crucial element in fostering rational passions, which will make

critical thinking a process adoptable in various situations. "Conceptions of the reasonable person as one without emotion," Siegel suggests, "and one who 'turns off' her emotions while engaging in reason, are untenable" (p. 40). Thus he emphasizes emotions that foster and promote critical thinking.

We see that Siegel (1988) offers a conception of critical thinking that explains how we might empower critical thinking for use outside academic contexts. Unlike advocates of more traditional conceptions of critical thinking, Siegel acknowledges the role of emotions. When we accept a role for emotions, while still recognizing the central role of reason, we begin to construct a fuller conception of critical thinking, one which draws from the deep structure of thinking with all of its untidiness but with more of its power.

Once we introduce the emotions, however, we need to recognize, as Siegel (1988) does, that not all emotions are equally useful in critical thinking. Siegel focuses on what he believes are the more desirable emotions for critical thinking - rational passions. He accurately acknowledges the role of emotions, primarily because I believe they serve as a motivation for action and the development of a tendency to act in a certain way. These desirable emotions need to be fostered if we hope to ensure that we think critically. Thus, when a person is passionate about a cause such as the dangers of a nuclear power plant, she will often seek evidence and arguments from a variety of sources to support her own contentions. Without properly educating us to use these positive emotions, they may interfere with the actual use of critical thinking. The emotions, however, may be powerful enough to sustain an ongoing involvement in the issue being examined. In critical thinking the passions or emotions are directed toward the reasoning process. The emotions will give the person a desire to engage in critical thinking. It is the motivational nature of emotions that makes them important to critical thinking which individuals want and are able to use in multiple contexts. The motivational

nature encourages a thinker to be reflective, as Ennis (1987) contends, and to discover creative solutions, as Perkins (1991) suggests. Siegel only begins to explore the role of emotions. I do not believe he addresses the issue of less desirable emotions and their effects on critical thinking, but he has offered insights into the emotions contributing to critical thinking, even though we do not gain insights into the extent to which positive emotions aid us in understanding the social context for critical thinking. Nor does Siegel acknowledge the extent to which the emotions diminish the neutral stance he seems to be seeking in his conception of critical thinking.

Matthew Lipman (1988), who supports the teaching of philosophy to young people, associates critical thinking with "skillful, responsible thinking that facilitates good judgment because it (a) relies upon criteria, (b) is self-correcting, and (c) is sensitive to context" (p. 39). Although we can observe in this definition the rule elements of some of the more narrow, traditional conceptions of critical thinking like Ennis (1969a, 1969b) in his original notion about critical thinking, we also notice its more generative elements, as the young person monitors and corrects his or her own thinking (a metacognitive process) while recognizing the context in which that thinking occurs and adjusting accordingly. I believe that metacognition is akin to the reflective process that Ennis (1987) identifies in his later conceptualization of critical thinking; without reflection, which is an inward process with the intention of an outward action, we will not be metacognitive. We will not become aware of our thinking and correct it. One of Lipman's more valuable contributions is his emphasis on the context in which thinking occurs - an emphasis we were first introduced to in Scriven's conception of critical thinking. The context grounds critical thinking in actual situations and makes the process more meaningful by examining all of the implications of the context on critical thinking (namely, the cultural, political, and economic issues that influence our

thinking).

Lipman (1988) believes in a broader definition of critical thinking than Ennis, at least for those trying to develop critical thinking in the schools and colleges. He claims Ennis' "outcomes (solutions, decisions, concept-acquisition) are too narrow, and the defining characteristics (reasonable, reflective) are too vague" (p. 38). Lipman himself designs a definition to "broaden the outcomes, identify the defining characteristics, and then show the connections between them" (p. 38). Through critical thinking, Lipman believes, we have the promise of intellectual empowerment - the promise of independent thinkers and learners - especially if we cultivate this type of thinking by engaging in "the raw subject matter of communication and inquiry" (p. 43).

Another influential critical thinking theorist, Richard Paul (1984), notes a distinction between two notions of critical thinking - critical thinking in a narrow or "weak" sense similar to that described as at the core of critical thinking, and critical thinking in a broader or "strong" sense - the type of critical thinking that Lipman (1988) and Siegel (1988) begin to define. In the weak sense, according to Paul, the thinker conceives of critical thinking as "'vocational' thinking skills" - a kind of "technical reasoning" not generative or transformative and therefore not likely to influence an individual's nature or her intellectual life. Paul's strong sense critical thinking, on the other hand, is generative and emancipating; it incorporates both the rational and emotional processes that Siegel identifies. Paul particularly emphasizes emotions related to egocentrism and sociocentrism that go beyond Siegel's rational passions. Strong sense critical thinking, as Paul conceives it, entails dialectical reasoning in which one considers a number of different viewpoints and weighs the results of their mutual interrogation. Paul claims that we require this sort of dialectical reasoning to ensure rational confidence and to develop intellectual, emotional, and moral integrity. Paul's conception of critical

thinking moves us closer to an understanding of its social function, especially in enabling a person to function more ably in a democratic society.

Paul (1984) is one of the more prominent theorists discussed so far to have shifted the balance from a more skills-oriented approach to a dispositional approach. He seems to suggest that, if we can foster positive thinking dispositions, we will have motivated students to think critically. Paul goes farther than other theorists to discover qualities that will enable critical thinking to be used in a variety of contexts. He even goes so far as to suggest that critical thinking should become a way of life. Although a focus on dispositions is not a panacea for encouraging young people to use critical thinking in multiple contexts, Paul has focused our attention even more clearly on the role of dispositions to motivate critical thinking.

Social Construction of Critical Thinking As Currently Conceived

Although many other theorists contend that the development of critical thinking must occur in a social setting, in a community of thinkers, a direction which I believe expands on Lipman's notion of context (Lipman, 1988), this aspect of critical thinking and all of its implications for the use and teaching of critical thinking is just beginning to be broached in the literature on critical thinking. Richard Prawat (1991, 1993), for example, believes that the teacher best develops students' critical thinking in a community of thinkers drawing problems not just from one discipline but from several disciplines and from everyday life. He too insists that this content-area instruction should not separate the intellect from emotions (as many of the more narrow conceptions of critical thinking demand). Prawat avoids this separation by "immersing" and actively engaging students in grappling with what he calls "big ideas."

In developing a nonobjectivist position (a non-neutral view about thinking in social situations), Karl Hostetler (1991) suggests that we foster critical thinking in "communal inquiry within and among particular forms of human life, not divorced from them. Objectivity is possible within such inquiry, but it is not achieved by reference to some perspective that is neutral to all views" (p. 1). The essence of critical thinking, he suggests, enmeshes divergent, non-neutral perspectives. Michael Apple also underscores the social nature of thinking. When asked about his definition of literacy, Apple defines thinking as "a dialogue, both with the past and with others at the same time. If you teach it as an individual thing, you miss the whole point. A higher literacy would be one that was eminently social" (Brown, 1991, p. 33). This dynamic conception of thinking acknowledges that the operations of the mind develop, expand, and refine themselves as we interact with others. In fact, the social context, I believe, allows the critical thinker to ground his or her reflection, creative thinking, and emotions by interacting with others. He or she is also able to modify and expand his or her ideas, to engage in conversations that may lead to alternative or differing ways of approaching problems or issues, and to discover an audience with similar or differing views about issues - possibly leading to Paul's dialogical thinking (Paul, 1991), in which the thinker identifies with the person who holds an opposing position. In a way, I am claiming that the community can significantly change the way the mind goes about approaching problems, issues, situations, and belief formation.

Critical thinking theorists have traditionally avoided or eschewed the notion of the "critical" as it is used in critical theory but a recent collection of essays on Re-Thinking Reason argues that new perspectives in critical thinking must be "grounded in experience as well as open to alternative ways of knowing, evaluating, and appraising" (Walters, 1994, p. 19) by being acutely aware of and

critically acting on the social context. Some conceptions of critical thinking that acknowledge the social context focus on the need to "understand notions of the culture of power, domination, economics, educational equity, and the hidden curriculum in schooling" (Weil, 1994, p. 10). Danny Weil, for example, is concerned with developing a theory for an education for liberation by attending to and addressing the issues of power and domination, which have generally been absent in traditional conceptions (and some expanded conceptions) of critical thinking. Weil concludes that

we must bring our critical thinking to bear on the historical cultural assumptions that guide many of our actions, questioning the origin of these assumptions, the evidence on which they are based, the implications of their practice, and the interests they serve. . . .[Critical thinkers are] conscious protagonists in the construction of a rational and compassionate culture and morality. (p. 17)

Although Weil (1994) emphasizes cultural literacy, his underlying theoretical framework is critical theory and critical pedagogy. The critical theory agenda is one of understanding and acting on the inequities inherent in the social context in which inquiry occurs. These inequities ought to be addressed through critical activities that allow the social, political, and ideological issues to emerge rather than accept unquestioningly the voices that tend to dominate. In recent years the critical issues of emancipatory thought have focused on race, gender, social class, and (more recently) sexual preference.

Laura Duhan Kaplan (1994) suggests that critical thinking as it is informed by critical pedagogy promotes intellectual autonomy by "decod[ing] the political nature of events and institutions" and by "envision[ing] alternate events and institutions" (p. 217). In this collection Anne M. Phelan and James W. Garrison

(1994) also seek to address the power and domination issues as they affect women's issues through a critical thinking that restores "the missing dialectical contrary, i.e., belief, in order to overcome the masculine gender biased dogma that currently defeats the dialectic of critical thinking" (p. 93).

Karen J. Warren (1994) addresses the critical thinking context from a feminist perspective. In her essay she examines patriarchal conceptual frameworks, which advocate an oppressive agenda of value-hierarchical thinking, value dualisms, and a logic of domination. She explores the features of patriarchal conceptual frameworks, features like the priority of the disposition of openmindedness, which from a feminist perspective may be cast as biased when viewed from a patriarchal framework. "A 'proper understanding' of 'openmindedness'," according to Warren, "requires an understanding of the nature and power of conceptual frameworks, particularly patriarchal ones" (p. 169). All of these conceptions of critical thinking share a concern about the social context and the power and domination issues that accompany them (whether talking from feminist or multicultural perspectives). They do not avoid ideologies nor do they attempt to establish a neutral stance on these issues. Critical thinking should entail judgment and evaluation, but the personal and social context of one's thinking should always be considered.

Conclusion

I contend that the conceptions of critical thinking discussed in this chapter lead to thinkers who engage in more than academic exercises; they engage in real, untidy inquiries that are not reducible to neat premises and conclusions. As these critical thinking theorists move away from the narrow conceptions of critical thinking, they become less comfortable with dichotomies and binary thinking,

especially with the dichotomy between thought and emotion, because such dichotomies tend not to exist in real world situations. Some seek to establish or restore a dialectic. Siegel (1988), Paul (1984), Prawat (1991, 1993), and to a certain extent Hostetler (1991) all share this discomfort and seem to search for a conception that will embrace both thought and emotion (or at least will allow the two to exist together despite the tension between them). Since theorists concede that we cannot divorce thinking from emotion, they tend to emphasize the social nature of thinking and demand application and use in the world in which thinkers live. Their more generative conceptions of critical thinking demand that the whole person, as an individual and member of a community, be acknowledged during the critical thinking process. Some theorists go so far as to contend that critical thinkers need to break down the political social context characterized by power and domination and envision alternatives. They believe that critical thinkers must recognize and challenge oppressive patriarchal agendas.

The integrative critical thinking I am trying to develop here, then, is engaged in by an individual who does not necessarily dismiss logical reasoning, but acknowledges that critical thinking is a much more complex and integrated process. Although it must rightly be viewed as a reasoning process, integrative critical thinking uses reflection to monitor the thinking process for self-correction in order to develop creative solutions. The integrative critical thinker recognizes the need to motivate individuals to engage in critical thinking, but acknowledges that many emotions other than those Paul (1991) and Siegel (1988) identify as rational passions must be accounted for if critical thinking is to become a way of life. This type of critical thinking will probably be fostered within a social context, a community of thinkers, where critical thinking is encouraged and individuals are supported during the thinking process.

The critical thinking I have highlighted in this chapter does not occur

naturally. We learn critical thinking by interacting with individuals who model such thinking and by engaging in critical thinking activities in the classroom, especially designed to enable students to think better in their academic subjects. Since critical thinking is regularly associated with schools, where professionals have adopted it as one of their more prominent educational goals, we must be sensitive to the use of critical thinking in the school setting and the approaches teachers use to encourage students to think critically and effectively. It is particularly important to see the effects that various conceptions of critical thinking have on our instruction if we hope to instill critical thinking in young people. Chapter three focuses on the implications of alternate conceptions of critical thinking discussed in this chapter on our pedagogy.

CHAPTER THREE

THE PEDAGOGICAL IMPLICATIONS OF ALTERNATIVE CONCEPTIONS OF CRITICAL THINKING

A Classroom Example

In Ms. Alsop's English classroom, we can observe an evolution in the way she has fostered critical thinking in her students that parallels the movement from traditional to expanded conceptions of critical thinking. When she originally conceived of critical thinking in a traditional way, Ms. Alsop focused on the development of logic and argumentation. She encouraged her students to study the language of argumentation (both formal and informal) and to examine a number of common fallacies like ad hominem, two-wrongs-make-a-right, straw man, and begging the question. Students discovered these fallacies in the daily newspaper and speeches delivered by public officials. They also wrote their own arguments on contemporary issues like gun control, euthanasia, and nuclear power, arguments that fellow students and she would analyze. Ms. Alsop found that students varied in their ability to master the skills of logic and argumentation, and even those who had mastered it showed little evidence of using it in contexts other than her classroom.

Because of her increasing dissatisfaction with this approach to critical thinking instruction, Ms. Alsop sought other ways to strengthen students' abilities to think in multiple contexts. As she attended workshops on this topic and read articles in educational journals, she expanded her views about critical thinking. She began to focus more on the classroom environment than on a series of skills

(even though she continued to teach the art and craft of developing and presenting an argument). Students were immersed in critical thinking activities, interacting with each other and the teacher to solve both hypothetical and real problems in the school and community. They were encouraged not simply to accept knowledge as delivered by an adult, but to discover the subject for themselves. Ms. Alsop also came to regard herself less as the disseminator of knowledge and more as a model and catalyst for discovery, a person as much a learner as a teacher. Students shared their discoveries with others (both within the classroom and outside of it) and explored in writing and oral expression other ways of synthesizing their ideas. During the process Ms. Alsop encouraged habits of mind like openmindedness and self-reflection through both discussion and classroom interaction. She regarded this process of discovery as continual - as a way of life.

Ms. Alsop's evolution is similar to the changes that occur in many educators who have sought during the last several years to teach students to think critically. For some educating for critical thinking is a moral agenda. Such thinking is concerned with making us better citizens in a democratic society and enabling young people to establish beliefs which guide their actions throughout their lives. These lofty goals underscore the reasons for demanding that young people are taught to think critically and for expecting educators to incorporate it into their pedagogy. For others the reasons for teaching critical thinking are more mundane - namely, to enable students to think more effectively about the subject an instructor is teaching. Whatever the reasons, educators feel challenged to improve students' ability to think. The debate over critical thinking conceptions and their pedagogical implications exists and is ongoing, mainly because of the lack of evidence that students are thinking effectively. In this chapter I focus on the knowledge, skills, and dispositions approaches to the teaching of critical thinking and identify the effects of alternate conceptions of critical thinking on these

approaches in particular and critical thinking instruction in general. Traditional conceptions of the knowledge or skills approach are narrow on the conceptual continuum outlined in chapter two, because they focus on a single element or approach to the exclusion of others. Expanded conceptions of the knowledge or skills approach are broad on the conceptual continuum, because they emphasize the integration of the three approaches (and include the imagination, as we will see beginning with the next chapter).

Integrative Critical Thinking and Pedagogy

As Ms. Alsop expanded her views about critical thinking, she moved closer to accepting a conception of critical thinking that I call integrative critical thinking. Integrative critical thinking inherits much from both senses of the word "critical" examined in this chapter and the previous one. Evaluation and judgment are certainly important to critical thinking, but the notion of objectivity and neutrality is replaced by a recognition that evaluation must be seen in terms of biases and ideologies formed in a social context constructed by domination, power, and cultural history. "Critical" in this sense is associated with the "critical" in critical theory. Closely associated with critical theory is critical pedagogy, which is constituted of instructional approaches to put into effect critical theory and which helps to inform our understanding of critical thinking. Critical theory requires an educational process that fosters reflection, which is combined with action "enlivened by a sense of power and politics" (Beyer and Apple, 1988, p. 4). This reflective action may be undermined by a hidden curriculum, which tends to maintain the existing power structure of society. Those who are educating for critical thinking must critically examine the hidden curriculum in a newly formed context, in which individuals interact and respect each other's perspective.

An integrative critical thinking pedagogy has a strong connection with critical pedagogy in that it seeks to inform critical thinking instruction with a sense of the context in which critical thinking occurs and provides young people with the tools to understand that context as they are making judgments and evaluations; however, integrative critical thinking pedagogy cannot forego an exploration of the enduring thinking approaches to the teaching of critical thinking - approaches which provide a framework for critical thinking instruction and which have developed a separate line of research from critical pedagogy. The approaches focus on knowledge, skills, and dispositions, some of which emerge in the account of Ms. Alsop's classroom, where we observe an evolution in her conception of critical thinking and her instructional approach.

Teaching the Skills of Critical Thinking

Traditional conceptions of the skills approach. If a teacher like Ms. Alsop adopts a particular conceptualization of critical thinking in the classroom, then her approach to instruction will often be determined by the conception. In the case of a traditional conception of critical thinking that emphasizes logic and argumentation, the teacher is more likely to teach the skills needed to use logic and argumentation than to emphasize either the teaching of a content area without the explicit instruction of skills or to consciously foster the disposition of thinking. When Ms. Alsop first started to teach critical thinking, for example, she focused on the teaching of the skills of logic and argumentation. In this traditional, narrow approach to the teaching of critical thinking, dispositions are generally ignored, because they detract from the instruction of necessary skills and because our ability to foster them is highly questionable. Logic may be regarded as a subject in itself, but it is taught as a series of skills to be mastered.

Expanded conceptions of the skills approach. The debate among thinking skills proponents has gone in two directions. Some theorists emphasize the need to abstract skills and teach them separately. Those who advocate for critical thinking as logic and argumentation tend to accept this thinking skills approach. Others emphasize the need to identify skills, but then to teach them consciously within the context of a subject matter. The latter approach challenges us to discover a balance between the teaching of skills and the teaching of the subject so that skills do not become submerged in content instruction. Prawat (1991) labels these approaches as the "stand-alone" orientation and the "embedding" orientation. Although Beyer (1988) encourages the use of both orientations, he generally advocates embedding skills in the subject matter. That orientation, he argues, is more useful. I suggest that it is an attempt of skills theorists to make their thinking approaches more generative.

Despite the value of different strategies, the limitation of a skills approach results, I believe, from its emphasis on performances abstracted from the context of thinking itself. When we try to teach thinking skills directly, we notice this limitation. For this reason most thinking skills advocates have tended to shift toward the teaching of these skills while also teaching a content area, so that students can apply the skills to real situations. In addition, they are more likely to advocate functional thinking and metacognition (see Beyer, 1988) than they once did - a notion consistent with expanded conceptions posited by theorists like Lipman (1988) and Paul (1991). The shift in conceptions about the teaching of thinking to a less limiting and confining approach has occurred because of research observations which have revealed that students are "not engaged in active thinking or problem solving or creativity" (Brown, 1989, p. 31) when they break down thinking into a series of skills. Robert J. Sternberg (1987) sees advantages to the teaching of skills both separately and infused in the curriculum. He admits,

however, that the infusion of thinking skills encourages the application of skills rather than "fostering inert knowledge about thinking skills" (p. 254) and reinforces the use of skills in multiple contexts.

Perkins' theories and research expand the skills approach beyond simply teaching skills in the context of a subject area. Perkins (Brandt, 1990) regards skills as "tools" for reorganizing thinking. He seems conscious of the dangers of becoming reductive in focusing on thinking skills, especially since we might believe that we can improve thinking skills by drill and practice. Since skills help to reorganize our thinking, he moves from the term "thinking organizers" to another term, "thinking frames" - "anything you use to guide, direct, or shape your thinking. . ." (p. 52). He suggests that thinking frames may help to empower students' thinking, but such empowerment demands the active involvement of adults, who help students to acquire and build a repertoire of frames, practice their use until they are internalized, and transfer them to contexts other than the one in which we teach them (Perkins, 1986a). He emphasizes that this empowerment does not occur simply by providing "an intellectually enriched environment" (p. 8) nor does it come when "we teach skills and concepts disconnected from the purposes, the models, and the arguments that make them meaningful, that weave them into a larger tapestry of flexible and functional knowledge" (Perkins, 1991, p. 7). From this view Perkins acknowledges what I believe is essential to a rich conception of critical thinking - a recognition that the various approaches interact during the thinking process, which operates powerfully when various aspects of the mind are allowed to connect. Thus, while Perkins is emphasizing the need to develop and internalize skills, which he sees as shaping and framing our thinking, he has blurred the distinctions among the three approaches to critical thinking. He has given us what I would suggest are valuable insights into a way of thinking that acknowledges the complexity of our thinking and therefore the complexity of our

approaches to the teaching of critical thinking. Skills alone are inadequate, but skills as reorganizers in a thinking community with a meaningful content will begin to provide a type of thinking usable in our daily lives.

Sternberg (1987) agrees with much of what Perkins (1991) says. Wanting to guard against simplistic conceptions of thinking skills, Sternberg suggests three categories of thinking, all of which the teacher of thinking must attend to. The first - executive, meta-skills - help us to "plan, monitor, and evaluate [our] thinking" (p. 252). He contends that we need this component for the successful transfer of skills to other contexts. It also coincides with Lipman's definition and supposes the reflection Ennis (1987) identifies as an aspect of critical thinking. The second and third - nonexecutive skills - focus on performance and the acquisition of knowledge. These categories, he claims, must all operate together for effective thinking, once again suggesting the extent to which we must consciously use all three approaches to teaching critical thinking. They aid us in following through on our thinking and they actually help us develop the ability to think. They enable us to use strategies, like the ones explored by Perkins (1991), to develop adequate mental representations to solve problems and to effectively use the subject matter or knowledge base we deal with.

As I have emphasized, the skills advocates, attempting to expand the conceptions of critical thinking to make them more generalizable, do not reject the teaching of knowledge or the instilling of dispositions in individuals, as we can see in the theories of Perkins (1991) and Sternberg (1987). Rather, as Beyer (1988) argues, we need all of the three components to tap the depths of our complex thought process. By contending that critical thinking needs these three components, Beyer is moving toward a conception of critical thinking that I have identified as broad on the conceptual continuum. Because the three interrelate, I have contended, we must not ignore any of them. In fact, Beyer devotes a section

in his book to an exploration of thinking dispositions and methods teachers may use to teach them. Nevertheless, the skills advocates contend that we should focus primarily on thinking skills when teaching critical thinking, even though their approaches acknowledge the need to embed skills in the teaching of a subject and to encourage the development of dispositions in order to make thinking more generative and more useful in contexts outside of the academic setting.

Teaching Knowledge As Critical Thinking

Traditional conceptions of the knowledge approach. Although advocates of narrow conceptions of critical thinking often reject approaches focusing on being engaged in content as a way to develop the ability to think critically, theorists like John McPeck (1981, 1990) object to the teaching of skills because they are separated from a subject matter. Advocates of this approach, like those of the skills approach, accept that effective reasoning is central to critical thinking and may even acknowledge the benefits of developing the ability to analyze arguments. The theorists part company when they focus on the means of developing critical thinking. Whereas the skills advocates believe that teachers must isolate discrete mental operations in order to teach critical thinking, theorists supporting a knowledge approach believe that the only way to teach critical thinking is to teach a subject. If logic or argumentation is to be developed, it is the peculiar logic of the subject and not some generalized logic or argumentation that must be emphasized. Thus, critical thinking, according to knowledge advocates, is not generalizable to other contexts either within the school or outside of it in our everyday life situations, since each circumstance requires understanding of a new or different subject.

This approach to the teaching of critical thinking tends to be narrow. It

focuses on one approach to the exclusion of others and relies upon the richness of the subject to generate critical thinking. This approach may indeed encourage such thinking, but there is little guarantee that such thinking will occur. In addition, because it is so strongly tied to the subject, it does not encourage critical thinking in multiple contexts.

Expanded conceptions of the knowledge approach. For David Perkins (Brandt, 1990) "good thinking in a domain depends on a very rich knowledge base in that specific domain" (p. 50), a knowledge base which will demand immersion in the subject area in order to construct meaning. However, he warns against "immersion in content to enhance thinking" (Perkins, 1987, p. 46), suggesting it "the conventional ploy of education" (p. 46). Perkins is expressing concern about a focus on knowledge that is too narrow and does not allow for the development and use of thinking frames. This narrow perspective on knowledge regards knowledge as information delivered directly rather than knowledge built or invented (Perkins, 1986a, 1986b). Knowledge as information tends to lead to a disconnected curriculum, whereas knowledge as invention tends to be more integrated. A thinking frame, which Perkins (1986a) defines as "a representation intended to guide the process of thought, supporting, organizing, and catalyzing that process" (p. 7) enables knowledge as invention. These frames as catalysts help to move the knowledge approach away from knowledge as transmission by recognizing process frames, cognitive styles, and analogies. Perkins' conception heralds the next generation of the skills approach, as suggested in the previous section of this chapter, but also suggests a generative knowledge approach as well. Once again, we see a conception that blurs the distinctions among the various approaches to critical thinking and provides a conception of critical thinking as a dynamic process. Perkins acknowledges valuable connections, I believe, because he realizes that critical thinking is as complex as the mind itself. He observes the

central place of knowledge in the instruction of critical thinking, but this is not inert knowledge that we absorb. It is constructed knowledge that we build using reorganizing thinking frames. Perkins is building a conception of critical thinking that I contend is essential to every conception of critical thinking - one in which knowledge and skills are interrelated and interact to construct meaning. These frames guide our thinking about the content, but content itself is discovered in the process.

Although Perkins (1987) cautions against immersion in a knowledge base, some theorists and researchers have discovered the benefits of immersion in an appropriately constructed environment. When we immerse students in thoughtful activities and content that encourage higher-order and critical thinking, we positively affect their thinking. Like the talented and creative people whom Vera John-Steiner (1985) has studied, students in these immersed classrooms explore, study a topic with intensity, and discover their inner resources. While John-Steiner focuses on gifted people and the development of their thought processes, the implications of her discoveries reach beyond this small segment of society to include other people, gifted or not. John-Steiner refers to Mozart, who benefitted from being immersed completely in music as a youngster. I believe that all young people can benefit from such complete and extensive experiences in developing their potential as thinkers, since critical thinking is more than a mastery of knowledge. It is discovering the meaning of that knowledge - inventing it, if you will. It is making critical thinking a part of us, so that we will be disposed to use it when framing our thinking.

Richard Prawat (1991) contends that his conception of immersion provides a sound basis for developing students' ability to think and also for transferring their thinking from one context to another. In "The Value of Ideas: The Immersion Approach to the Development of Thinking," he characterizes the

immersion approach as the raising of ideas for thinking. We use these ideas in context as tools for understanding. In the immersion approach students do not self-consciously focus on the thinking process or thinking skills, but they actually actively engage in thinking, not simply talk about it (as a skills approach might emphasize). According to Prawat, "the perceptual schemata" represented by ideas allow us to take information from the environment, transform it, and use it to extend our present knowledge. We succeed at an immersion approach, if we have the freedom to pursue knowledge and the concepts or ideas that allow that to occur. In contrast to skills advocates who believe that decontextualized skills (all-purpose tools) can transfer from one situation to another, for those accepting the immersion approach, the transfer from one domain to another will more likely occur when we connect ideas in a specific and enriched context in the classroom and use them for various purposes. From this approach to learning, transfer more likely results, because we adopt different methods of representing ideas and, as the variety of ways of representing ideas increases, students improve their ability to make meaning in different contexts. Although Prawat carefully underscores the need for more research on the immersion approach in general and transfer in particular, I believe we should note the promise of an immersion approach as a method for promoting sound thinking and fostering thoughtful dispositions in students.

Prawat dismisses the teaching of thinking skills (expanded or otherwise), an omission which I believe is extreme since skills as reorganizing tools may be needed at times, but his immersion approach provides some valuable insights on how to use Perkins' knowledge for invention. Invention, discovery, and construction are all metaphors which accurately describe Perkins' conception. Students are engaged in a constructivist environment and "big ideas" provide the powerful focus of the class. This approach demands that we view instruction as

much more a shared experience with students involved in constructing a meaningful curriculum and dynamic environment. It also demands that we regard the classroom as much more interactive than the traditional classroom in order to allow students to draw from their environment, to grapple with the big ideas which equate with perceptual schemata, and to use the mind for thinking rather than talking about discrete skills that may develop during the process anyways. The environment or social context once again becomes paramount in our discussions of the development of critical thinking and one that we must grapple with in educating young people.

Teachers "develop a global view, focusing on the network of ideas that help define the domain of inquiry" (Prawat, 1991) in a collaborative manner. In Ms. Alsop's English classroom, for example, she moved away from being tied to a study of an anthology (such as an American Literature anthology) that she came to believe examines literature in a superficial way period by period; she moved toward a focus on "the big ideas" evolving from a literary piece in a "much looser and more flexible" way. For example, when students studied Thoreau's Walden, they immersed themselves in Thoreau's notions about the relationship between humans and the environment. They wrestled with the ideas Thoreau developed, this effort leading to an exploration of other literature on this topic. As a result of an agreement among teachers throughout the school, students and teachers explored these same ideas in other subject areas (such as examining environmental issues in their science classes and exploring the political and social implications in their social studies classes). These "big ideas" also comprised the conversations that teachers and administrators engaged in both with students and among themselves. When the school sought to build a community of thinkers, it began to value and respect students' ideas, discuss and debate them openly, and act on them. Because the school valued and respected students' ideas and the

adults modeled these qualities, many students began to develop a disposition of respect for the ideas of others.

Teaching Critical Thinking Using Dispositions

We need only look at the evolution of TedSizer's conception of critical thinking in the two books he wrote as part of his study of high schools to observe the way that our conceptions of thinking evolve and expand. In the first part of his study, Horace's Compromise (Sizer, 1984), he conceives of thinking, for the most part, as a series of skills, an approach which theorists strongly supported in the late seventies and early eighties when Sizer conducted his study of high schools. By the time he published his second book, Horace's School (Sizer, 1992), the conception of critical thinking, while not dismissing skills, shifts toward an emphasis on intellectual habits and dispositions. In general, Sizer's evolution, I would suggest, reflects a similar shift by theorists, who have continually searched for ways to cultivate critical thinking in students in such a way that they will carry critical thinking with them and use it in multiple contexts throughout their lives. Although we may define the dispositions approach by itself as narrow on the conceptual continuum, it seems to have gained popularity among theorists and researchers in this decade because of some of the generative, creative, and constructive elements highlighted in the expanded conceptions of critical thinking outlined above.

Although all of the approaches are important, many theorists have focused on the dispositions approach in recent years, appropriately, I believe, because it serves as the foundation for the other approaches. Without the inclination to engage in critical thinking, as I see it, individuals will be unlikely to learn skills or immerse themselves in subject areas in a critical way. Because they are seeking

ways to encourage young people to adopt critical thinking as a way of thinking on a regular basis, all of the theorists examined in this section adopt a dispositions component to their conceptions of critical thinking. Dispositions provide critical thinkers with the desire and willingness to engage in such thinking. They touch the emotional level, where our motivation exists. If individuals naturally draw on these dispositions, some believe, then they will think critically in all situations without the teaching of specific skills in every subject area. Although some dispositions advocates may believe that a focus on dispositions alone leads to the development of effective thinking in students, more often than not they conceive of dispositions as integral to other approaches. The dispositions approach represents the efforts of critical thinking theorists to focus on the more affective qualities of thinking. Consequently, theorists supporting the other two approaches to critical thinking, a skills or knowledge approach, often incorporate dispositions in their theories in order to expand their conceptions of critical thinking to incorporate the more affective qualities of our thinking.

Some theorists and researchers call dispositions thinking habits, traits of mind, or ways of thinking. Lauren Resnick (1987) talks about dispositions for higher-order thinking developed in a community which engenders and shapes these dispositions. Harvey Siegel (1988) identifies thinking dispositions as the critical spirit or critical attitude, Francis Schrag (1988) suggests that we might regard dispositions, taken collectively, as 'thoughtfulness', and Richard Paul (1987) labels them "passions." Few theorists today dismiss these characteristics of critical thinking, although they do not have any certainty about how to instill or evoke them in students. Even Barry Beyer (1987, 1988), with his strong emphasis on thinking skills, admits the essential role of dispositions for an effective thinker, who has the inclination and desire to become knowledgeable about and skilled in the use of thinking operations. In "What Philosophy Offers to the Teaching of

Thinking," Beyer (1990) emphasizes that "thinking is much more than simply technique or skill, that in addition to criteria, rules, and procedures, critical thinking is a particular mental set that calls for distinct, habitual ways of behaving" (p. 58). Dispositions allow for the affective and emotional qualities of critical thinking, qualities that tend not to exist in narrower conceptions of critical thinking.

The nature of dispositions. Dispositions "seem to establish both the will to think and to cultivate ineffable qualities of judgment that steer knowledge and skills in productive directions. . . without dispositions of thoughtfulness, neither knowledge nor the tools for applying it are likely to be used intelligently" (Newmann, 1991). If we instill the dispositions for students to engage in critical thinking, this line of reasoning suggests, then students will likely "thirst" for the knowledge and skills that enable them to improve their thinking. However, we may doubt that we can foster critical thinking dispositions in students unless they have discovered the power of critical thinking, which will only come when we expose them to the use of critical thinking in a real context and understand the social implications of that context, as I have suggested in our discussion of the conceptions of Lipman (1988), Prawat (1991, 1993), Hostetler (1991), and Apple. (Brown, 1991)

If we expect the adults of tomorrow to engage in critical thinking, then the teacher of today needs to focus on the dispositions that encourage students to think in this way. But such dispositions are fostered only if the teacher is acutely aware of the need to cultivate dispositions, and clear about which dispositions are central to critical thinking. John Dewey, one of the earlier American educational philosophers to emphasize dispositions, is aware of the tremendous challenges that educators face in trying to instill them in students. In one of his philosophical discussions (Dewey, 1933), he addresses open-mindedness, a disposition that we

often associate with an effective critical thinker. He characterizes open-mindedness as liberation from habits, like prejudice, that inhibit (or close the mind to) new concepts and ideas. He distinguishes this vibrant concept from empty-mindedness and uses the metaphor of hospitality to suggest that a person invites new issues, problems, or queries. He hastens to assure us that hospitality to new ideas need not imply empty-mindedness. Dewey underscores that open-mindedness demands of students a willingness to listen to various sides of an issue and gather facts, to consider alternatives, and to recognize problems in anyone's beliefs, even those whom one respects or about whom one cares. Through a process of providing examples, contrasting some terms with others, and making fine discriminations among related ideas and words, Dewey helps the educator to envision what open-mindedness looks like when exhibited by an individual. I would suggest that this is a useful model for exploring dispositions with young people, who need to engage in a dialogue about positive qualities and then practice them with others, as long as we understand how open-mindedness is conceived in a context of power and domination.

More recently, Richard Paul (1984) has explored the tendency of humans to engage in its negative counterpart, close-mindedness. Paul contrasts close-mindedness to the more emancipatory dialectical thinking, he proposes. Although we have the ability to think critically, we do not naturally demonstrate the disposition of open-mindedness - "thinking critically and reciprocally within opposing points of view" (p. 14), reasoning dialectically and dialogically. Rather, we have a tendency toward close-mindedness and tend to pass this characteristic on to our children, who grow up reasoning this way. Paul regards the home and the school as crucial to the development of adults who engage in debate and discussion and who can appreciate various perspectives; thus, he finds it distressing that schools have focused on technical problems and technical

reasoning. He argues that schools implicitly reward ethnocentrism and egocentrism - narrow reasoning and the sense that one holds the only appropriate and correct positions on issues or problems. Moreover, schools develop techniques to defend these positions. We can overcome this closed-minded reasoning, according to Paul, if we create schools with environments in which we encourage and nurture dialectical and dialogical thinking. Both Paul and Dewey - two theorists of human dispositions - have demonstrated the multiple dimensions of a single disposition and have suggested activities and methods useful to begin to instill it in students. Their discussions suggest the multifaceted and complex nature of critical thinking dispositions. Neither has prescriptive methods of encouraging dispositions, but both view their development as evolutionary. As we engage in openmindedness, explain it, discuss it, see it modeled, it becomes a way of thinking. However, I would suggest that dispositions will mean little if students do not have a rich subject in which to develop such dispositions and capabilities to organize ideas in a meaningful way.

When teachers look at the dispositions they want to see cultivated in young people, they identify the characteristics of the good thinkers they have known and conjecture the kinds of intellectual habits - the thinking qualities - students will need to live and cope in the next century. They hope these young people, as adults, will think, reflect, search when necessary, adopt rational approaches, accept ambiguity and problematic situations, seek alternatives and support thinking with evidence when being self-critical, and try to discover and revise goals (Glatthorn & Baron, 1985). They also hope that the students will exhibit the intellectual equivalent of humility, courage, integrity, empathy, perseverance, faith in reason, and a sense of justice (Paul, 1988). We need to cultivate thinking dispositions in the classroom through the building of a community (Resnick, 1989; Brown, 1991), as I have suggested, creating "widening circles of meaning, through which

individuals can understand themselves and their condition and construct coherent, purposeful lives" (Brown, 1991, p. 56). The socialization that these theorists advocate for the development of dispositions is consistent with the role of community building advocated by Prawat (1991, 1993), Hostetler (1991), and Apple (Brown, 1991) for the development of critical thinking in general.

Because of the affective nature of dispositions, they play a very different role from knowledge and skills - other elements of critical thinking. I believe that the dispositions approach better enables us to focus on "critical" as it is used in critical theory and critical pedagogy. Such critical inquiry incorporates the cognitive, but it also remains open to and in fact openly courts the affective. Although the language to describe the role of the affective and cognitive sounds like I am highlighting a dichotomy, in reality I am opposed to establishing such dichotomies. I would contend that recognizing the social context fraught with issues of power and domination and working out these issues in an inquiring community will develop the disposition to think critically. In such a context students grapple with significant problems and issues that affect their lives and the lives of others in a larger community. They feel compelled to engage in critical thinking because it is more than an academic exercise. Ultimately it seems it is more than the rational ability to analyze an argument that fosters dispositions; it is the emotional commitment to solve problems, address issues, or establish beliefs that lead to the lifelong disposition to think critically.

Conclusion

As much of the literature of chapter two and three attests, educators have an enduring concern with effective, useful thinking and methods of educating people to employ such thinking. I have argued that, upon close examination, we can see

that theorists and researchers have expanded their conceptions of critical thinking in order to make it more flexible, adaptable, and usable in contexts outside of the academic setting. The preponderance of evidence central to the contention in this chapter suggests that more narrow, presently inadequate conceptions of critical thinking do not enable young people and adults to think effectively in multiple contexts, especially in situations people face on a daily basis. If we accept the narrow conception of critical thinking, then we see it as synonymous with reasoning in a limited sense, the reasoning associated with logic and argumentation (Ennis, 1969a; Ennis, 1969b; Scriven, 1976). We see knowledge as information transmission (McPeck, 1981; McPeck, 1990; Onosko, 1991; Perkins, 1991), and we see skills separate from the rich context of content (Beyer, 1987; Beyer, 1988). If we accept a more expanded conception of critical thinking, we begin to feel uncomfortable with dichotomies (Paul, 1984; Paul, 1990; Prawat, 1991; Prawat, 1993), exhibit more sensitivity to the context in which thinking occurs (Scriven, 1976), recognize the value of a community of thinkers to refine and hone thinking (Brown, 1991; Hostetler, 1991; Resnick, 1987), work toward developing dispositions (such as reflection and open-mindedness) more conducive to critical thinking (Dewey, 1933; Paul, 1984; Paul, 1988; Paul, 1990), see skills as frames that guide and shape our thinking (Brandt, 1990), view critical thinking as a creative process (Ennis, 1987; Perkins, 1986a), look for the deep understanding underlying the knowledge structures that provide the content of our thinking (Perkins, 1986a; Perkins, 1986b; Perkins, 1987), and recognize that the critical thinking enterprise occurs in a social context that cannot be separated from ideologies, politics, and issues of power and domination.

Our exploration of theorists' attempts to expand the knowledge and skills approaches to make them more usable for critical thinking in various contexts reveals a fascinating pattern: in most expanded conceptions of critical thinking,

dispositions or habits of mind that represent the affective characteristics of critical thinking emerge and the distinctions between one critical thinking approach and another are less evident. As we expand the skills approach, we must more consciously integrate skills in a rich knowledge base; as we expand the knowledge approach, we find skills, as thinking frames, enmeshed in rich content. In short, advocates of expanded conceptions of critical thinking recognize the complexity of our thought process and the role that the "deep structure" of critical thinking plays in our thinking and lives. There is an effort to incorporate both thought and emotion and to make critical thinking part of our way of living. What I have argued is that theorists can no longer solely accept narrow conceptions of critical thinking, but must continually search for the generative, constructive, and creative in it in order for critical thinking to have a personal, social, and pedagogical effect on the lives of young people and adults. It is my contention that these expanded conceptions include aspects of thinking that may best be explained as elements of the imagination. In order to persuade the reader of this claim, I turn first to philosophical and then to literary accounts of the imagination.

CHAPTER FOUR

IMAGINATION IN THE THEATRE OF THE MIND: PHILOSOPHICAL CONCEPTIONS OF THE IMAGINATION

Philosophers, some of whom are critical thinking theorists and all of whom are critical thinkers, seem to be conflicted about the role of the imagination in their theories and practices. Edward Casey (1976) calls these conflicts "denial-cum-acknowledgement," because, as he notes, philosophers denigrate the imagination on the one hand, as a key component of the philosophical investigations of the world, and then use it as part of their methodologies on the other. Casey focuses on such philosophers as Aristotle, Hume, Kant, and Descartes - all of whom, he says, downplay any role for the imagination in their theories. Nevertheless, Casey argues, for Aristotle imagination is necessary for thinking, for Hume it is an ingredient of understanding, for Kant it is "the source of intellectual synthesis in the understanding" (p. 222) leading to knowledge. Descartes' use of the imagination comes in his method of systematic doubt, which is characterized by "the methodological suspension of belief" (p. 223) - an act effected "not through the discovery of new evidence or by adducing logical reasons for doubt, but by an act of imagination. . ." (p. 223). Descartes' systematic doubt and the role of imagination in suspending belief serve as a model for phenomenologists like Husserl in their methodology, which is characterized by phenomenological reduction designed to free the philosopher from preconceived assumptions and beliefs.

This conflict Casey notes can equally well be said to apply to critical thinking theorists, even though most of them tend to ignore the role of the

imagination. As I have indicated in the previous chapters, although critical thinking theorists have expanded their conceptions of critical thinking to incorporate many of the qualities we associate with the imagination, few have overtly and explicitly embraced the imagination as a dynamic in critical thinking. There are two prominent theorists who have alluded to a role for the imagination in our thinking; however, disappointedly, they do not expand on those allusions. Drawing on the work of Mary Warnock (1976), Richard Prawat (1993) intimates a connection between imagination and the thinking process, a connection that he says "allows us to apply our thoughts or ideas to things" (p. 6) and helps keep "the thought alive in the perception by connecting emotion and intellect" (p. 6). This latter connection he claims is not recognized in the thinking skills movement. Richard Paul (1990) also mentions our need to imagine ourselves in different roles, taking opposing viewpoints in order to understand them so that we can respond to them dialogically and critically. For Paul critical thinking and imagination support each other.

Not that the imagination is completely separated from traditional conceptions of critical thinking. The imagination is often integral to the development of premises in an argument and is especially evident in the creation of counterexamples to disprove contentions, examples which may be as real or as fantastical as our imagination will allow. Nevertheless, the more prominent evidence of use of the imagination emerges in the expanded conceptions of critical thinking, even though theorists who propose these conceptions may not recognize, acknowledge, or promote the use of the imagination to enhance one's thinking. It is, I shall argue, the imagination that enables the critical thinker to be self-reflective; to engage in a mental dialogue designed to understand the critical perspectives of others; to develop the affective or emotional side to our thinking in order especially to instill critical thinking dispositions in individuals; to envision

multiple possibilities; to generate and integrate ideas and concepts; and to "hold ends-in-view within a continuum of ends and means" (Howard, 1992, p. 15). The ends or products of our thinking may be viewed as either public or private.

In the next two chapters I will explore two philosophical conceptions of the imagination, which constructs "the infinite variety of pictures and situations" (p. 301) Hume (1969) observes in the theatre of the mind. I will assume the burden in these chapters of conceptually clarifying one notion of the imagination in order to demonstrate that it is an aspect of expanded conceptions of critical thinking, an aspect that endows critical thinking with life and vitality.

Philosophical Conceptions of the Imagination

Imagination has traditionally been associated with the artist, who often views it as the impetus for the creative act. If this is so, then why begin an exploration of the imagination with a philosophical conception of it?

Richard Paul (1990) distinguishes three distinct but interrelated uses of the word "philosophy." The first focuses on philosophy as an area of study, the second as a mode of thinking, and the third as a framework for thinking. In this dissertation I am not so much interested in philosophy as an area of study, except to acknowledge that any philosophers commenting on the imagination have chosen to be part of a critical dialogue that constitutes the field of philosophy. More pertinent to this dissertation are the senses of philosophy as a mode and framework for thinking. The mode of thinking is the method of philosophy, which is characterized by "critical discussion, rational cross examination, and dialectical exchange" (p. 457). The framework for thinking is thinking within "a self-constructed network of assumptions, concepts, defined issues, key inferences, and insights" (p. 457). Thus, if I am a philosopher who is a rationalist, my

assumptions and views are likely to differ from my colleagues who are idealists or empiricists. By using the philosophical mode of thinking within a particular framework, the philosopher not only gives us insight into the nature of the imagination, but she or he can give us some sense of its role in the total philosophical enterprise, which tends to be a rational and critical enterprise.

Of course there is a negative side to the philosophical perspective on the imagination. Generally the imagination is viewed as instrumental to the philosophical enterprise of discovering meaning and understanding. With a few notable exceptions, such as Jean-Paul Sartre (1966), Edward Casey (1976), and Mary Warnock (1976), philosophers have not examined the imagination in its own right, but always as an adjunct to another process. In attributing a particular role for the imagination, then, the philosopher may overlook or omit some of its important characteristics or may distort its qualities to fit into the philosopher's schema or framework. I believe the benefits of focusing on the disciplined thinking of the philosopher, who is able to see the imagination as part of a larger context, outweigh the liabilities.

If the philosophical enterprise is important to our understanding of critical thinking, then philosophical conceptions of the imagination may provide clues to the ways that the imagination operates in critical thinking. Philosophy has been significant to our understanding of critical thinking and to developing methods of fostering it. The philosopher John Dewey (1933), for example, equates reflective thinking with critical thinking and educational philosophers as diverse as Richard Paul (1990) and Robert Ennis (1985) regard themselves as members of a critical thinking movement that associates critical thinking with Informal Logic.

One might argue successfully that the entire philosophical enterprise is a critical thinking process, as does Paul (1990) in his book on critical thinking. He points out that philosophy "can be approached from multiple points of view and

invites critical dialogue and reasoned discourse between conflicting viewpoints. Critical thought and discussion are its main instruments of learning" (pp. 450-451). Paul follows a long tradition of critical philosophers. Certainly Socrates' method of inquiry by posing refining questions was designed to force his listeners and students to be more critical about their claims and observations. Later, Descartes' dictum to doubt everything, while a highly skeptical process, could be characterized as critical thinking intended to dissolve the façade of perception and discover inner truths. Several critical thinking theorists today have even adopted philosophy as a method of teaching critical thinking. Matthew Lipman (1984), for example, has created a program called Philosophy for Children, which is intended to use the investigations of philosophy to develop students' abilities to think critically about the world they live in.

If we do not accept the whole philosophical enterprise as a critical thinking enterprise, at the very least we may want to associate critical thinking with the branch of philosophy called logic. As we have seen, more traditional conceptions of critical thinking equate critical thinking with logic. From the perspective of traditional conceptions critical thinking is a structured form of thought designed to discipline one's thinking in order to reach a conclusion. As I pointed out in the previous chapter, conceiving of critical thinking as logic and argument analysis limits the way critical thinking operates, but the connection between these two processes underscores the pervasive relationship between critical thinking and philosophy. For this reason I believe it useful to initially review the speculations of two contemporary philosophers on the imagination before focusing on artists' perspectives.

Philosophical Approaches to a Study of the Imagination

I restrict my discussion of philosophical conceptions of imagination to an exploration of two contemporary philosophers - Edward Casey (1976) and Mary Warnock (1976) - both of whom have written significant and influential books on the imagination. I have selected their accounts for examination for the following reasons:

1) Unlike most philosophers who have written about the imagination as part of a broader philosophical investigation, Casey and Warnock both focus solely on the imagination. I believe they uncover many of the characteristics of the imagination missed by other philosophers and also effectively dispel some of the misconceptions about the imagination. At the same time, both pursue their examination of the imagination in order to better understand how the imagination enhances our understanding of the world and our own mental capacities. I also choose these two accounts in part because they use contrasting approaches in their investigations of the imagination.

2) Casey's phenomenological approach grounds the concept of the imagination in first-hand experience through phenomenological description before moving us into the realm of theory - an approach which assures us of a focus on the imaginative act and imaginative object. Casey begins his study by offering three scenarios which he himself has imagined. He then extracts the features of the imagination by analyzing his own imaginings. As the study progresses, he moves away from the original scenarios, but he continues to use them as anchors for his further observations and theorizing.

3) By contrast Warnock's analytical approach begins with a historical perspective, in which she examines the traditions that have shaped our views about the imagination. She begins with David Hume and Immanuel Kant and concludes

with the contemporary philosophers Jean-Paul Sartre and Ludwig Wittgenstein. She focuses particularly on the nature of the imagination as a pervasive element in perception. Warnock's observations about the operation of the imagination in perception, I believe, offer us insights into the ways that imagination can profoundly affect other cognitive processes. Specifically, I believe that her contentions about the characteristics inherent in the imagination enhance our understanding of the role that imagination plays in the affective dimension of our thinking and particularly in the development of critical thinking dispositions.

Although each of these philosophers uses a different approach, their studies, I believe, complement each other. Casey seeks to uncover the characteristics of the imagination by focusing on how imagination operates in our everyday lives. In so doing, he hopes to support his contentions that the imagination is a capacity with its own distinctive qualities, which are different from the qualities of other mental capacities (such as reason and memory) but are neither superior or inferior to other capacities. The distinctions he draws in connection with the imagination are helpful as we examine Warnock's study, which synthesizes the work of a variety of philosophers and writers, all of whose work demonstrate the pervasiveness of the imaginative capacity.

In this chapter and the next the imagination is broadly conceived, yet Casey and Warnock are both effective in isolating important features of this elusive capacity. I am interested in both the cognitive and affective dimensions of the imagination, because I believe both contribute to our understanding of the imagination's role in critical thinking; however, in this chapter I will start with the cognitive nature of the imagination, since this aspect of the imagination is infrequently examined and since the cognitive dimension is closely tied to critical thinking.

Edward Casey

Edward Casey (1976) claims two purposes in writing his book on the imagination. Primarily he intends to describe the distinctive nature of the imagination. Secondly, he claims for the imagination its rightful place as a human capacity free from the characterizations of philosophers who denigrate the imagination and free from the misconceptions of the Romantics who elevate it by claiming it is the creative inspiration of the deity. He proceeds to prove his contentions by examining the phenomenon of the imagination.

Like others who adopt the phenomenological method, Casey regards the phenomenon he is studying, the imagination, as intentional. As an intentional process, it consists of two phases - the act phase and the object phase. Husserl (1931), who was one of the more significant progenitors of the phenomenological approach, calls these phases noetic and noematic aspects. Identifying and describing the two phases is part of what phenomenologists call "philosophical reduction" (or epoché, as Husserl labels it) - a reduction in which "we 'bracket' or 'suspend' any. . .commitment" (Casey, 1976, p. 190) to present or past reality which interferes with our discovering the origins of our knowledge about a phenomenon like the imagination which can be lost in everyday thinking. The bracketing is also designed to enable the philosopher to examine the phenomenon without being unduly influenced by other accounts of the phenomenon. For Casey this entails making "more thematic what is otherwise merely implicit and taken for granted in human experience" (p. 8). This is accomplished by "firsthand or direct description" (p. 8) that ignores what came before and describes "the phenomenon as it now appears" (p. 9).

Although Casey does not identify the broad philosophical basis for his argument, phenomenology is often closely associated with idealism. Idealists

contend that the reality in the world we perceive depends upon our consciousness. If we were to remove consciousness, the reality would have no meaning, since consciousness gives the objects of the world meaning and sense. We may believe that reality exists even when our consciousness is not present, but we cannot conceive of such a reality through our consciousness.

A phenomenologist like Casey (1976) or his mentor, Edmund Husserl (1931), accepts by implication some of the tenets of idealism. In phenomenology the focus is on the consciousness. We "bracket" the world to free ourselves of assumptions and beliefs about the object we are examining. It is consciousness, then, that exists and determines the meaning of the phenomenon. It is important to recognize that in order to understand Casey's preconceptions when exploring the nature of the imagination.

Phenomenologists share some common beliefs about their approach, but often differ about its application. When we consider Casey's descriptive approach, we begin to notice a limitation of this method (at least as Casey has interpreted it). Casey describes three imaginative scenarios - the first an imagined school of dolphins, the second the sight and sound of a flamingo, and the third an imagined seminar to occur the following day. These three scenarios are the basis of what is to be his more complete description of the act and object phases of the imagination. I believe the personal scenarios to be useful, if we can accept their being based on real imaginings of the author; however, the very personal nature of these reports makes them problematic. We must accept the scenarios as fully representative of imaginative experiences in order to accept Casey's contentions and descriptions based on these scenarios. But even if we accept the scenarios, we must acknowledge that the idiosyncratic reports may represent Casey's peculiar imaginings, which may not represent the imaginings of others. In addition, they may not give us a complete picture of the imagination.

Casey (1976) acknowledges some of these issues, noting Husserl's admonition to draw examples from history, art, and especially literature - examples which Casey acknowledges "possess a complexity and subtlety often lacking in everyday, garden-variety acts of imagining" (p. 25). Nevertheless, he restricts himself to his own imaginative examples. Although Casey's descriptions might have been strengthened by a combination of imaginative examples from sources other than personal experience, this would violate his expressed purpose to describe everyday imaginings, which he believes will show some of the distinctive characteristics of the imagination often overlooked in philosophical investigations. Since each scenario can be conjured up by Casey's readers, we have the opportunity and the expectation at each stage of our examination of Casey's argument to test the arguments against our own experiences and historical sources. The significance of the opportunity for correction will be especially evident when we examine his observations on the connection between the imagination and creativity.

Sensuous and Nonsensuous Imagining

Casey (1976) contributes to our understanding of the imagination in several ways. The first is the important distinction between sensuous and nonsensuous imagining. Because of imagining's intentionality, Casey claims it is helpful to see that imagining consists of two phases - the act phase and the object phase. The act phase is the enactment of imagining while the object phase is the "total imaginative presentation" (p. 49) - that particular something we imagine. Although the two phases cannot be separated during imagining itself, I will specifically focus on the act phase in the discussion of Casey's work because he delineates characteristics of the imagination that are particularly useful to our

understanding of how the imagination operates in critical thinking.

It is important to note Casey's observation that an individual is capable of controlling the imagination, which can often be regarded as a spontaneous process. When we control the imaginative act, we conjure images through the act of our wills. The imagination is voluntarily called upon and voluntarily ended - that is to say, we can initiate it, guide it, and terminate it at will, although Casey would suggest that we cannot consciously imagine contradictory concepts, cannot create the existence of something that does not already exist, and cannot guarantee that everyone has identical capacities to imagine. If we try to evoke an image of a classroom in the early 1900s, we would be engaged in controlled imagining. By controlling the imagination, we can more reasonably expect that it will have the effect on our thinking that we desire it to have.

In the act phase the imagining act (whether controlled or spontaneous) can take three different forms - imaging, imagining-that, and imagining-how. Often equated with the imagination, imaging creates a presentation characterized by sensuousness. Although images are more often than not viewed as visual, in reality we "image" other senses as well. When my son writes "imagine" on a score, he may be visualizing the placement of his fingers to play a chord or a particular sequence of notes; however, he also uses the imperative to hear the music in his mind when a musical instrument is not available. This, I believe, is audialized imaging.

Imagining-that presents a state of affairs by envisioning that a relationship among imagined events taken collectively constitutes an imaginative act. In the act of imagining-that, the imaginer is not necessarily part of the imaginative scene being imagined but he or she observes it. An example of this type of imagining might be prompted by the command, "Imagine that the teacher is reading to students." We imagine a teacher in an elementary classroom, sitting on the floor

with students around her - all of them listening to her reading a story. We might even imaginatively observe the interaction among the students and between the students and the teacher.

Casey contends that this imagining process may be either sensuous or nonsensuous. He suggests that non-sensuous imagining-that is similar to intellection, because one can imagine an object of thought without appealing to the senses to do this. We might imagine nonsensuously, for example, when we envisage the steps in a challenging mathematical problem before we actually complete the computation on paper. In fact, the discipline of mathematics might be viewed as nonsensuous imagining - "a figment of the imagination. All its elements, objects, axioms, theorems, definitions. . .describe objects which do not actually exist in our world. The worlds created by mathematicians are imaginary" (Pappas, 1995, p. 1).

Casey himself offers two examples of nonsensuous imagining-that, neither of which are particularly illustrative. The first is drawn from one of the three scenarios he imagines and uses as the basis of his phenomenological study. In the scenario Casey imagines that he is listening to a seminar lecture by a man named Dworkin; even though his perspective in the seminar room changes occasionally, he continues to imagine the lecturing and the lecturer in front of the class. That aspect of his imagining is nonsensuous - I assume because of the ideas Casey imagines Dworkin is lecturing about. The lecture itself, to which he is listening, is sensuous, since it requires sound to hear it. This example is not persuasive because it fails to demonstrate clearly how the imagination is operating at a nonsensuous level. Casey's second example of nonsensuous imagining-that is even more problematic. In a footnote he refers to Descartes' example of a chiliogon - a thousand-sided figure. Descartes (1951) points out our ability to conceive of this figure, but our inability to imagine it no matter how hard we try. Any attempt to

imagine a chiliogon would be inadequate. Casey (1976) suggests that this conception cannot be identified as imaging, but it can be viewed as "imagining-that there can be such a figure" (p. 43). This nonsensuous imagining-that and conceiving, Casey believes, are both engaged in Descartes' example.

Descartes (1951) would object to Casey's explanation of the chiliogon, since Descartes clearly and specifically identifies the process of apprehending this figure as conception. Unfortunately Casey's explanation of why we should accept the conception of the chiliogon as imagining-that is somewhat vague. Descartes might very well ask what advantage there is to calling this process imagining-that rather than simply conception, since conception seems to be a more encompassing term. Casey (1976) does tackle this question later in his study when he briefly discusses modal logic. He argues that modal logicians use the imagination even though they do not acknowledge its impact on their methodology. According to Casey (1976), modal logic is a discipline that analyzes "the logical properties and peculiarities of necessity and possibility" (p. 226) - in particular, they attend to "possible worlds" or "states of affair across the range of possible worlds" (p. 226).

Casey (1976) points out that modal logicians believe that their type of logic is guided by pure intellection or conceivability. He accepts the role of intellection in conceiving of the idea of possible worlds and engaging in the logical problem incumbent upon this discipline. He believes, however, in two senses of conceivability, and asserts that the imagination differs from conception and still operates in modal logic. In the first sense, Casey speaks of sheer conceivability by which he means "the employment of intellection proper, that is, with the pure conception of possible worlds - the idea per se of such worlds" (p. 227). The second sense, sometimes referred to as "the 'stronger' sense of conceivability," deals with the conception not of the idea of a world but a particular world itself (or clusters of worlds). "To do this," Casey argues, "requires imaginative activity,

even though the imagining in question need not be imagistic or sensory" (p. 227).

I accept the usefulness of Casey's distinction in understanding both conception and imagining-that, even if I question the strength of the examples he offers. When we imagine nonsensuously, we are generally conceiving in the second sense. For example, as Vernon Howard (1993) proposes, if we are able to hold the ends in view while attending to the means of solving a problem, we are also conceiving in the second sense and imagining nonsensuously - that is to say, we are conceiving of a state of affairs or a thinking process more particular and practical in nature than sheer conceivability; this type of thinking is nonsensuous imagining.

Even if we grant that the imaginative act might operate simultaneously with conception, this possibility still wouldn't provide a counterexample to the claim that we are really talking about conception and that the imagination is secondary or irrelevant. I believe that what we need to focus on is the nature and role of these two capacities. Conception is characterized by the relative ease of the operation; it is an intuitive process, which is represented by a type of thinking that is logical and non-contradictory. When we conceive of a chiliagon, we apprehend it without detail and without its being placed in a context that would enable us to understand how it might operate. As long as we are able to think of a chiliagon without contradiction, we are conceiving it. The imagination, on the other hand (at least, non-spontaneous imagining), requires "a special mental effort in order to imagine" (Descartes, 1951, p. 69). Unlike conception, the imagination envisions a mental object "by the force and the eternal effort of [the] mind" (p. 68). The relative ease of an intuitive capacity like conception, then, is contrasted, according to Descartes, with the effort of the imaginative capacity. The imagination has the capacity to create and rehearse possible situations and to combine knowledge in unusual ways - all characteristics of nonsensuous

imagining that conceiving alone could not accomplish. The imagination is capable of being sustained for extended periods of time, part of the effort of the imagination that helps to shape the direction of our thinking. Most of all, unlike conception, which is characterized and bound by thinking without logical contradiction, nonsensuous imagining is not bound by such thinking. With conception, then, we are bound by "logical" possibilities. Thus, we may conceive of another person's perspective in a logical way; that is to say, we think his or her view possible because it entails no contradiction. But, when we envisage another person's perspective, engage in an imaginary debate between that person and ourselves, and entertain possibilities that may be illogical and contradictory as well as logical, we are imagining nonsensuously and not necessarily conceiving. Nonsensuous imagining enables us to deal with the messiness and complexity of our practical thinking because it can do multiple things and see the whole process (both the ends and means) operating at the same time.

Imagining-how, as Casey (1976) describes it, retains the distinction between sensuous and nonsensuous imagining. This imagining, however, is characterized by the imaginer actually assimilating himself or herself into - doing, thinking, or feeling within - the imagined state of affairs, such as my actually being present in the imagined elementary school mentioned above, interacting with students and the teacher. There is a sense of personal agency which makes the form of imagining active and engaging. I often find that, when I imagine nonsensuously how to solve a challenging mathematical problem, for example, I enter into the imaginative process sensuously as well, discussing or debating the problem in my imagination with other mathematicians also trying to solve the problem.

Sensuous and nonsensuous imagining-that and imagining-how are both important if we wish to accept a role for the imagination in critical thinking. We

often think of the imagination as sensuous and frequently as visual. Sensuous imagining, which generates a series of connected images that utilize many of the senses, can provide our thinking with a context. That is to say, it allows us to see with our senses the individuals in their habitats engaging in the act of critical thinking. Philip, for example, in selecting a graduate school, imagines he is at the college, sometimes even imagining a literary figure like James Joyce as a tour guide. Albert Einstein, (1946) who placed a high priority on imagination and intuition in his scientific thought process, often employed sensuous imagining-that and imagining-how to solve cosmological problems. Einstein's thought experiments, for example, were useful in his germinating ideas and in moving from some form of thinking experience to fully developed theories like the theory of relativity. In his most famous thought experiment, Einstein imagined a person riding beside a light wave. The experiment provided the germ for the theory of relativity. Although the imagination is normally not used this overtly in the critical thinking process, the sensuous imagining can give abstract concepts such as those used in reflective thinking some grounding by imagining individuals who exhibit reflection.

More than simply a sensuous experience, however, Einstein's thought experiments (Einstein, 1946) also incorporate non-sensuous imagining-that and imagining-how. He "sees" a person riding next to a beam of light, but also imagines the thinking that would accompany the visual image. The imagining in this case is more cognitive than visual and begins to move us into the realm of ideas - that realm where critical thought is generated and sustained. When I am writing this dissertation, I am engaging in a rather complex form of critical thinking in which I imagine how imagination might operate in critical thinking. I perform the exercise both by generating sensuous images of a critical thinker involved in the critical thinking activity and by creating non-sensuous imagining

of critical thinking as I conceive it at its best. The imaginative process, as I see it, enables me to generate ideas, to dissolve blocks to my thinking, and to envision a conclusion to the critical thinking process. Sensuous imagining helps me to envision individuals reacting to my dissertation topic; non-sensuous imagining enables me to clarify the debate about the topic and some possible solutions, all at a level that does not appeal to the senses.

Nonsensuous imagining-that and imagining-how also provide us with the capacity to be self-reflective and to apprehend another person's critical perspective. Reflection, according to John Dewey (1933), is "the kind of thinking that consists in turning a subject over in the mind and giving it serious and constructive consideration" (p. 3). Dewey further identifies reflective thinking as the consecutive ordering of ideas, each of which is connected to a subsequent idea as an appropriate outcome and "in turn leans back on, or refers to, its predecessors" (p. 4). This kind of thinking "involves (1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity" (p. 12). Nonsensuous imagining allows us to see ourselves as subjects engaged in a thinking process. Through imagining we can mentally represent the ordering of ideas and the conclusion we are trying to reach. We imaginatively project ourselves into the minds of those engaged in doubtful states in order to help create in our minds alternatives that might resolve the doubt.

The search to resolve doubt - a reflective process according to Dewey (1933) - demands what Richard Paul (1984) calls dialogical thinking. In Richard Paul's theory of strong sense critical thinking we are introduced to his conception of dialogical thinking - a crucial aspect of critical thinking. According to Paul, dialogical thinking is "a dialogue or extended exchange between different points of view, cognitive domains, or frames of reference" (p. 254). It is closely

associated with dialectical thinking, which assesses the different points of view for their relative strength. Paul admits that this thinking cannot be done without calling forth the imagination. By the nature of the self, we cannot easily (if at all) step outside ourselves and experience another point of view. We are able to engage in this form of critical thinking only by the imagination, which allows us to move "up and back between categorically different imagined roles" (p. 219).

We must first of all imagine ourselves in a given frame of reference. Then we must imaginatively construct some reason to support it. Next we must step outside it and imagine ourselves responding to those reasons from an opposing point of view. Then we must imagine ourselves back in the first point of view to respond to the opposition we just created. Next we must change roles again and create a further response, and so on. The imagination and its creative powers are continually called forth. (p. 219)

The imagination that Paul recognizes as a crucial part of critical thinking is non-sensuous imagining-how in which the thinker imagines himself or herself in the mind of the person who has an opposing point of view. The dialogue is an ongoing process which Paul intimates is not possible without our imaginative capacity.

Possibilizing Nature of Imagination

Casey (1976) also contributes to our understanding of the imagination by uncovering "the possibilizing activity of imagination" (p. 206). Possibilizing itself refers to the contention that, when we imagine, "everything appears purely possible" (p. 206). In sensuous imagining-that possibilizing may take the form of placing an imagined character in a setting totally foreign to him or her. Or it may take the form of multiple imagined acts and diverse conclusions to our imaginings.

In nonsensuous imagining-that the imaginer may conjure up in his or her mind a number of possible routes to a solution, may be “sensitive to aspects or nuances which. . . have not yet [been] apprehended” (p. 207), or may generate numerous ideas, from which to reach a conclusion. This possibilizing power of the imagination, I suggest, operates in critical thinking. During the process of critically evaluating and analyzing, the imagination is actively engaged during critical thinking in presenting multiple ideas (some of which may even be outlandish) and various alternatives to help us reach different conclusions. If the possibilizing power of the imagination is suppressed during the critical thinking process, our options for making decisions or solving problems tend to be limiting and fragmentary and the solution we select can be superficial and obvious. If we are assisting young people in their decisions about academic schedules, for example, we are thinking critically. Without the imagination, the schedules would not reflect students' imagining what they might want to do when they finish school or what other long-term goals they may have. The result of such thinking would be decisions about students' schedules with courses selected without strong reasons for their selection. If my son is in the process of thinking critically about a controversial topic (such as abortion) with the intention of establishing a belief about it, I hope he is using the possibilizing power of the imagination to generate multiple perspectives on the topic of abortion before he establishes a belief he is comfortable with and can defend. If he fails to do this, he is likely to accept a simplistic answer to this complex problem and may be susceptible to the influence of other people who use passionate rhetoric on the topic of abortion. When we embrace the possibilizing activity, our critical thinking becomes richer and we are more likely to reach a conclusion that has resulted from an exploration of various options and an understanding of the ramifications of the choices we have made.

Casey's Views About the Imagination's Connection With Creativity

When we engage the possibilizing power of the imagination, we are being creative. The association between the imagination and creativity has had a long tradition (most notably evident in the connection that artists have made between their creative acts and the imagination). Casey (1976), however, rejects the necessary connection posited by some philosophers and artists. He contends first that the imagination is not necessarily creative and in fact may even be banal and repetitive. Certainly when we imagine items on a grocery list we want to purchase, we generally do not call that act creative. Further, many people use the imagination in obsessing about some troubling problem. For example, if I am afraid of engaging in conversation with people, I might construct a stilted conversation and endlessly repeat it prior to meeting them or try to boringly reconstruct my every move with the help of my memory and my imagination. The imagination, therefore, can be ploddingly controlled as well as spontaneous and may not establish "a new synthesis of previously experienced elements" (p. 186). Yet it would seem that we cannot dismiss the creativity of the imagination when recognizing the need to find a new way to treat cancer or to develop a metaphor to explain a connection between a scientific concept and its implications for our daily lives.

Casey (1976), however, does want to sever the link between imagination and creativity. He argues that a "genuine" creativity does not require the imagination "in any crucial way." This is a contention I do not accept. I highlight "genuine" and "in a crucial way" in Casey's own statement because it seems to me to significantly qualify his claim. These qualifying phrases suggest that there are instances in which imagining enters into some false creative act (although Casey does not indicate how we might identify such creative acts) and that there are

examples of creativity in which the imagination enters in some non-crucial way. Casey claims that we have abundant examples of creativity in which the imagination plays no significant part. He offers only one, however, the work of Poincaré, a mathematician, whom Casey claims does not acknowledge an imaginative influence on his mathematical creativity. I do not believe that Poincaré's writing provides a convincing example.

We need to return to Poincaré's assertions about creativity in order to judge the aptness of Casey's example. Casey (1976) observes that, "when Poincaré arrived at a creative solution to a problem in higher mathematics as he stepped on an omnibus, no specific acts of imagining had preceded the moment of discovery" (p. 186). From reading Poincaré's account we see it is true he does not acknowledge the imagination in his creative thinking. Poincaré (1952) focuses primarily on the role of intuition, inspiration, or sudden illumination in mathematical creation. But this does not show imagination is not involved. Poincaré simply omits all discussion of the imagination. Intuition, according to Poincaré, is a feeling that enables us to "divine hidden harmonies and relations" (p. 35) specifically for mathematics. There is no reason not to consider the possibility that imagination plays a role in the generation of intuition so I still regard it as an open question whether imagination is required for creativity.

What is missing from Poincaré's discussion (Poincaré, 1952) is a role for the imagination in his description of mathematical creation. He makes two references to the imagination, neither of which is intended to provide illumination on mathematical creation. Does this mean that Casey (1976) is correct in his contention that Poincaré's observations support his belief that the imagination is not necessarily a part of creativity? I would suggest that simply because the imagination is not highlighted as an aspect of mathematical creation does not mean that the imagination is not operating in a significant way in Poincaré's

creative thinking. Poincaré talks about the intuition needed to discern a mathematical order to solve a problem. Intuition certainly plays a role but, when Poincaré talks about discerning order to syllogisms in mathematical demonstrations and envisaging the choices needed to be made to identify useful combinations, he seems to be engaging in nonsensuous imagining.

Using Casey's own contentions in his book, we can conclude (although not guarantee) that imagination may have indeed existed in Poincaré's creative thinking, even if he fails to describe the link. First, it opens up the possibilizing power, which Poincaré probably used to generate diverse options in order to determine the direction his thinking would take and what solution would be suitable. Second, Poincaré's thinking seems to be replete with nonsensuous imaginings during the cognitive process. They enable him to generate ideas, to imagine the culmination of the creative-cum-critical act, and to call to mind a means to reach that conclusion.

Without the imagination, I believe, creativity is not possible. The creative individual uses the imagination throughout the creative process. When the creative individual disengages at times and allows for the thought process to emerge in a free-flowing way, he or she is allowing images to emerge and serve as a catalyst for ideas. The imagination enables a person to envision the next step or steps in the creative process, to see alternate possibilities, and to picture the creative product. The imagination is a catalyst for the creative mind because the images it produces do not have to be bound by the rules of the world in which we live, can be combined in an infinite number of ways the imaginer wishes (and sometimes in ways the person does not wish), and can represent ideas in a variety of ways.

Casey (1976) contributes significantly to our understanding of the imagination and its effects on critical thinking in his focus on nonsensuous as well

as sensuous imagining and the possibilizing nature of the imagination. As I have argued in this chapter, nonsensuous imagining aids the critical thinker in generating ideas, being self-reflective, and apprehending the critical perspective of another. Because of the possibilizing nature of the imagination, the critical thinker can envisage as many possible ideas and scenarios for making those ideas applicable to the situation as his or her mind is capable of. Casey, however, provides only one perspective on the imagination. In the next chapter we will examine the perspective of another philosopher, Mary Warnock, whose writings on the imagination have been influential, in order to gain a more complete picture of the imagination and its role in critical thinking.

CHAPTER FIVE

IMAGINATION IN THE THEATRE OF THE MIND:
PHILOSOPHICAL CONCEPTIONS OF THE IMAGINATIONMary Warnock

Mary Warnock published her philosophical work on the imagination during the same year Edward Casey published his phenomenological study. Warnock's book, however, has a different purpose and uses a different philosophical approach from Casey's. Warnock asserts two broad themes for her study: that the imagination operates in our perception of the world and that this imagination can be educated, thus enriching our perception. The imagination, according to Warnock (1976), "enables us to see the world, whether present or absent, as significant, and also to present this vision to others for them to share or reject" (p. 196). Although some might regard this process as intellectual, Warnock underscores her point that emotions play an equal role in the process.

To make her case for the role of the imagination in everyday perception, Warnock adopts the techniques of analytic philosophy. Analytic philosophy does not ignore the phenomenon being studied, but analyzes its nature and purpose in the context of the traditions from which it comes - attempting "to elucidate complexes [like the imagination] by reducing them to their simpler elements and the relations between those elements" (Shand, 1993, p. 203). The approach is usually characterized by linguistic analysis, which is thought to assist in uncovering the underlying structure of the complexes. Warnock carefully examines the arguments of predecessors writing on the topic at hand and builds an

argument to support her own contentions.

In contrast to Casey (1976), whose phenomenological perspective tends to place his beliefs and assumptions in the broader philosophical context of idealism, Warnock's analytic approach tends toward realism. Unlike idealism, realism accepts the reality of the world independent of our senses and consciousness. If we accept the existence of material objects and the world of which they are a part, then we do not attempt to narrow or "reduce" our perspective on reality in order to find meaning in a phenomenon. Nor do we place complete trust in our consciousness when seeking meaning in the world. Rather, we tend to be expansive in our interpretations and analyses, locating evidence drawn from various sources such as other individuals or public objects like other philosophical studies in order to demonstrate relationships, connections, and meaning.

Warnock's analysis of the imagination is historically based, beginning with an investigation of Hume and Kant, exploring the poetic conception of Wordsworth and Coleridge, and concluding with Sartre and Wittgenstein. She introduces the poetic perspective in this philosophical argument because she sees that perspective as demonstrating the interpretive role of the imagination assisting us in perceiving our world with new insight and meaning. She acknowledges the need to examine the phenomenologist's perspective, since philosophers like Hume fail to address the intentionality of the image. She too emphasizes that there is an imaginative object and that a feature of an image is "a kind of consciousness, a way of thinking of something" (Warnock, 1976, p. 162). She concludes by focusing on the connection between the imagination and feeling and suggests that, in order to provide a spark in students for learning and to encourage feeling, in other words, to overcome a sense of boredom in students, the imagination needs to be educated.

Warnock's View About the Connection Between the Imagination and Creativity

Unlike Casey (1976), Warnock (1976) strongly connects the imagination and creativity. In examining David Hume's theory about the imagination, she notes that "there is a sense in which the imagination is creative, in that it can construct what it likes out of the elements at its disposal" (Warnock, 1976, p. 16). Although Warnock generally refers to what we have described as sensuous rather than nonsensuous imagining-that and imagining-how, I believe her observations apply equally to all three sorts of imagining. Superficially, her contention that there is a strong connection between the imagination and creativity may seem to contradict Casey's assertions about the creativity of the imagination; however, by introducing the clause with "there is a sense. . .," Warnock is also suggesting that there may be senses in which the imagination is not creative. Nevertheless, in Warnock's study of the imagination she persistently strives to connect the imagination and creativity, asserting that "if imagination is creative in all its uses, then children will be creating their own meanings and interpretations of things as much by looking at them as by making them" (p. 207).

The benefits of acknowledging the link between the imagination and creativity are much more evident to Warnock than to Casey, who believes that we muddle the true nature and value of the imagination if we too strongly connect it with creativity. It should be noted, however, the different purposes of the studies of the two philosophers. Casey intends to make clear the nature of the imagination, while Warnock is arguing for the cultivation of one form or use of the imagination specifically in perception.

I accept Casey's contention that the imagination and creativity must be disentangled if we hope to recognize the way our imagination truly operates in our mind and accurately record the functions that make it powerful in our lives.

Warnock herself frequently chooses to label the imagination she is exploring as “creative imagination,” a phrase that more aptly describes the type of imagination she is interested in. Casey I believe rightly notes that imagination can be not only creative but also banal and repetitive. Warnock assumes that the imagination is necessarily a part of creativity, and does not discuss the nature of the connection. But of course claiming imagination is a necessary part of creativity does not entail that the imagination is itself always creative. Nevertheless, Warnock focuses on what she calls the creative imagination, which she views as active, liberating, enabling perception and creating symbols “to express the ultimate nature of the world” (p. 70), and inducing “deep feelings in the presence of the image” (p. 82). Unlike Casey, she sees the imagination as a powerful force in all aspects of our lives and therefore the most important focus of the education of young people.

Imagination and Meaning

An underlying theme of Warnock's study (and one that will be useful in our understanding of the role of the imagination in critical thinking) is the idea of the imagination's giving meaning to our experiences. Although Warnock (1976) sees the imagination as providing meaning in our lives constantly and persistently, primarily because the imagination operates in ordinary perception, Warnock is suggesting that this meaning-making capacity takes essentially two forms. The first deals with an imagination that “ascribes. . . meanings” (p. 207) to ordinary perception. Thus, the imagination enables us to see the relationship between two objects of the same kind. According to Warnock, through the imagination we are able to recognize a daffodil. The imagination also enables us to recognize that the daffodil I have on my desk is the same one I had on my desk a day ago or week ago. The imagination is operating in ordinary perception to provide connections

that enable us to perceive the world in a continuous way. It makes meaning of what we see by connecting one item with another. This capacity of the imagination will not concern us in this dissertation. Warnock's contentions about the operation of the imagination in these situations seem highly questionable, however, since perception itself would seem to be able to make sense of our world without the intermediary of the imagination. This form of meaning making allows us to see the world as familiar.

The second form, which I believe is more pertinent to the subject of this dissertation, regards the meaning-making capacity of the imagination as making meaning because it enables us "to see the world as significant of something unfamiliar" (Warnock, 1976, p. 10). This form of meaning is necessary "if we are ever to treat the objects of perception as symbolizing or suggesting things other than themselves" (p. 10). Warnock calls this "the interpretive function of the imagination" which provides "new meaning" (p. 103). When we render experiences unfamiliar and mysterious, we are forced to find meaning that goes beyond what presently exists and allows us to explore "vast unexplored areas, huge spaces of which we may get only an occasional awe-inspiring glimpse, questions raised by experience about whose answers we can only with hesitation speculate" (p. 208). This form of meaning making provides depth to our thinking because it allows us to take something familiar (such as a common problem we are facing) and to see that problem in uncommon ways by envisaging its many dimensions. I would agree with Warnock that it is the imagination that allows us to take something familiar and make it completely unfamiliar. Such use of the imagination has the potential of moving our thinking to another level.

Imagination and Emotions

It is the elaboration of the connection between the imagination and feelings or emotions (that is to say, the affective side of our thinking) that is Warnock's most significant contribution to our understanding of the imagination and its role in critical thinking. I have already underscored in chapter two the belief of many contemporary critical thinking theorists that critical thinking must acknowledge the role of emotions in our thinking and even to encourage rational passions. Harvey Siegel (1988), for example, emphasizes that critical thinking cannot (and should not) be divorced from emotions specifically fostering a desire to engage reason. He emphasizes the efficacy of violating "the time-honored distinction between cognition and affect (or thinking and feeling, or thought and value, or reason and emotion)" (p. 40). What is more important, according to Siegel, is to foster appropriate attitudes, passions, and interests - to acknowledge that reasoning is passionate.

Richard Paul (1990) sees emotions as key to the development of critical thinking dispositions. In particular, Paul identifies both a cognitive and affective dimension to critical thinking. Although the cognitive dimension has traditionally been the primary and often sole focus of critical thinking, the affective dimension is important enough in Paul's conception of critical thinking that it must be regarded as playing an equal (not superior or inferior) role. He particularly focuses on the need to cultivate rational passions, which move us away from egocentric emotions (such as jealousy, fear, anger, and envy) preventing us from engaging in critical thinking. He points out that "emotions and feelings themselves are not irrational; however, it is common for people to feel strongly when their ego is stimulated" (p. 548). We need to free ourselves of irrational emotions and develop in individuals "a passionate drive for clarity, accuracy, and

fairmindedness, a fervor for getting to the bottom of things, to the deepest root issues, for listening sympathetically to opposition points of view, a compelling drive to seek out evidence, an intensive aversion to contradiction, sloppy thinking, inconsistent application of standards, a devotion to truth as against self-interest" (p. 218).

Although neither Siegel (1988) nor Paul (1990) distinguishes between emotions and dispositions, I believe it important to note how the two operate together. In discussing affective characteristics, these critical thinking theorists have tended to blend the two. An emotion, however, is "a feeling aroused to the point of awareness, often a strong feeling or state of excitement" (Paul, 1990, p. 548), while a disposition is a habitual frame of mind that is closely tied to the way one responds emotionally. Dispositions themselves are not emotions, but we can be motivated to cultivate rational dispositions or habits of mind by emotions and certain dispositions encourage emotions. Indeed, it can be argued that emotions are essential to the development and sustenance of dispositions. We may be capable of being reflective (of demonstrating this disposition), but if we don't have the motivation or strong feeling to perpetually engage in such thinking, it will, at the least, atrophy and can fail to prevent us from degenerating into a tendency to think superficially and in ways characterized by bias.

Before focusing on the role of the imagination in developing the affective dimension of critical thinking, I believe it necessary to examine the relationship of the emotions to the imagination. I agree with Paul's depiction of an emotion as "a feeling aroused to the point of awareness" (Paul, 1990, p. 548). I also appreciate Paul's contention that emotions are as important to critical thinking as reason. Related to this contention is a belief that I accept: namely, that emotions, which need not be identified as irrational, are sometimes important to the construction of knowledge. Of course the role they play depends upon the kind of knowledge at

issue. For example, emotions are more relevant to our knowledge of persons than to our knowledge of physics. The point here is that the emotions need not be, as Hume suggests, servants to reason. It is likely that, when we engage in the construction of knowledge, both emotions and reason, the subjective and the objective, need to be involved in the process.

When we imagine, we evoke emotions. Although the imagination isn't the only capacity to evoke emotions, as we may note when we remember an emotional scene from our past or perceive the results of a car wreck, the imagination plays a powerful role in creating and even shaping emotions. One image of child abuse, for example, can elicit emotions of outrage, anger, or sympathy. The emotions we elicit may vary in intensity, but have the potential to affect us deeply in either a positive or negative way. If we continue to use our imagination to understand a number of possible perspectives on child abuse, our emotions may be modified and the subject may be more meaningful to us. This process is necessary to the building of knowledge along with the reasoning process, which takes our imaginings (and the emotions that accompany them) as integral when we organize and analyze what we have been discovering. By maintaining an interaction between emotions, some of which are elicited and shaped by the imagination, and reason, we avoid identifying knowledge solely with objects divorced from the knower; we also avoid making knowledge so subjective that it has meaning only to the knower. The integration between the affective and the cognitive, promoted by the possibilizing nature of the imagination, is crucial to our understanding of critical thinking.

But what is imagination's role in the development of the affective dimension of critical thinking? We have already seen in our examination of Casey's conception of the imagination that the imagination enables us to generate ideas, to envision differing directions for our thinking and products that steer us in

particular directions, to create a mental dialogue in which we come to understand an opposing perspective or idea in relationship to our own, and to provide for a creative imagination to influence our critical thinking. Most of our observations have been concerned with the cognitive dimension rather than the affective dimension of thinking. This emphasis has been more mine than Casey's, since I wanted initially to make the less obvious connection between the imagination and the cognitive dimension of critical thinking, even though our general views of the imagination are often associated with its affective or sensuous side.

Warnock (1976) claims not only that the imagination is connected to the emotions but that it "gives rise to the passions" (p. 37) as well. In fact the intensity of our feelings is directly proportional to the vividness of the imagination. The imagination enkindles our feelings, the more so with the development of related images (probably akin to Casey's imagining-that and imagining-how). Warnock draws these ideas from Hume, but finds support in the writings of Kant and Coleridge. For Warnock the connection between the imagination and feelings is so strong that she claims we can direct feelings by educating the imagination.

Warnock's work focuses on the cultivation of positive emotions through education of the imagination. Although we need to recognize that the imagination is capable of generating negative emotions and feelings as well, we are seeking to nurture particular types of positive emotions during the critical thinking enterprise - namely, those that generate critical thinking dispositions or habits or traits of mind. Warnock is not specifically talking about these types of emotions, but her general observations are applicable. When we imagine a scene which includes a deceased family member, we are often overwhelmed by emotions. When we are in the midst of writing an original musical score, which has absorbed us personally, the use of the imagination to envision what the final score would sound

like can be replete with feelings. Likewise, when we think critically in order to assess our belief in support of genetic engineering, we must exercise fairmindedness about those opposed to genetic engineering by “imaginatively put[ting] ourselves in the place of others to genuinely understand them” (Paul, 1990, p. 311), explore our feelings (such as fear and awe about the consequences of genetic engineering) as well as related thoughts, have the courage to take a stand on what some might consider a controversial issue, and recognize that in the face of the information about genetic engineering we should be humble and unpretentious. The imagination enables us to be fairminded by constructing other perspectives, including the feelings that “go with” or prompt those views. Once we apprehend various perspectives, then we have a more complete idea of how another person thinks and feels and can make more just decisions. Without the imagination our decisions would be based on our own perspective alone, and even that would be limited since the imagination aids us in apprehending our own point of view and mindset. As we employ the imagination during our thinking, we are in a way “exciting” ideas in our minds of qualities that may not exist and “shaping” ourselves both emotionally and intellectually to realize these qualities.

The significance of the imagination’s role in developing and fostering dispositions should not be underestimated. The cognitive dimension of critical thinking will mean little if we fail to foster the affective dimension. Warnock suggests that intense imaginative experiences affect our natures. When we intensely experience the imagination, we are enticed to want to experience the emotions once again throughout our lives. If we accept the power of such experiences, we must educate the imagination in order to ensure that our emotions are directed positively. In critical thinking that education will take the form of encouraging experiences that empower young people not only to imagine-that and imagine-how nonsensuously in order to propel their thinking, but also to imagine various rational passions.

Conclusion

Although our conceptions of the imagination and its relationship to reason and critical thinking are influenced by the culture and heritage in which we are immersed, there is little doubt that within the Western intellectual tradition imagining is regarded as a powerful mental operation, which is viewed by some as either limiting or damaging on the one hand or by others as liberating and transformative on the other. In Ms. Alsop's English classroom, she had a difficult time separating the imagination from other thinking activities. When she focused on critical thinking as argumentation, however, the students saw imagination as an entirely separate activity very much distinct from critical thinking. In her mind she conceived of imagination as the wellspring for creative acts that resulted in the creation of Keat's "Ode to a Nightingale" or Shakespeare's King Lear. Although this mental capacity greatly fascinated her, especially since she herself enjoyed writing fiction, she could not envision clearly how to cultivate the imagination in the classroom. She seldom saw it as a concept applicable to nonfiction writing, even though she recognized the techniques from fiction applied to nonfiction pieces. At this stage of her career she engaged students in exercises in which they imagined themselves seeing in their mind's eye a scene like a beach where they could view Mount Chocorua and its reflection on Chocorua Lake. She asked students to draw on all of their senses to reconstruct the scene and then to "sketch" it on paper. She designed this exercise and other similar ones to invest in students an appreciation of the process that a poet or creative writer undergoes in writing a poem, short story, or novel. Eventually these activities would lead to the writing of fictional pieces.

Just as Ms. Alsop's views about critical thinking expanded during her years as an English teacher, her views about the role of imagination also changed.

Although she continued to encourage students to envision scenes and images before they wrote, she realized the potential of the imagination to expand students' understanding of the world they lived in as they explored the imaginative worlds writers created. Students could discover how people view the world they inhabit in different ways. As students read literary works and as they projected themselves into various scenarios, they observed and perceived their worlds differently. She also saw the potential for the imagination to enable students to construct other peoples' perspectives in a way similar to what Paul (1984) suggests occurs in dialogical thinking. In one exercise students imagined themselves in a scenario in which they projected themselves into the psyche of a person not accepted in our society. Ms. Alsop thought that such an exercise of the imagination might educate students about tolerance and respect if they could gain some understanding of the perspective of another person.

In the process of expanding the educational use of the imagination, Ms. Alsop's imaginative activities began to resemble some of the expanded critical thinking activities she had tried. Nevertheless, she seldom noticed the connection between critical thinking and the imagination and continued to associate the imagination with artistic endeavors like the writing of a novel. However, students engaged in activities designed to explore the perspectives of other people and to generate ideas useful during the critical thinking process. As students wrote from different perspectives, they found the experience of discovery more than simply an intellectual exercise, more than an exercise in argumentation. Rather, the exercise demonstrated that thought and emotion could operate together for a common purpose as students immersed themselves in the process of discovering through thinking.

The powerful role of the imagination, as Ms. Alsop discovered, can create images to stir the emotions, to generate ideas, to free our mind, and to transform

our thinking about ourselves and the world we live in - all often at will and frequently simultaneously. The workings of the imagination appear to revitalize the rational by introducing emotions (Warnock, 1976) and potentially bridging a gap between thought and emotion which expanded critical thinking has also tried to bridge (Paul, 1990; Prawat, 1993; Siegel, 1988). Those embracing expanded conceptions of critical thinking feel uncomfortable with dichotomies like thought and emotion (Paul, 1984; Paul, 1990; Prawat, 1991; Prawat, 1993) because the imaginative influence that Casey (1976) describes eschews dichotomous thinking. As we reduce dichotomies, we begin to link disparate ideas and invent novel ways of approaching and expanding our knowledge base (Perkins, 1986a; Perkins, 1986b; Perkins, 1987; Perkins, 1990; Prawat, 1991; Prawat, 1993). The imagination operates in our mind and affects our critical thought processes, helping us to find meaning in our thinking and our world (Warnock, 1976); it transforms our thinking into habits of mind or dispositions, which entice us to explore and discover our thinking and its relationship to the world we live in. We plumb the depths of understanding through the imagination and discover a transformative reality.

As we examine the imagination in light of our discussions of critical thinking, we see a network of ideas that connect imagination to reason and to critical thinking, a network that seems to transform our thinking, moving it to another level through the power of images that never abandon us even when reason itself may. In many ways the role of imagination as a dynamic of critical thinking is like Maria Lugones' notion of mestizaje (Lugones, 1994). Imagination resides in the midst of either/or, that space where multiplicity can exist and can operate to free our thought and ourselves.

But before we can fully understand the role of imagination in critical thinking, or feel confident we understand exactly how it works, we need to turn to

consider what some literary artists have to say about the imagination, for it is they who most obviously employ the imagination and live ultimately with it.

CHAPTER SIX

HEROES OF THE IMAGINATION - THE LITERARY CHARACTER OF THE IMAGINATION

Maxine Greene (1991) suggests that education occurs when we become "the friends of one another's minds" (p. xi). We experience such friendship when we tell stories, which enable us to hear "the sound of many discourses, many voices" (p. x), the voices of everyone in our educational process. The poet and other literary artists explore the imagination by telling its story. They demonstrate, as they probe the imagination, its power to transform a person's thoughts and to initiate creativity. They do not directly tell a story about critical thinking, but they offer pertinent insights for our discussion in this dissertation.

Although I believe that writers of literature support the contentions of the philosophers examined in chapters four and five, their insights emerge from a different (often more intuitive) source than the philosophers' conceptions. They see the imagination less as an object of study to comprehend than as a subject they apprehend as part of the creative process. Many writers choose not to depersonalize the subject of the imagination, because they believe it constitutes so much of what they are as artists. Consequently the imagination is often revealed through the literature as well as through exposition. In spite of its personal nature for writers, as we shall see, literary artists present an imagination we may connect with characteristics identified with expanded notions of critical thinking. They also offer insights into qualities that I am arguing ought to be aspects of critical thinking. I will explore these connections throughout this chapter and then summarize the connections in chapter seven in preparation for a redesigned

conception of generative, creative, and constructive critical thinking in ensuing chapters.

Why Focus on the Literary?

As we noted earlier, in Edmund Husserl's phenomenological method of philosophical study (Husserl, 1931), he admonishes those adopting a phenomenological approach to use literary examples to illuminate and support the phenomenon being examined. The phenomenological researcher in Husserl's case, like the writer of literature, is able to "associate, and finally to identify, the human mind with what goes on outside it" (Frye, 1964, p. 33) through the use of literature. Literature is the language of the imagination, according to Frye, providing "a vision or model in [the] mind of what [we] want to construct" (p. 21). I focus on the literary, which enables us to make connections between the mind and the world we live in, for the following reasons:

1) Husserl's admiration for the role of literature in the phenomenological approach is justified, I believe, because writers are able to articulate the nature of a phenomenon by placing it in the context of a plot or setting. Thus, if we are examining the phenomenon of imagination, we might focus on an episode of discovery made by Stephen Daedelas in Portrait of the Artist as a Young Man to uncover the imagination at work in a character brought to life by the author, James Joyce (1964). Similarly, I would suggest that the literary artist is an appropriate and important focus for an understanding of the imagination in this dissertation because of his or her ability to express the thoughts that all of us think and to convey ideas that many of us find difficult to grasp or express. We find support for this view of the literary artist from Toni Morrison (1992), who contends that "writers are among the most sensitive, the most intellectually anarchic, most

representative, most probing of artists. The ability of writers to imagine what is not the self, to familiarize the strange and mystify the familiar, is the test of their power" (p. 15). In short, writers are attuned to and immersed in the imagination and are able to use it to motivate and shape their writing.

2) Many writers of literature believe that language is a vehicle for expressing the imagination and they regard the imagination as a mental capacity that provides life and vitality for their writing. Because the imagination is believed to be so important to the artists' being and creativity, they devote much time and energy to understanding how the imagination operates and what effects it has on the lives and works of artists and others. The insights of those who take the imagination seriously as the lifeblood of their art may very well reveal qualities that might not be discovered in other ways.

3) Gaston Bachelard (1943) sees literature as central to "the fulfillment of human desire as it emerges in imagination" (p. 284). The literary work, as a product of the imagination, gives a voice to human activities, provoking us to want to communicate about human experience. When we examine the creative works of poets, we are also learning about human experience as it is revealed by the imagination at work in literature.

The Romantic Imagination

I believe I would be remiss if I were to examine the literary imagination without looking at the Romantic conception of the imagination. More than any other tradition in Western culture the Romantic tradition is characterized by a preoccupation with the role of the imagination and its effects on creativity. It is the subject of many of the Romantic poems and Romantic poets like William Wordsworth and Samuel Taylor Coleridge expound on it at length as a catalyst for

the creative process. Consequently, I have focused on the writings of two prominent poets of the Romantic period - Wordsworth and Coleridge - before examining a 20th century writer - Wallace Stevens - who has a distinct conception of the imagination but who is influenced by the views of Romantics.

The writers during the Romantic period were captivated by the imagination, which they believed inspired and shaped their writing. Romantic writers believed that imagination is "the basis of all significant human creation" (Casey, 1976, p. 184). Their Romantic notion that the imagination is essentially creative has become so pervasive, even in contemporary parlance, that ordinary language often equates the imagination with creativity. When we talk about an imaginative child, we are often talking about her creative abilities - her capacity to paint or draw, for example.

Romantic writers like William Wordsworth, Samuel Taylor Coleridge, and John Keats engaged in a revolt against the mechanistic and rational worldview of 18th century writers, who rejected a role for the imagination in the creative act, in favor of a more expansive, progressive, and emotional worldview. The metaphor for the poet and the imaginative process during this artistic period, as M.H. Abrams (1953) points out, changes from the mirror, which reflects and imitates life passively, to the lamp, which views the poet as using the imagination to illuminate the world in which we live. For thinkers during the 19th century reliance on the rationality of humans was questionable; they sought to emulate the workings of nature and idealized the natural purity of the primitive mind freed from the perilous effects of civilization. Consequently, their poetry tended to be less concerned with poetic language than the communication of ideas in a freer way. The Romantic poets constantly sought to capture through the imagination the strength and richness of nature and the primitive mind; they also sought to recapture their child-like minds, which were considered to be more in tune with

the imagination and better able to uncover the true meaning or significance of the world in which they lived.

The Romantic writers focused on the imagination in order to uncover the passionate side of thinking in one's writing and daily life. Because of the emphasis on the individual, each of these writers had a different view about the imagination. Generally, however, they viewed the imagination as enabling them to observe the ordinary in nature and everyday lives, to discover the extraordinary in it, and, in some instances, to reveal a transcendent order. The Romantic writers were not necessarily interested in escaping from the world in which they lived but rather in transforming it by rediscovering its true nature freed from the artifices created by civilization and adult minds. This process, in turn, was meant to be liberating. The imagination, then, was important not only for the creation of Romantic poetry, but also for heightening the experience of one's life. Romantic writers' views about the imagination as a vital force and energizing capacity in the mind of individuals have much to contribute to our understanding of sensuous and nonsensuous imagining and for critical thinking which employs the imagination.

Writers Selected For this Chapter

In this study we need to understand the power and qualities of the imagination in order to intentionally employ it. While telling imagination's story, artists constantly try to probe the depths of the mind and being to discover the nature of the imagination and the source of their creativity. Their primary motive is a simple one - to learn how to draw upon it to add life and vitality to their writing and lives.

I have selected three writers - William Wordsworth, Samuel Taylor Coleridge, and Wallace Stevens - to provide insights into the nature of the

imagination and its role in our lives. I have opted to look at the writings of William Wordsworth because he (along with his compatriot Coleridge) provides the foundation for the English Romantic movement. In addition, Wordsworth writes biographical and personalized poetry to explore his discoveries about the imagination and his feelings when it seemingly abandons him. Because he makes more modest and balanced claims for the imagination than many other Romantic poets, he offers insights on the imagination that will be valuable in understanding the role of the imagination in critical thinking where the imagination often operates subtly to inspire and motivate our thinking. Wordsworth's entire opus is often regarded as the story of one man's discovery, nurturing, and loss of the imagination in his life and work. He discovers and reveals the nature of the imagination to modify, synthesize, and integrate. He does not seek to use the imagination to abandon the world for a transcendent reality but, rather, to discover meaning within the reality in which he lives.

Coleridge shares a kinship with Wordsworth, even though his poetry tends to be more fantastical and less connected with nature than Wordsworth. He articulates his views in philosophical prose and poetry - thoughtful analyses helpful to our understanding of the imagination. The combination of poetry and prose is not surprising since Coleridge (1907) believes that "no man was ever yet a great poet without being at the same time a profound philosopher" (vol. 2, p. 19). Because of his facility with both genres, Coleridge shows us the imagination realized in his poetry and the theory behind his creativity in his prose. As William K. Wimsatt, Jr., and Cleanth Brooks (1957) point out, although Coleridge's and Wordsworth's conceptions of the imagination are not substantially different, "Coleridge no doubt may be conveniently accepted as the more articulate and more theoretical spokesman of the two" (p. 389). In particular, his thinking provides a framework for Wordsworth's observations about the imagination and

therefore makes Coleridge an appropriate selection for this study. His efforts to delineate concepts like the imagination and to examine their implications for creative acts complement more intuitive insights and make his observations pertinent for this study.

Wallace Stevens sees poetry as "a way of discovering and crystallizing what he calls 'the objects of insight, the integrations/Of feeling'" (Sukenich, 1967, p. 1). Stevens places as high a value on the imagination as his Romantic counterparts, but explores how the imagination operates in a 20th century society where the imagination is impoverished because of cynicism. The imagination for Stevens is less a creative capacity generated from something not naturally existing than a constructive capacity built from what already exists. His insights on the imagination in some instances complement and in other instances contrast with those of Wordsworth and Coleridge; however, Stevens' observations are valuable for our understanding of the imagination as it operates in critical thinking because he provides new directions for the imagination particularly suited for the 21st century.

William Wordsworth

William Wordsworth (1956) uses the phrase the "colouring of the imagination" (p. 358) to identify a process for which a poet has a particular talent or gift. A poet can peer at situations in everyday life and, through his or her imagination, bring life to the observed reality by making it unusual. Through reasonable insight the imagination, according to M.H. Abrams (1953), illuminates reality with the "color" of the poet's feelings. Wordsworth does not envision imagination released like bright splotches on a canvas but rather more like subtle strokes subdued and balanced. When the imagination operates in our thinking, it

suffuses the activity by putting a new light on what we have observed; it "produces impressive effects out of simple elements" (Wordsworth, 1933, p. 899).

Coleridge's appraisal of Wordsworth's qualities provides us with insights into Wordsworth's subdued and balanced imagination:

It was the union of deep feeling with profound thought; the fine balance of truth in observing, with the imaginative faculty in modifying the objects observed; and above all the original gift of spreading the tone, the atmosphere, and with it the depth and height of the ideal world around forms, incidents, and situations, of which, for the common view, custom had bedimmed all the lustre, had dried up the sparkle and the dew drops (Coleridge, 1907, vol. 1, p. 59).

Unlike many of the Romantic poets of the era Wordsworth is more concerned with balance. He sees the importance of the imagination in his life and regrets its loss as he ages. Coleridge initially notes the deep feeling Wordsworth exhibits. In his "Preface to the Lyrical Ballads," Wordsworth (1956) observes that the product of the imagination - poetry - is "the spontaneous overflow of powerful feelings" (p. 358). The spontaneity, which we may recall is one of the characteristics of the imagination identified by Casey, is important to Wordsworth because it enables him, as a poet, to get a sense of the power of the imagination, which operates in each of us but especially in the hearts and minds of sensitive poets. In reflecting on what to look for in poetry Wordsworth couples emotions and imagination and suggests that a critic of "higher poetry" seeks the wise "heart" and the grand imagination. He qualifies the "spontaneous overflow of powerful feelings" by claiming that "it takes its origin from emotion recollected in tranquillity" (p. 358). Wordsworth seems to be talking here about the aspect of the imagination that Casey calls controlledness. Wordsworth suggests that we can direct and shape the imaginative overflow of feelings through recollection. Unlike Casey, who regards

spontaneity and controlledness as mutually exclusive characteristics, Wordsworth sees the two as part of the total imaginative process, both working together. We might conclude from this statement that Wordsworth believes in the power of emotions sparked by the imagination, but not uncontrollable emotions. Rather, he seems to be emphasizing the role of reflection - a less excitable and more balanced view of emotion than other Romantic poets.

Because of this need for balance and order, Wordsworth is less likely than other Romantic poets to establish dichotomies in his thinking since dichotomies often result from viewing ideas as extreme. We see once again in Coleridge's observations the emphasis on the blend or union of deep feeling and profound thought. Wordsworth alludes to the problem in a volume of epitaphs, where he observes:

Energy, stillness, grandeur, tenderness, those feelings which are the pure emanations of Nature, those thoughts which have the infinitude of truth and those expressions which are not what the garb is to the body but what the body is to the soul, themselves a constituent part and power or function in the thought - all these are abandoned for their opposites, - as if our countrymen, through successive generations, had lost the sense of solemnity and pensiveness (not to speak of deeper emotions) and resorted to the tombs of their forefathers and contemporaries, only to be tickled and surprised (Wordsworth, 1876, vol. 2, pp. 63-65).

Wordsworth is focusing on the extremes of his predecessors (such as Dryden and Pope) who eschew emotions and feelings in favor of reason and do not respond to the imagination's call. To Wordsworth their poetry, which imitates ancient writers and is characterized by rhyming couplets, is artificial and superficial. Unlike other Romantic writers, however, Wordsworth does not eschew reason in response to the contentions of poets in the 18th century. The quality of one's writing (and probably the quality of one's thinking), he suggests, "consists in a conjunction of

Reason and Passion, a conjunction which must be of necessity benign. . ." (Wordsworth, 1876, vol 2, p. 65). He does not denigrate reason, but seeks to transform it. In The Prelude Wordsworth (1971) offers some insight on the relation of reason and imagination, when he says that the imagination:

Is but another name for absolute power
And clearest insight, amplitude of mind
And Reason in her most exalted mood. (XIV, ll. 190-192)

His ability to see the imagination as reasonable distinguishes him from other Romantic poets who have very little use for reason, which they often view as interfering with the imagination. Not only do imagination and reason operate compatibly "to elevate the more-than-reasoning mind," but also represent inseparable and inspired processes in our minds that elevate our insights about the ordinary world and actively become the source of creativity.

It should be noted that Wordsworth has more than one conception of reason. Raymond Haven (1941) in The Mind of a Poet highlights three different kinds of reason that Wordsworth uses. The first is akin to intuition, the second logic and analysis (a type of reasoning that can be dangerous if left unchecked), and the third "judgment, sanity, instinctive wisdom, common sense" (p. 363). The first and third senses of reason would seem to be closest to the senses Wordsworth is using in talking about the unity and reconciliation of reason with emotion and imagination. What we see of the imagination through Wordsworth's sensibility is a capacity for evoking feelings and emotions (as Warnock further delineates in her study of the imagination), for drawing on reason to write effectively, and for reconciling the two capacities.

If we refer back to Coleridge's comments about Wordsworth, we also discover Wordsworth's ability to observe and the imaginative capacity to modify

the observations, to imbue these perceptions with vitality. Thus, Wordsworth can talk about his knowledge being "impregnated" by the imagination, which "made it [knowledge] live" (Prelude, VIII, ll. 796-799). What does Wordsworth mean by impregnating knowledge with the imagination? The whole notion of impregnating suggests creating. In this case the imagination gives knowledge an energy akin to procreation. As conception results in the growth of a child so too the imagination encourages the growth and expansion of knowledge. According to Wordsworth (1876), the imagination "shapes and creates" (vol. 3, p. 465) - often shaping something not presently in existence.

In summary, I find that Wordsworth provides a balanced view of the imagination, which is certainly a significant capacity but not the only useful capacity affecting our thinking. Wordsworth shows us an imagination that colors the world with feelings, balances most everything but especially spontaneous feelings with recollection and reflection, intimately connects reason and the imagination, and is able to modify and revitalize observations, impregnates knowledge, and shapes and creates. Wordsworth lays claim to a conception of the imagination that, in many ways, Coleridge provides a theoretical framework for in his prose.

Samuel Taylor Coleridge

Samuel Taylor Coleridge believes in the synthesizing power of the imagination, which "reveals itself in the balance or reconciliation of opposite or discordant qualities" (Coleridge, 1907, vol. 2, p. 12). He sees it as the "shaping spirit," that force which brings unity from diversity. Coleridge's desire to uncover a dialectic that draws opposites together frames his discussions about the imagination.

He discusses the imagination under two headings - the primary and secondary. The primary imagination represents "the living Power and prime Agent of all human perception, and as a repetition in the finite world of the eternal act of creation in the infinite I AM" (Coleridge, 1907, vol. 1, p. 202). This imagination looks to the divine as its model; it "reenacts God's original and eternal creative moment" (Wordsworth, 1985, p. 25). The alternate imagination, secondary only in degree and not in kind, "dissolves, diffuses, dissipates, in order to recreate" what ideally the primary has already created. The secondary imagination fuses unconsciously the subjective (the human mind) with the objective (the particular) to enable the creation of art and poetry. According to Coleridge (1907), the poet "diffuses a tone and spirit of unity, that blends, and (as it were) fuses, each into each, by that synthetic and magical power, to which I would exclusively appropriate the name of Imagination" (vol. 2, p. 12). The primary imagination seeks a unity with the divine, with God, while the secondary imagination seeks through the power of writing to reach the heights of the primary imagination by duplicating that unity with God.

It is important to examine the secondary imagination closely, since it is the focus of the imagination evident in the thinking of most individuals and, at its most intense, tends to transform our thinking. Although the secondary imagination is not as pure as the primary imagination, it is more important to humans because it is the capacity that allows us to aspire to God's creative impulse. This is a particularly Romantic notion. In Coleridge's terms the secondary imagination does not create but recreates. He uses three verbs to identify what that process entails. All of them relate to the idea of scattering, dispersing, breaking up, or disintegrating. Coleridge seems to be suggesting that the imagination enables us to observe and work with (to envisage) the parts, which are then drawn together into an integrated whole. Thus, when we imagine a series

of scenes for a play, our mind envisions the parts of the play while simultaneously imagining what they look like integrated into a whole.

Coleridge (1907) also differentiates between the imagination and fancy. Fancy takes images of "fixities and definites" (vol. 1, p. 202). These images might include my friend Jerry and a street in Boston. Through the "mode of memory" we might attempt to place these images together without forcing them to lose their initial identities. Thus, we may see Jerry and the Boston street, but Jerry's presence does not truly seem to be present in Boston. As a consequence, we may regard fancy as superficial. However, we cannot dismiss fancy immediately, regardless of Coleridge's contention of its inferiority to imagination, because, as Coleridge himself says, fancy operates with and does not exclude the imagination any more than the imagination excludes fancy. Coleridge suggests that a person "may work with two very different tools at the same moment; each has its share in the work, but the work effected by each is distinct and different" (vol. 1, p. 194). So the "aggregate and associative power" of fancy may operate in tandem with the energizing and fusing power of the imagination. "Good sense," Coleridge contends, "is the Body of poetic genius, Fancy its Drapery, Motion its Life, and Imagination the soul that is everywhere, and in each; and forms all into one graceful and intelligent whole" (vol. 2, p. 13).

It should be noted, in conclusion, that Coleridge (1907), when talking about Shakespeare, believes that "images become proofs of original genius only so far as they are modified by a predominant passion" (vol. 2, p. 76). He tries to hold to this passion as he seeks reconciliation or synthesis through a dialectic. Coleridge's passionate intellect helps us to understand the role of the imagination in dissolving and diffusing while developing an integrated whole - this in contrast to fancy, which is unable to integrate or reconcile the parts. Coleridge's secondary imagination presages Wallace Stevens' constructive imagination.

Wallace Stevens

The magic of the Romantic movement and particularly the Romantic imagination is evident in Wallace Stevens' poetry and prose. For Stevens (1951) the imagination is "the only genius" (p. 152). Through this genius "we project the idea of God into the idea of man" (p. 150). Extolling the virtues of the imagination would certainly place Stevens in the lineage of the Romantics and his connecting the imagination with the divine is a Romantic notion. Yet we must be careful not to make this connection too strong, since Stevens paints a particularly 20th century color on the imagination, which is not inspired by and modeled by God but is in fact intended to replace the divine. The imagination, he suggests, is like a light, illuminating the world in which we live, observe, and interact. It provides meaning to our perceptions of the world.

Although Stevens' poetry has a decidedly Romantic flavor, he himself seeks to "cleanse the imagination of the romantic" (p. 138). In fact, according to Stevens, the imagination is a great human power which is "the liberty of the mind" (p. 138) - bold and courageous as well as capable of achieving abstraction. Stevens claims that the Romantic "belittles" the imagination, fails to use its liberating nature, and achieves "minor wish-fulfillments. . .incapable of abstraction" (p. 139). He suggests that the Romantic is "a failure of the imagination precisely as sentimentality is a failure of feeling" (pp. 138-139).

In the essay, "The Figure of the Youth as Virile Poet," Stevens (1951) makes a startling assertion that "the best definition of true imagination is that it is the sum of our faculties" (p. 61). What are we to make of this statement? Are we to assume from the statement that Stevens believes that imagination is made up of intelligence, memory, and perception? In fact it would seem that Stevens actually believes this, since he continues by focusing on "the acute intelligence of the

imagination, the illimitable resources of its memory, its power to possess the moment it perceives" (p. 61). By equating the imagination with the sum of our faculties, Stevens has indeed made it a powerful capacity that may affect nearly everything we do.

Reading Stevens, we may more readily see how memory and perception are related to the imagination, since our memories often rely on images of the past and our perceptions of the world we observe may be colored and framed by the imagination (so much so that we may perceive a shadow as threatening when it represents nothing at all). These are important associations that we do well to remember in trying to understand the influence of the imagination on our minds. I understand intelligence - one of the faculties Stevens refers to - to be the capacity all of us possess to engage in mental activities enabling understanding and meaning. I believe this is akin to nonsensuous imagining posited by Edward Casey. According to Stevens, imagination "colors, increases, brings to a beginning and end, invents languages. . ." (p. 62). Many of these characteristics are not sensuous but nonsensuous. When a science fiction writer imagines a new language for her alien characters, she often imagines it nonsensuously. The imagination is her intelligence which (to use Stevens' imagery) constructs meaning of the unfamiliar from what is familiar (namely, our own language); it sheds light (to borrow another of Stevens' images) on our activity and makes it more intense than what actually exists.

It is not surprising that, if Stevens (1971) accepts the imagination as the sum of all faculties, he should also focus on thought and feeling operating and influencing each other through the active role of the imagination. In the poem "Notes Toward a Supreme Fiction" he talks about this relationship as

. . .the strong exhilaration
Of what we feel from what we think, of thought
Beating in the heart, as if blood newly came,

An elixir, an excitation, a pure power (p. 209).

Stevens sees the imagination as providing us with an exhilaration that comes from constructing a new reality by coupling thought and feeling. In Stevens' mind the two are both part of the imagination's domain, contributing to the imagination's capacity to make meaning of the world we live in.

In focusing on poetry and painting, Stevens (1951) makes another claim closely associated with the imagination as the sum of all capacities. The operating force within us, according to Stevens, when we write a poem or paint a painting, is the imagination, which may be characterized as a "constructive" capacity.

"Constructive" suggests that the imagination is involved in building or framing something new from what exists. Inherent in the adjective is the idea of improvement, as opposed to destruction, which results in tearing down rather than building up and improving. Stevens does not seem to associate the imagination with creativity, which suggests bringing something unique into being that may not otherwise naturally exist. The construction metaphor makes the imaginative process much less ethereal, because the transforming power of the imagination comes from what exists. In fact the imagination "makes its own constructions out of. . .experience" (p. 164). This experience is what Stevens calls "the familiar"; the imagination uses the familiar "to produce [or construct] the unfamiliar" (p. 165) - something new from what already exists in reality. The constructive nature of the imagination, then, tends to "rebuild the world's significance" (Sukenick, 1967, p. 17).

When we construct using the imagination, we are building meaningful experiences. If we return to the metaphor of light, which Stevens (1951) uses to

aid our understanding of the imagination, we find that "like light, [the imagination] adds nothing, except itself (p. 61). But light makes visible what is invisible and reveals the mysteries that often exist when light is not present. The imagination, Stevens suggests, reveals the significance of a reality that we exist and often take for granted in our daily lives. Stevens contends, however, that the imagination is actually stronger than the light since "what light requires a day to do, and by day I mean a kind of Biblical revolution of time, the imagination does in the twinkling of an eye" (pp. 61-62). Thus, what we construct using the imagination is a more meaningful reality which is at once more clear and more intense than the reality we inhabit. In using the constructive metaphor to describe the meaning-making process, Stevens adds an element to the process that Warnock (1976) only alludes to when she talks about imagination's capacity to make meaning. Stevens sees the imagination as building a new reality with added significance, whereas Warnock leaves open the nature of the meaning-making process.

Stevens' statement (Stevens, 1951) that the imagination is "intrepid and eager and the extreme of its achievement lies in abstraction" (p. 139) sounds counterintuitive. When we think of the imagination, we normally think of images more particular than abstract, especially if we are thinking of the image in sensuous terms. As we have acknowledged a role for nonsensuous imagining, we are beginning also to acknowledge the possibility that the imagination is responsible for abstracting as well. Stevens suggests that "the poet abstracts reality by replacing it in the imagination." If we return to Stevens' claim about the constructive imagination consisting of the sum of other faculties, we may assume that the imagination is constructing or building abstractions from the experiences it helps to perceive. Stevens underscores that the Romantic is unable to achieve abstractions, but settles for "minor wish fulfillments" (p. 139). Thus, we have

established a contrast between the traditional Romantic notions, which tend to be formed in the concrete, and Stevens' belief in the role of the imagination to abstract.

In the poem "Description Without Place" Stevens (1954) offers us a characteristic of the constructive imagination which I believe is also valuable for our understanding of the role of the imagination in critical thinking. In this poem he focuses on an important role for description in creating a new, vital reality. According to Stevens (1954),

Description is revelation. It is not
The thing described, nor false facsimile.

It is an artificial thing that exists,
In its own seeming, plainly visible,

Yet not too closely the double of our lives,
Intenser than any actual life could be (p. 344).

Stevens seems to be suggesting that the ability to describe reveals a new reality because of the imagination. Because of its intensity, we have a sense that description, which is empowered by the imagination, illuminates reality with meaning, constructing a more lively reality.

As we have seen in this discussion of the imagination, Wallace Stevens compares the imagination to a light illuminating the world, and insists that the imagination should not be mistaken for a romantic imagination, which he claims diminishes the liberating power of the imagination. Stevens claims that the imagination (both sensuous and nonsensuous) is the "sum of all faculties," has a capacity to construct something greater and more meaningful than its parts, and is able to abstract.

CHAPTER SEVEN

**THE IMAGINATION AND CRITICAL THINKING:
NOTES TOWARD A NEW CONCEPTION OF CRITICAL THINKING**

What have we discovered in our efforts to learn about the literary artist's conception of the imagination? How will this inform our understanding and use of critical thinking? When we examined the philosophers' conceptions of the imagination, we learned from Edward Casey (1976) about the possibilizing imagination, which acknowledges the great latitude the imagination has for envisioning in ways that perception cannot, and we encountered a distinction between sensuous and nonsensuous imagining. Sensuous imagining is more familiar to us because the images formed by the imagining process are based on the senses. Nonsensuous imagining is more controversial because it is a process of envisaging that does not rely on the senses. When we talk about the imagination in critical thinking, the imagination we often focus on is nonsensuous, because it relates to the world of ideas. Richard Paul's call (Paul, 1990) for an individual to imagine another's perspective and engage in an imaginary dialogue among perspectives in his conception of critical thinking might be labelled as nonsensuous imagining. From Warnock we learn how the imagination is able to generate and harness emotions and discover how imagination might be connected to creativity. The literary artists we have explored in chapter six provide insights into the imagination that complement, supplement, and extend the conceptions of the imagination posited by philosophers.

What do we discover from Wordsworth about critical thinking? Mainly, I believe, we learn that 1) the imagination is not necessarily incompatible with

reason and that, in fact, 2) the imagination can energize reason by providing it with an emotional connection. As imagination and reason operate in critical thinking, 3) the imagination enables reason to see further possibilities in the usual, and 4) empowers reason to expand ideas and insights.

One of Ms. Alsop's students, Melinda, found she had a difficult decision to make - whether or not to attend the advanced studies program at St. Paul's School in New Hampshire or a prestigious music camp. Ms. Alsop learned of the need for Melinda to make the decision in her weekly journal, where she shared the challenges of making the decision. Ms. Alsop was fascinated by the process which Melinda shared. She began the process by reasoning about the two schools by analyzing the features of each experience and evaluating what she learned. Analyzing the data was not enough for Melinda who remembered her previous experience at the music camp, the new friends she made, and the musical activities she got involved with. She imagined what the upcoming summer experience would be like and emotions of joy that would accompany the experience. She was less certain about the St. Paul's experience but knew that the experience could not be repeated. She imagined what the St. Paul's summer program would be like from what her friends had described to her and from her own experiences with similar summer programs. She liked the atmosphere of St. Paul's and knew some of her fellow students from the high school she attended. Both imaginative exercises generated a number of questions, evoked emotions, and made the reasoning process richer by offering a variety of possibilities and choices to analyze and assess. Throughout the process she went back and forth between the two summer programs but finally decided to attend St. Paul's.

The imagination also allows for deep feeling, which is balanced by profound thought - a balance which critical thinking characterized by evaluation and reflection can provide. As a source of creativity, the imagination brings to its

natural capacity this creative impulse. In critical thinking where imagination is encouraged, creativity allows the critical thinker to engage in greater divergent thinking. Wordsworth seems to emphasize recollection and reflection as a means for obtaining this balance. Critical thinking theorists like Harvey Siegel (1988) and Richard Paul (1990) seek to obtain a balance in critical thinking by inviting a critical spirit component that is passionate in its support of the critical process, but that operates to give energy to the critical, analytical, and judgmental process. "Deep feeling" about the issues being addressed and "profound thought" are needed in critical thinking as much as in poetry.

The presence of the imagination in critical thinking evokes emotions which may facilitate or impede the thinking process as suggested above and as we saw in our discussion of Mary Warnock (1976) in chapter five. Its positive use can result in the rational passions that Richard Paul (1990) talks about, passions which promote the critical thinking process. I believe it important to acknowledge Wordsworth's contention about the need to integrate the emotions into our thinking when we discuss the imagination in integrative critical thinking. The imagination can elicit emotions (both positive and negative) and draw them into the whole imaginary process; it is the critical or evaluative process in critical thinking, however, which allows us to use the emotions during the reflective process. Thus, if we have a problem we are asked to solve, the imagination enables us to envisage the problem in emotional ways as well as to bring passion to the process of solving it. As we imagine the solved puzzle and possible steps to reach that vision, we allow the imagination to begin to fuse the emotions and reason in order to reach the solution.

There is a shaping of critical thinking that occurs when the imagination emerges and actively operates in critical thinking. In Wordsworth we see an analogous shaping of reason by infusing it with the imagination. This imaginative

shaping may be useful in critical thinking. For example, when we think critically about the prospect of having a child, we obviously want to have a knowledge base which may include an understanding of children, their development, the costs, etc. However, the knowledge tends to remain inert until we imagine its use in projected situations. Generally critical thinking that features a strong knowledge base used in imagined situations does not promote dichotomous thinking, because we are operating dialectically as we move from the sensuous to the nonsensuous and from the imaginative enterprise to the evaluation of it during the critical thinking process. This dialectical process reduces dichotomies while simultaneously allowing the imagination to operate in critical thinking.

Coleridge also seeks to reconcile dichotomies by locating a dialectic through the imagination, which is the source of creation and re-creation in the artistic work. We are particularly interested in secondary imagination in our discussion of critical thinking. Coleridge (1907) seems to be suggesting that humans recreate rather than create by using secondary imagination. This imagination takes what already exists and "dissolves, diffuses, and dissipates" (vol. 1, p. 202). Thus, the imagination disperses, scatters, or breaks down in the imaginative process and then unifies the parts into a whole. That the imagination might be involved in the breaking down as well as the synthesizing provides a new insight into the role of the imagination. In critical thinking the imagination may enable us to envision the parts of a complex problem, for example, and then help us to see those parts in a new whole.

The constructive imagination, on which Stevens (1951) focuses, is akin to Coleridge's secondary imagination. "Construction" provides a very different metaphor for use in critical thinking. Earlier, we talked about one of the qualities of expanded conceptions of critical thinking as being constructive in nature. An imagination, which can be drawn from various capacities, is able to construct

something significant from mundane or disparate ideas. In the realm of critical thinking this means that the imagination may enable critical thinking to take a problem with its elements all known and construct it in a different way. Thus, when we formulate a belief about the education of young people, we may begin by looking critically at various views about education. As we are doing this, we are imagining possible beliefs with which we are comfortable. We are not creating that belief system, however, but rather constructing it by envisioning possibilities, trying them out, envisioning other possibilities, trying them once more, and continuing the process until we reach a level of acceptability. The belief that evolves is imaginatively constructed and is more inclusive than the ideas from which they are formed. The imagination is a builder which finds stasis but may constantly be seeking another level of change.

The distinction between the imagination and fancy may account for the difference between more mundane critical thinking and integrative critical thinking. Coleridge's imagination (Coleridge, 1907) is concerned with the fusing and blending power of the imagination, a power that we might find useful in our discussions of critical thinking. When we think critically, we do not simply analyze and criticize; we seek to go beyond the superficial, to generate and create new ideas. We seek to transform the ideas we analyze and make them new. Critical thinking, then, as an ongoing process in which we analyze and synthesize, blends disparate ideas in order to discover new possibilities (perhaps like the possibilities Prawat [1991] explores in his conception of thinking), expand our thinking, and solve problems in multiple situations. The imagination explored by Coleridge represents the quality of critical thinking that enables us to engage in such dynamic and flexible thinking. The whole concept of strong sense critical thinking described by Paul (1984), for example, seems to be infused with the kind of imaginative power that Coleridge posits. Strong sense critical thinking, which

draws on both the rational and emotional and is integrative and emancipatory (qualities especially prominent in this dissertation), demands the fusing and completing power of the imagination (the "poetic" hidden in critical thinking). This imagination transforms our thinking by enabling us to synthesize, to bring together the objective and subjective. This thinking is holistic, unified, and integrated without losing the identity of the parts (a type of thinking this dissertation has explored).

A more narrow conception of critical thinking, which does not release the imagination (weak sense critical thinking, for example), tends to resemble Coleridge's views about fancy (Coleridge, 1907). Like fancy, it is more superficial, less unifying, and less powerful. Disparate ideas may coexist, but are seldom fused or unified. This thinking may be useful in certain situations, especially since it would be impossible to perpetually sustain critical thinking strongly infused with imagination. Critical thinking in a narrower sense, however, would seldom be synthesizing or integrative and would rarely generate new, more powerful ideas. When we call on fancy during critical thinking, we are trying artificially to force disparate ideas together without transforming them so they can become a new idea. Under these circumstances we can solve a problem or make a decision, but the solution may not have resulted from various possibilities and may not have drawn the parts of the puzzle into a whole. The imagination is designed to do this whether it is operating to create a poem or to engage in a critical thinking activity.

In critical thinking, the thinker might imagine ideas relating to a belief about gun control. Before the belief becomes a coherent whole greater than the sum of its parts, the imagination enables us to envision different positions and different issues relating to gun control (such as its effect on victims of violent crimes, the danger of guns in the home, the differences between guns for hunting

and other types of guns, etc). The transformative power of the imagination in critical thinking occurs, however, after the parts are envisaged and analyzed and we are able to draw the ideas together into a whole belief about gun control that makes sense of the disparate parts. Thus, we might conclude that gun control is part of a larger belief about the role of violence in society and our need to educate individuals about the causes of violence and the relationship of the use of weapons like guns not as a cause of violence but as a symptom of the larger problem.

If we accept that the imagination is "the sum of our faculties," as Stevens (1951) contends, we may begin to see how its holistic presence might affect critical thinking. We have already seen the imagination's role in bringing emotion to our thinking (Warnock, 1976; Wordsworth; Prawat, 1991), in drawing from multiple possibilities (Casey, 1976; Prawat, 1991), and in generating ideas through nonsensuous imagining-that and imagining-how (Casey, 1976). Stevens sees the imaginative capacity as comprised of other capacities. When the imagination operates in critical thinking, it becomes the vehicle for drawing on other capacities. How does the imagination do this? When we imagine, the imagination draws on the parts (such as memory, perception, and intelligence) and "colors" them with its constructive capacities. Thus, when I am engaged in the critical thinking problem of choosing the best school for my son to attend, I create images from my memories of other schools, perceive schools I encountered based on the goals I envision, and imagine nonsensuously what kind of school is best suited for young people in general and my child in particular. The mind during the critical thinking process, then, continually and simultaneously engages in a critical process of evaluating the imaginative evocation and systematizes our imaginings. In other words the mind balances the capacities through the critical thinking process in much the same way as Wordsworth seeks such a balance.

Stevens suggests that the imagination plays an important role in abstraction

- the process of abstracting being akin to Prawat's constructivist approach and his notion of "big ideas." We might ask what the imagination's role in abstraction has to do with critical thinking. When we enter the realm of ideas (as we must to a certain extent in order to engage in critical thinking), we also enter the world of abstraction. Our ideas must have a concrete center but ideas themselves tend to be abstract by definition. The idea of freedom may conjure up images of individuals in a democratic society being able to vote for their leaders, slaves being released from their bondage, and people attending churches of their own choices in order to worship as they please. These images tend to be concrete, but the word "democracy" is an abstraction, which is made real by imagining the concrete. If we adopt Stevens' conception of the constructive imagination as the type of imagination operating in critical thinking, then, as we think critically about a workshop we are presenting on critical thinking instruction, we might reflect on critical thinking as it presently exists and begin to project what instruction would look like if critical thinking were actually the guiding principle of the classroom. During this process we would be constructing meaning and significance as we imagine the classroom reality. As we generalize about critical thinking in the classroom and envisage our ideas about such instruction for any classroom, we are beginning to abstract our ideas, which in turn must then be capable of implementation in any individual classroom setting for it to be viable. The essence of critical thinking, then, is the ability to imagine both the abstract ideas and the concrete application of those ideas (thus coupling the nonsensuous and sensuous in one's thinking) and the interaction between the ideas and the world we live in. In a way Stevens' constructive imagination, which contributes to the generation of abstractions, may offer a similar transformative or accommodatory effect to our thinking that Prawat (1991) recounts in his study, even though Prawat's constructivist perspective is based on a cognitive psychology paradigm.

Because of the imagination, critical thinking has a vitality and richness that may otherwise be absent. This vitality and richness can come from the critical aspect in critical thinking (namely, through analysis and judgment), but not from the critical alone. It is always tinged with our emotions (both positive and negative) and our ability to imagine the parts of a critical thinking problem and how the parts relate to create a whole that solves the problem. Using the imagination, we are able to construct meaning from the parts, draw upon a variety of mental capacities (including perception, memory, and intellection), and envisage abstractions that help us to theorize and generalize - all of this in order to reach a successful conclusion to the critical thinking process. Critical thinking, therefore, is a complex and dynamic process that enables us to discover meaning and significance in many situations we may encounter.

If we accept that the imagination is indeed an important aspect of critical thinking, then we may want to accept a role for description as a means of heightening or intensifying the critical nature of our thinking. According to Stevens, the intensity of the imagination when we describe makes the description a new reality. In critical thinking description allows us to construct meaningful possibilities to solve problems, to establish beliefs, or to make a decision. In Melinda's journal, for example, her descriptions during the imaginative process, she uncovered numerous dimensions to her problem of choosing a summer experience. It helped to reveal new ideas (including the possibility of enrolling in both summer experiences).

Ludwig Feuerbach (1957) focuses on the "truth and the necessity of the imagination," in which "an object of thought becomes an object of sense, of feelings" (p. 81). The critical thinking I am trying to conceptualize in this study welcomes the notion of an imagination that enables thought to become feeling, but also feeling to become thought or at least allows thought and feeling to operate

together. As we have explored the literary imagination, we have observed some of the features of expanded conception of critical thinking, such as the imagination's role in creativity, constructing meaning, recognizing and debating other perspectives, allowing emotion to accompany reason in empowering thinking.

As we encourage individuals to respond in a detached and critical way to a product of the imagination, we foster certain dispositions - certainly an offshoot of our discussion of the imagination. We also foster dispositions when we encourage an individual to imagine another person's perspective (to empathize with that person) in order to see alternatives and possibilities in situations. We should especially note the attempt of each of these writers to uncover a "deep" understanding of our thinking. The Romantic writers, for example, seek to explore the "deep" understanding of thought by exploring the imagination, which they see as connecting them to the divine. For them, the imagination, which enables "deep" understanding, also serves as the source of creativity. This is the same creativity that Perkins (1987) focuses on in his theory about thinking.

Wallace Stevens (1951) suggests that the imagination "makes its own construction out of experience; . . . what it really does is to use it as material with which it does whatever it wills." When it operates in critical thinking, it constructs meaning from all aspects of experience - rational, emotional, and intuitive meaning that empowers the thinking process. Before we can bring these insights into a coherent new conception of critical thinking, we need to address a deep suspicion of the imagination that persistently arises, at least since Plato in the Western canon, when we wish to emphasize the imagination. A suspicion arises because of the dangers the imagination is thought to pose.

CHAPTER EIGHT

IMAGINATION'S UNDERSIDE AND EDUCATING FOR CRITICAL THINKING

In my exploration of the imagination in the last two chapters, I have characterized a propitious capacity. It constructs, encourages creativity, presents endless possibilities for our thinking to shape and mold, uses emotions as well as reason, and enables emotions and reason to operate together (often in creative tension). It should not be surprising that I would emphasize the more positive dimensions of the imagination in this dissertation, since I wish to argue for its productive and constructive effects on critical thinking. The imagination, which is pervasive and omnipresent, possesses certain characteristics which, at the least, ought to be seen as constitutive of critical thinking and, at the most, make critical thinking a powerful force in our lives and society. Can we always say that the imagination is a positive capacity? If so, then why do some philosophers regard the imagination with suspicion? If not, then can we be certain that the imagination will operate positively during the critical thinking process?

There is little doubt that the imagination can be a dangerous capacity and sometimes a liability. The problems or dangers associated with the imagination are generally of two kinds, which in operation can overlap. The first is epistemological. In this category we mistake the imaginary for the real, the true, the known. Thus, I might imagine that someone is stalking me. Based on this imagined action, I claim I know someone is following me and imagine that he or she intends to do me harm. Consequently, I have a belief that the stalking is occurring; however, if the emotions of the situation do not prevent me from

reflecting on this situation, I might realize that this belief is untrue (or probably not true) because the only justification is my imaginings. I may uncover a number of explanations to discount my unfounded belief. This imagining would be particularly insidious for me if I choose to continue my belief and purchase a gun with the intent of using it. I am engaged in an imaginative act that confuses the real and the unreal, the known and the unknown.

The second kind of danger is moral. The imagination can be an instrument of evil. In its more horrific uses the imaginer may envision damage or destruction to something or someone. Such a person might imagine a scheme to defraud a client. Another individual who harbors jealousy toward a friend might constantly imagine the friend's failure and unconsciously say or do things that make that happen. Hitler and his followers might be regarded as exercising a truly diabolical imagination. They envisioned the 1000 year reign of the Third Reich in a conquered world populated by Aryans and free of Jewish people. Imagination, in this case, became an instrument for doing evil. They imagined different ways to torture their captors, the magnitude and power of the Reich, and numerous scientific breakthroughs designed to further many of their nefarious visions for the world they imagined. These examples illustrate the possibility of an imagination which destroys rather than constructs, envisions multiple terrible possibilities, and allows deleterious emotions like jealousy and hatred to emerge and dominate. On the contrary "the ethical imagination," according to Richard Kearney (1991), "allows the other to exist 'without why' - not for my sake, or because it conforms to my schema of things, but for its own sake" (p. 225).

If the positive possibilities of the imagination are so important for my conception of critical thinking, then why discuss the negative possibilities at all? I believe that, just as we often contend that we cannot appreciate goodness without having experienced evil, we cannot fully utilize the positive dimension of the

imagination without recognizing the negative dimension. That is to say, we cannot call on the imagination to empower critical thinking if we are unable to recognize and neutralize (or turn to our advantage) the negative uses of the imagination that may inhibit our ability to think critically. We cannot gloss over the negative dimension of the imagination in order to present a tidy picture of the imagination that may be sabotaged by our own lack of knowledge.

In this chapter I employ the writings of Samuel Johnson, Toni Morrison, and Deanne Bogdan both to elucidate the dangers the imagination can pose and to explore possible preventative measures we might consider if we intend to employ the imagination in critical thinking. This chapter is a logical followup to the previous two since it examines the negative side of critical thinking. Samuel Johnson's creative treatment of the dangers of the imagination in Rasselas deals with both epistemological and moral problems. Characters in the romance are deluded into believing that the unreal is real and vice versa, as we see in the "vexations" of the astronomer, who allows the imagination to have free reign in his life. Johnson also suggests a moral problem with the imagination, because of its deleterious effects on young people like Rasselas. Toni Morrison's contemporary examination of the imagination in American Literature explores the use of the Africanist presence to outline and define the whiteness of the main characters in American fiction. The imagination is used to perpetuate negative African-American stereotypes, metaphors, and symbols for the purposes of defining the selfhood and strength of the white characters. After I focus on these two depictions of the negative effects of the imagination, I examine Deanne Bogdan's arguments. A literary critic who focuses on the imagination from a feminist perspective, Bogdan highlights the limitations of the educated imagination outlined by Northrop Frye, at least in its application to the lives of some women. For Bogdan, the imagination, even one educated in a way defined by Northrop

Frye, can become an instrument for ill rather than good, particularly when the imagination is used by the dominant elements in a society. Bogdan proposes to extend Frye's conception of the education of the imagination in order to enfranchise women as readers and critics of literature.

Samuel Johnson and the Dangerous Prevalence of the Imagination

The eighteenth-century writers of the neoclassical period (writers like Samuel Johnson) have little use for the imagination. For them, the pursuit of reason is the highest human aim. These writers regard the pursuit of imagination as a dangerous quest, as Samuel Johnson suggests (1971) in Rasselas, where he depicts the fictional effect of turning imagination loose, a process which inevitably results in disastrous moral consequences for some of the characters. For this reason Johnson identifies fiction - a product of the imagination - as a morally dangerous activity, even as he effectively uses this genre to explore the dangers of the imagination.

Johnson shares with his contemporaries a belief that flights of fancy we might associate with the imagination compel us to see the misuse of this capacity as a moral issue. Because of imaginative efforts likely directed to the young, adults must scrupulously attend to the moral consequences of using the imagination. Young people, according to Johnson, "listen with credulity to the whispers of fancy, and persue [sic] with eagerness the phantoms of hope; . . . expect that age will perform the promises of youth; and [believe] the deficiencies of the present day will be supplied by the morrow. . ." (Johnson, 1971, p. 607). From Johnson's worldview the imagination may lead to epistemological problems, since the young person may be unable to discern the real from the unreal, but the imagination may also prevent young people from making morally appropriate

choices because of the possibility of their being mesmerized by those who would manipulate young people's imagination for evil or misguided purposes. For this reason Johnson tempers the imaginative "flights of fancy" in his romance, Rasselas, with a balance of realism. He seems to regard the control of the imagination and the nurturing of reason in young people as a moral imperative.

In the figure of the central character, Rasselas, Johnson depicts the consequences of youthful imagination and the road one must transit to reach an adulthood characterized by reason. Rasselas' youthful fancies are "in keeping with the romantic idealism of his sheltered upbringing," exemplifying "'the dangerous prevalence of the imagination' in its most naive condition" (Bronson, 1971, p. 615). The maturing adolescent, whose discontent arises from confinement, must exercise the imagination to project himself or herself into the alien environment of the adult world. The dangerous images prevent the young individual from considering "by what means he [sic] should mingle with mankind [sic]" (p. 614).

Johnson specifically places Rasselas in situations in which he has the opportunity to misuse imagination. At one point, when Rasselas seeks a way to escape the happy valley (representing the confinement of his youth), he imagines soaring over the mountains after meeting an artist who believes he can fly. Not mature enough to resist the artist's convincing arguments, Rasselas succumbs to them. Inevitably, according to Johnson, in trusting oneself wholly to the imagination, the disappointment of failure crushes Rasselas' enthusiasm, as the artist completes his exploit "half dead with terror and vexation."

Before Rasselas leaves the happy valley he meets an adult, Imlac, who warns him about the society he wishes to enter. Imlac realizes, however, that an adolescent must experience and interact with this society in order to temper "the dangerous prevalence of the imagination" with reason. "Ignorance is mere privation, by which nothing can be produced," according to Johnson. "It is a

vacuity in which the soul sits motionless and torpid for want of attraction; and without knowing why, we always rejoice when we learn, and grieve when we forget" (p. 631). The imagination can lead to ignorance, Johnson suggests, if we allow it to dominate in our thinking. He contends that reason is the superior mental capacity.

As Rasselas's quest for happiness draws to a close, Johnson creates a pathetic figure for Rasselas to encounter, a man who has succumbed to the imagination and as a result has become insane. This man's belief that he can influence the tides exemplifies this disordered state. Although "no human mind is in its right state," an individual tends to imagine (as does Rasselas in the happy valley) that he or she has extraordinary powers, when alone. The astronomer's extreme degree of insanity arises from the extent and length of his isolation, where reason loses control and imagination comes to dominate his contact with reality. When he has a degree of reason restored, the insanity lessens. Johnson presents a lesson indicative of the entire work at this point: namely, that an indulgence of the imagination creates unhappiness and that a person intermingling with other individuals and society restores a degree of happiness and reason. For Johnson, then, interaction with other humans facilitates the appropriate balance of a human being who controls his or her imagination. Although Johnson sees a role for the imagination in the lives and minds of individuals, he sees danger in an uncontrolled imagination. He observes a moral imperative to control this "wayward" operation of the mind by introducing reason.

The Reason/Imagination Tension

While acknowledging the power of the imagination, Samuel Johnson relegates it to a secondary role and sees it as dangerous. Although he recognizes

the futility of eliminating the imagination, he wishes to severely control it. The relationship Johnson depicts represents the inherent tension between these two capacities of the mind. Johnson reconciles the two by subjugating imagination to reason.

The character of imagination and its relationship to reason, as we have noted in our discussion of Johnson, have been discussed for centuries. Going back as far as Plato we begin to see how the subservient role of imagination is already taking form, since Plato holds the imagination, which he sees as a lower and baser operation of the mind that human beings share with the animals, as suspect. Reason, he declares, is the highest mode of thought, and the mode of thinking for which all humans should strive. Although Aristotle sees imagination in a less pejorative sense, he nevertheless postulates a dichotomy between reason and imagination and uses the analogy of the master and slave to describe the relationship between the two concepts. The master/slave image with reason controlling the imagination (and often attempting to suppress it) has persisted to the present. Johnson's view represents a traditional conception of the relationship between reason and the imagination, but it does a disservice to both concepts. The belief in the dichotomous notion of these two capacities persists today, however, and may suggest why critical thinking theorists have rarely focused on the role of imagination in critical thinking.

In contrast, a Romantic poet like William Blake emphasizes the power of the imagination as a positive force. To him reason may endanger the human mind (especially the human creative mind) and imagination will save it. All of Blake's images for reason - "the ugly," "an Incrustation over my Immortal Spirit," "a false body" (Blake, 1956) - underscore his enmity toward reason, which he thinks prevents humans from intuiting the divine and eternal in each of us. Once again this tension is reconciled by making one capacity superior to the other, in this case

the supremacy of the imagination over reason.

William Wordsworth, whose view about the relationship between imagination and reason places him between Johnson and Blake, as we have seen, admits a role for reason in his overall conception of the creative act. We find Wordsworth's conception of the imagination especially helpful in our study of critical thinking (as I suggested in chapter four), primarily because it explores the relationship between reason and the imagination. As we noted, Wordsworth actually conceives of the two as inseparable, almost as blended. The poet uses reasonable imagination (or imaginative reason) to "color" the world. That kind of blending, which transforms our thinking, is supported by current brain research as reported in studies like Descartes' Error (Damasio, 1995). It is a closer, supportive relationship between the imagination and other mental capacities operating in critical thinking that I am arguing for in this dissertation. By consciously acknowledging connections (rather than artificially severing the connection between imagination and reason or imagination and critical thinking (or making one subservient to the other), we can make critical thinking a more powerful way of thinking and perceiving our world.

We may find some merit to Johnson's notion of introducing reason as a capacity that can influence the imagination. If reason is viewed as a dominant capacity designed to suppress the imagination, however, I don't see that we can use either capacity effectively. If we hope for both imagination and reason to operate in critical thinking, we must consciously use them purposefully. This means that we must enable the imagination to envisage both sensuously and nonsensuously and reason to analyze and evaluate in a dialectical fashion.

Toni Morrison's Literary Imagination

As I've noted, in the romance, Rasselas, Samuel Johnson (1711) portrays a dangerous imagination. Toni Morrison (1992) offers us an equally devastating picture of the imagination when she shows us "the sources of [black] images and the effect they have on the literary imagination and its product" (p. x). In her monograph, Playing in the Dark: Whiteness and the Literary Imagination, Morrison leads us through a maze of literary characters created by authors as diverse as Willa Cather and Ernest Hemingway. These authors use the imagination to create an Africanist presence (as she calls it) that helps to define the white heroes. She believes it necessary to uncover the imaginative use of African characters pervasive in the literature of the United States, because "the contemplation of the black presence," she asserts, "is central to any understanding of our national literature and should not be permitted to hover at the margins of the literary imagination" (p. 5). To allow the use of blacks to remain at the edges of our literary imagination impedes our understanding of literature and conceals our character that entices us to envision blacks and whites the way they do. Relegating African-American figures to stereotype in order to better define the white characters in American literary works presents a truly moral danger of the imagination, because it enfranchises one group of people at the expense of another.

We can learn a great deal about the imagination from Morrison's short study of the literary imagination. From the title of her monograph we learn that the imagination plays rather than works. The word "play" seems like a fitting word choice since the imagination, even when it has a serious purpose, can be seen as amusing and diversionary. At another point Morrison describes the imagination as "becoming" (p. 4) more than "merely looking or looking at" (p. 4) or "taking oneself intact into the other" (p. 4). She envisions this becoming as "what happens

when. . .writers work in a highly and historically racialized society" (p. 4). One might even infer from Morrison's discussion that the process of becoming requires some educating of the imagination, which may play with the negatives of a racialized society or play with the positives allowing us to surpass the racialized elements.

It is evident that Morrison has a high regard for the imagination as a powerful, but playful, capacity. To say nothing more of the conception of the imagination, however, is not wholly satisfactory since the imagination is used by American authors in a devastating way - namely, to create two-dimensional African American individuals as a counterpoint to three-dimensional white characters. Morrison uses strong images. The "imagination sabotages itself, locks its own gates, pollutes its vision" (p. xi - the emphasis is mine). In this sense we see the flipside of the possibilizing imagination Edward Casey describes. We may imagine numerous possibilities, but on the imagination's playground the imagination is capable of shutting down the possibilities, especially those possibilities that relate to race. It is as if, when we use the imagination, we consume it; we obstruct its functioning and corrupt or contaminate its intentions. Thus, although the imagination is a potent capacity, we do not always allow it to realize its potential because of a racially charged society.

Why examine Morrison's work on the literary imagination's use of the Africanist presence in the context of this dissertation? It is necessary to our understanding of the way that the imagination operates in critical thinking to ferret out those uses of this capacity that can potentially sabotage imagination's more potent qualities. Morrison eloquently uncovers a use of the imagination to fabricate a negative image of one race in order to silhouette and highlight positively the fabricated image of another race. Morrison suggests without showing any signs of antipathy that critics must face this aspect of our literary

works directly and without restraint in order "to render the nation's literature a much more complex and rewarding body of knowledge" (p. 53). We need to face without flinching the ways we use the imagination in the employ of language biases and prejudices - the way we fabricate stereotypes - while we are engaged in a critical dialogue during the thinking process. The imagination needs to be at play when we think critically (a process which may engage young people as they uncover possibilities), but the critical thinker needs to be ever conscious of the negative images that may overtake the critical thinking process, mainly because they are so enticing. The imagination may play with ideas, but the critical and evaluative process enables the thinker to discern which ideas may not contribute to resolving a problem or making a decision.

Summary

Both Toni Morrison and Samuel Johnson are not only highlighting the epistemological and moral problems of the imagination and their consequences in the human psyche and society, but recommending solutions or counterproblems to reduce or eliminate the negatives as well. Johnson contends that the imagination needs to be suppressed by ensuring the dominance of reason - a somewhat detached and unemotional process nurtured through social interactions. In a way Johnson is calling for the education of reason to curb the powerfully dangerous tendencies of the imagination.

Morrison is not critical of the imagination per se, but underscores a devastating use of it by American authors. She believes that we must address such deleterious uses of the imagination by acknowledging them and facing them. We contribute to and support the envisioned negative stereotypes and prejudices when we ignore them because of our own discomfort or fragile sensibilities. Morrison

also seems to be calling for education - in this case, for education of the imagination in order to recognize its negative uses and their consequences. Deanne Bogdan, whose work extends Northrop Frye's study of the imagination, focuses on the notion of educating the imagination more overtly and directly than Morrison.

Bogdan and the Educated Imagination

In the post-structuralist era, the imagination has assumed a somewhat different character. Whereas some writers in the past have regarded the imagination as part of the human consciousness that taps into the reservoir of divine consciousness, many contemporary theorists and literary critics envision it as an emancipatory capacity. Hélène Cixous (1985) and Gilles Deleuze and Félix Guattari (1977), for example, adopt Jacques Lacan's notion of the imaginary (a visual consciousness which precedes language) to suggest a way out of oppression. For the post-structuralist, imagination has distinctive political and social overtones because of its associations with writers and theorists who focus on the voices of the oppressed and repressed. Bogdan (1992) admits to the influence of the post-structuralist and post-modernist perspective in her exploration of the imagination, although she draws from eclectic sources. She accepts a feminist perspective in critiquing the liberal humanism of Northrop Frye's educated imagination and develops her own literary theory and poetics. In her study she underscores the role of women, who find themselves as outsiders looking into masculine structures and entitlements. This outsider status necessarily affects the way that women view imagination and the imaginative work.

Although Bogdan (1992) focuses on the remedies for people's perceptions

about the dangers of the imagination, I will focus on the dangers themselves that prompt Bogdan (and her mentor, Northrop Frye) to seek to educate the imagination. When we examine the underlying issues of the claims of Bogdan and Frye, we find that they echo some of the moral and epistemological concerns, even if remedies for these concerns differ. Some regard the imagination and its product as morally objectionable. Like Johnson (1971), they believe the imagination is especially problematic for young people, who may become more easily swayed by the enticements of the imagination than adults and be seduced into a negative lifestyle. We have especially seen such objections to imaginative works in this country from individuals and groups that believe some of the literature taught in schools is morally indefensible or anti-Christian, that object to the violent content of dramas on television, that see rock lyrics as having dangerous effects on the minds of young people, and that seek to eliminate funding for the National Endowment for the Humanities and public broadcasting on the grounds that it promotes immoral artistic projects and programs. The response to this perceived danger is to censor or ban the imaginative product and, in some instances, to attempt to prevent the imaginative process by removing funding for programs. This is done in order to prevent people from being exposed to the imagination and succumbing to its lure.

Others may find the imagination less morally than epistemologically objectionable. Of what use, they ask, is the imagination if it is not real? Can we truly justify our investing any time and energy in imaginative activities at the expense of more reasonable and productive endeavors like the study of science? After all, isn't the imagination simply an interesting and unenlightening diversion from more significant activities? Although those who have epistemological problems occasionally wish to ban the imaginative product (especially if they believe it interferes with more serious activities), more often than not the response

to this perceived danger tends to be to limit its use. For these people the imagination cannot be justified as an area of study or as an activity worthy of our time and energy.

Bogdan (1992) affirms Frye's contention (Frye, 1964) that the key to overcoming these dangers is the response to them. The kind of response one makes to an imaginative work is central to the educating of the imagination - a process which both Frye and Bogdan believe important in order to overcome the perceived dangers of the imagination to our thinking and our lives. For Frye this is a truly Romantic process because he believes in the enduring salutary effects of the imagination properly understood. Frye suggests that the imagination will be understood and even have a positive effect on people's lives once we educate people to approach the imaginative work in a detached and critical way. Thus, when we remove ourselves from a personal response to the imaginative work, we are less likely to want to censor it or dismiss it because it is not real. If we are able to get to the point of critical detachment, Frye believes, we will be able to see and use the imagination to expand our views of the world and our belief systems. In other words, if we educate the imagination, we will be able to use the imagination for morally positive purposes and enhance our epistemological understanding of what is real.

The Educated Imagination and Critical Thinking

Frye's and Bogdan's responses to addressing the perceived dangers of the imagination certainly resonate with critical thinking infused with the imagination already discussed in this dissertation. I have argued for the introduction, use, and nurturing of the imagination as a dynamic in critical thinking. Certainly there might be those who object to the introduction of the imagination in critical

thinking on both moral and epistemological grounds and wish to deny its involvement with critical thinking. I would argue that the imagination can be educated in the way that Frye seeks simply by its being used in the context of critical thinking. The critical elements of critical thinking (namely, the analytical and evaluative elements) tend to disengage us from the more personal and emotional elements sparked by the imagination. What the critical elements enable us to do is to "analyze, delay gratification, accept bewilderment, defer moral judgment, engage aesthetic complexity, embrace a broad perspective, or negotiate points of view" (Bogdan, 1992, p. 140) - all necessary characteristics of Frye's critical detachment and the educated imagination.

If I am thinking critically about the appropriate response to my boss, who has overlooked my contributions to a major project, I might imagine different responses, which may be as sensible as rational discourse with my boss or as irrational as a confrontation resulting in my quitting or being fired. When I truly engage in critical thinking, however, I weigh and analyze the evidence (including my imaginings), exploring various issues and concerns along with the ramifications of my decisions. This process may not necessarily yield a simple or single solution (or even a solution that I might have been anticipating), but it may lead to an ill advised decision - one detrimental to me or my boss. I then may return to the imagining process to envision how I might handle the encounter with my boss and the reactions she might have. The critical and imaginative elements, therefore, operate in a dialectical fashion in critical thinking to move us to another level of understanding of the problem.

Re-educating the Imagination

In spite of imagination's education by virtue of its presence and use in

critical thinking, we would be naive to assume that everyone could or would engage in such critical thinking any more than they would engage in the detached approach of the educated imagination. I believe it important, however, that we acknowledge the barriers to the type of critical thinking I am proposing in this dissertation if we hope to make it a real experience in the lives of young people.

Bogdan suggests a whole segment of our population - those who have been disenfranchised in some way - are unable to accept the basic tenets of the educated imagination. For them responding to the imagination in a critical detached way only reinforces their disenfranchised status. For women, for example, reading a work of literature featuring characters who are sexist and attempting to maintain critical detachment during the reading may be regarded as tacit acceptance of such an attitude.

Thus, Bogdan addresses these dangers by introducing the notion of a reeducated imagination. If we succumb to these problems, we tend to feel self-alienated by the imaginative work - literature - we read, cannot identify with the imaginative work because we are outside of the power structure which dictates the milieu of the literature, and are unable to engage in a response to literature because of the context or location in which the literature is read. Bogdan calls these problems feeling, power, and location.

Bogdan (1992) suggests that, for certain readers, it is necessary to deal with the needs of the disenfranchised before responding to a work of literature. Addressing the feeling problem requires responding to a work of literature because of some objectionable aspect of it. Responding negatively or objecting to such a work of literature (to acknowledging the feelings toward it) liberates and enables the reader to construct her own literature, her own story, and her own responses (rather than the stock responses, which she may initially use). The power differential comes because of the awkward, bewildered, outsider status of various

groups (people who must come to terms with their outsider status by reading the literature of those who are members of the mainstream culture and context). The disenfranchised must search for their own authors and authorship both in the past and present; reinterpret existing imaginative works, as Toni Morrison (1992) does in Playing in the Dark; and play with the language to enable it to fit the reality of their lives. Sometimes, they must reject the work of literature because it perpetuates their psychic oppression. For the imagination to emancipate a person, then, for it to be transformative, we must initially be aware of the political context and "acknowledge patterns of dominance and control of the culture" (Bogdan, 1992, p. 153).

We need literary engagement of the sort that Frye (1964) theorizes, but we must not forget the power differential and the lived experience of the reader. Imagination can shape "the real lives of real readers" (p. 161). We can educate the imagination but not exclusively through critical response since it leads to detachment and a separation of thought and feeling.

Critical Thinking and Re-educating the Imagination

The imagination as a dynamic in critical thinking may not be nurtured if an individual feels he or she is powerless in the context in which the thinking occurs. If I have been sexually harassed by my boss, I am going to find it self-alienating to detach myself from the situation in order to engage in critical thinking. A detached response may come later, but the appropriate response for me at the time may very well be personal and political. I may use my imagination to envision alternate ways of dealing with the issue, but I will probably find it difficult to step back from the context and view it dispassionately.

Although disenfranchised individuals may find it self-alienating to adopt a

detached stance toward an imaginative work, this does not mean that these individuals will be unable to participate in the educated imagination. However, we must recognize "the developmental value education places on building individual, social, and political identity through identification" (Bogdan, 1992, p. 150) with an imaginative work for disenfranchised readers. Thus, we must forego a detached response to an imaginative work, but Bogdan emphasizes that this is not a permanent status, since she believes in the transformative qualities of literature. In a similar way I believe that we may need to forego the critical in critical thinking for a period of time in order to enable a person to gain her self-identity, but we may anticipate that the purpose behind such a move is only temporary and intended to lead her toward an educated imagination at some point.

When disenfranchised thinkers discover that a critical response places them in an "alien" world, which does not accept their own world, their feelings prevent them from engaging in critical thinking. Our feelings may inhibit our critical thinking when we explore issues as personal (yet as universal) as race, abortion, or sexual preferences. We must acknowledge individuals' feelings, then, as an important part of their thought processes. They need to be able to acknowledge their feelings about the topic and to focus on their own stories and responses in order to engage others and themselves in a conversation about the topic.

Fortunately critical thinking, as developed by contemporary critical thinking theorists like Prawat (1991, 1993), Paul (1984, 1988, 1991), and Perkins (1986a, 1986b, 1987, 1991), and as redesigned in this dissertation, honors both thought and feeling, the latter of which we may see emerging because of the imagination.

Individuals outside the power structure must think critically, as Ira Shor and Paulo Freire (1987) underscore in their book focusing on the transformation of education, but this thinking may also alienate them from their own identity. To have critical thinking infused with the imagination work, disenfranchised people

must be able to focus on their disenfranchisement. They must be encouraged and given the freedom to acknowledge their identity as they participate in a process of engagement and detachment. This process may require them to be free to be more involved initially in order to understand themselves and the world before they try to envision another world and begin to immerse themselves in a dialectic between thought and feeling, detachment and engagement.

The location problem really focuses on the context of critical thinking. Thus, the context may accentuate the power differential and make individuals feel self-alienated or alienated from society; if they feel this way, they will not reach the dialectic between engagement and detachment, between feeling and thought, a state so important for emancipatory critical thinking. We need to create an environment where we respect both the intuitive and the rational, where we allow both to flourish without one being elevated above the other.

I add two additional (but related) problems for critical thinking infused with the imagination. The first is a moral problem, identified by Johnson (1971) as well as Frye (1964), both of whom observe a moral dimension to the imagination, which carries over to critical thinking. An awakened critical thinking, which allows us to act on a newly envisioned world and newly imagined ideas, has a normative feature. Not only can we educate critical thinking infused by the imagination, but we should educate it in order to empower our thinking. Otherwise, critical thinking will tend to be narrow and limited, able to deal with analysis but less able to deal with synthesis. We should view our goal as enabling individuals to use critical thinking in their everyday lives (a process which requires us to draw together thought and emotion). We should regard this goal as a moral obligation, since it will enable all individuals to make better choices and to live cooperatively in our society for the good of all.

We may also highlight a connection problem as an important issue for

critical thinking. We have two particular problems with connections. The first - one we have been exploring throughout this dissertation - we may identify as the connection between the imagination and critical thinking (and by implication connections among other mental capacities). We must allow this connection to emerge, if we wish to see critical thinking flourish. The second connection problem is social in nature. In order to realize the potential or real scope and power of critical thinking, we must encourage a social atmosphere, in which young people can interact during the thinking process. Akin to the development of a community of thinkers or inquirers so prominently identified by researchers and philosophers like Rexford Brown (1991), Lauren Resnick (1987), and John Dewey (1933), this second connection allows critical thinking to be a thinking process that incorporates reason, memory, perception, and emotions.

Enhancing Critical Thinking & Overcoming the Negative Imagination

In the Shakespearean play, *Othello*, we observe the intertwining of three central characters - Othello, Iago, and Desdemona. Othello wins the hand of Desdemona, but alienates Iago by promoting a young man instead of him. In Iago's attempts to dole out vengeance, he instills jealousy and suspicion in Othello about Desdemona. In his jealousy, Othello smothers Desdemona. When he discovers how wrong he has been about her, he commits suicide. What is so striking about Shakespeare's tale is the extent to which the imagination can have a negative impact on a person's life and mind. Iago plants the seeds of suspicion and doubt about Desdemona, but it is Othello's imagination that leads him to destroy his wife's life and eventually his own.

This story illustrates only one of many negative uses of the imagination. In this chapter we have considered three examples. Samuel Johnson (1971) relates

the tale of a young man named Rasselas, who is journeying toward adulthood and discovering how dangerous the imagination can be for the psyche and the development of a young person to adulthood. Toni Morrison (1992) shows us how the imagination can be used to construct an Africanist presence in literature that shapes our understanding of whiteness and relegates the black image to stereotypes. Finally, Deanne Bogdan (1992) highlights the problems of the imagination in efforts to educate and reeducate the imagination for those who, like women, are disenfranchised.

Each of the above authors seeks remedies for the ill effects and injurious uses of the imagination. Johnson (1971) advocates fostering reason to suppress the imagination. Morrison (1992) encourages readers to acknowledge the fabrication of African American and white characters in order to appreciate the richness of our literature - by implication, to face the demons of our society created by the imagination. Bogdan (1992) suggests that we deal with the negative impact of the imagination, especially on those who are disenfranchised, by addressing the needs of the individuals involved. Those who have such needs refuse to "analyze, delay gratification, accept bewilderment, defer moral judgment, engage aesthetic complexity, embrace a broad perspective, or negotiate multiple points of view" (p. 140) - all aspects of Frye's notion of the educated imagination. If we are aware of the feeling, power, and location problems, all of which can contribute to a needful situation, we acknowledge that "problematizing the problem is better than thinking it a simple matter" (p. 152). The complexity can be transformative if we "acknowledge patterns of dominance and control of the culture and provide for recognition of those patterns as part of its educational mandate" (p. 153). We do this by involving "the critical reading of existing texts" (p. 153) or possibly "calling a text out of existence for a while to make way for new growth" (p. 153).

What links all of these remedies is education. Johnson (1971) is more likely to focus on the educating of reason, as we have seen in our discussion of Rasselas - encouraging young people to separate thoughts from feelings and to focus on the mind's awareness of reality rather than fantasies which move us from reality. Both Morrison (1992) and Bogdan (1992), as well as Frye (1964), explore the educating of the imagination. In each case the author believes that the imagination has negative tendencies that debilitate rather than elevate the human spirit. The trick for both of them is to turn the imagination around so that it will be more elevating. They enable this reversal by facing the problems that shape a negative imagination and revealing an imagination that constructs a more complex process and product. The educating comes when we acknowledge the complexity of the imaginative process and product - a complexity which incorporates the needs of both the dominant and disenfranchised individuals in our society, is allowed to exist rather than be reduced to simple images, and guides the imagination's operation in our daily lives.

As the imagination operates in critical thinking, we use the imagination's sense of becoming to influence critical thinking, if the imagination is given the opportunity. When we imagine, this sense of becoming provides the imagination with energy and deters static thinking; we envision something different. When a person decides on what job to apply for, he or she goes through a process of engagement and detachment, reflecting on the types of jobs he or she is interested in, envisioning himself or herself doing certain jobs, generating a number of possible job options, analyzing the pros and cons of one job over another, and selecting the job to apply for. Each image of the job can be more illuminating than the previous one and contributes to the sense of becoming that will result in a job choice based on the envisaging of multiple possibilities. That sense of becoming which the imagination enables us to engage in during the critical thinking process

keeps the process going and continues even after the process has ceased.

The critical thinking I have been portraying in this dissertation can benefit from the kind of educating I have been examining in this chapter, especially since the negative as well as the positive elements of the imagination can affect critical thinking. The negative impact of the imagination is somewhat minimized, however, when we allow this capacity to operate with other mental capacities. The interaction of various capacities more closely resembles the kind of operations that take place when we think critically in everyday situations. Thus, Johnson (1971) may offer insights into the relationship between the imagination and reason, although his attempt to use reason to suppress the imagination tends to be unnatural. Nevertheless, if we accept the validity of efforts to obtain some kind of balance (perhaps more evident in Wordsworth's views about the relationship between the imagination and reason than Johnson's), we will want to seek ways to foster that balance and even integration. Johnson offers valuable clues when he focuses on the role of socializing. For Johnson the social context enhances the capacity to reason and controls the imaginative tendencies of young people. If we allow our mental capacities to develop in a social context, we will likely reconcile dualities. All of this is consistent with the implications of the theories about the development of thinking by fostering a community of thinkers like the one described by Brown (1991) and Resnick (1987). The affective qualities of dispositions are often developed in the context of a community. We see in the imagination the encouragement of certain dispositions that parallel some found in Paul's views of critical thinking.

Focusing on the problems inherent in Frye's conception of the educated imagination, Bogdan (1992) also identifies certain dispositions or habits of mind especially important in the development of thinking individuals. When we encourage individuals to respond in a detached and critical way to a product of the

imagination, we foster an analytical disposition. We also develop a disposition of openmindedness when we encourage an individual to imagine another person's perspective - to empathize with that person, including his or her "danger zones" (Morrison, 1992, p. 4) - in order to see alternatives and possibilities in situations. The development of dispositions like openmindedness and empathy is one of the by-products of educating the imagination.

The purpose of educating the imagination at the very least is to enable the thinker to acknowledge and deal with complexity rather than reduce ideas to simple solutions. The multiple possibilities Casey (1976) associates with the imagination and I have attempted to link with critical thinking encourage us to hold complexities in order to avoid simplistic solutions and inadequate critical thinking products. When we "familiarize the strange and mystify the familiar" (Morrison, 1992, p. 15), we are revealing diverse possibilities that contribute to the complexity of our thinking. Allowing for such complexity ultimately leads to a more satisfactory conclusion to the critical thinking process because we can construct richer, more meaningful contexts for the problems or issues we are trying to resolve.

Conclusion

We come closer to recognizing the true nature of the imagination when we acknowledge its potential for negative as well as positive effects on our minds and lives. In this chapter I have focused on the negative aspects of the imagination. In each case we can see how these problems affect critical thinking. As we finally draw together the various observations made during the last three chapters, we must recognize and address those forces that undermine the thinking process in

order to nurture a critical thinking process that fosters a constructive, possibilizing, sensuous and nonsensuous, creative imagination. The imagination has much potential as a capacity if it remains unfettered and responsive to our needs, especially while we are engaged in thinking critically. Ultimately what we hope will become of the imagination as it operates in critical thinking will be the imagination's being "transposed from the order of words to the dailiness of life" (Bogdan, 1992, p. 299), so that we are continually disposed to think and imagine critically at any time and in any place throughout our lives.

CHAPTER NINE

INTEGRATIVE CRITICAL THINKING

Ms. Alsop thought Katrina an extraordinary thinker. In her English class Katrina was able to analyze a problem, issue, or belief and offer a solution. What struck Ms. Alsop was how Katrina drew from her inner self to discover alternatives. She accepted a challenge, analyzed it, reflected on it, explored it with her friends, and offered alternative proposals for meeting the challenge. This was not a dispassionate process, since she was passionate about the thinking process and believed in critical thinking to solve problems and address issues in every aspect of her life. She was seldom reticent to react emotionally to an issue, but Ms. Alsop always knew that this was part of her thinking process. Occasionally Katrina and one of her friends would enact scenarios in which they would look at different situations in which a problem might exist. Katrina continually amazed Ms. Alsop, because she was able to visualize a myriad of alternate solutions to a single problem.

Not only did Katrina have the ability to think critically, but she also had the inclination. Ms. Alsop saw her use similar techniques at student senate meetings. She had a habit of recognizing a problem or issue, reflecting on it, and posing alternate solutions that often made sense to everyone. Once, when the principal asked members of the student senate to make a recommendation on the issue of chronic tardiness, Katrina encouraged her peers to imagine themselves in the mind of a student who had a serious problem with tardiness. She led the student senate members on a journey through this student's mind to discover the reasons

for his actions and the consequences of those actions. This process of empathizing sparked various responses from students, who eventually developed a recommendation that the faculty and administration adopted as a policy.

Another of Ms. Alsop's students, Brian, did not have the same facility. When presented with a problem, issue, or situation, he struggled to find a solution because he lacked the tools to solve it. Ms. Alsop was also at a loss about how to instill critical thinking abilities in him. She tried to create a classroom environment in which students could explore, discover, analyze, and imagine. In this environment Katrina flourished, but Brian did not. She suggested strategies for Brian to try and even asked Katrina to help, but he continued to struggle. Brian's inability to grasp critical thinking strategies frustrated Ms. Alsop.

A talented artist, Brian could capture the feeling of a subject or object he was painting. He particularly liked to work in the medium of pen and ink, sketching fanciful scenes of a futuristic world, drawing caricatures of teachers and friends, and creating realistic portraits of individuals. Ms. Alsop wondered if Brian's creative and imaginative abilities might help him to develop his critical thinking abilities. She encouraged him to sketch his vision of problems she presented and then to share the renderings with a group of classmates. In one instance in particular she asked students to complete a critical analysis of the gun control issue for a panel discussion the following week. Brian was asked to develop a case both for and against gun control in his drawings. Ms. Alsop did not know how this exercise would work; however, she hoped for success, since Brian seemed to accept the task with enthusiasm. The next day Brian brought in a series of sketched images on the uses and abuses of guns. Some were humorous and others were realistic. All focused on this difficult topic and demonstrated Brian's ability to think through a medium other than speech and writing. He explained sketches to the group, a process which ignited many questions which

Brian attempted to answer. Through interactions with his classmates, who referred to the sketches and then offered their reflections, he and the other students began to develop alternative visions to address the situation and solve the problem. Although Brian never became an adept thinker and problem solver during his high school years, he began to use his painting and interacted with friends to address issues as he had to face them.

Admittedly most of Ms. Alsop's students had the ability to think critically, if the conditions and the context allowed. Generally, however, their capabilities to engage in critical thinking varied. She discovered from each of them differing ways to think critically and to approach a problem. Katrina thought more holistically than Brian. She drew from the analytical characteristics of reason, but she was also able to evoke the imagination to conjure emotions and consider possible solutions or conclusions to the critical thinking process. Katrina realized that our minds want to settle for dualistic thinking because such thinking is simple and less challenging and encourages stability and comfort. Consciously she strove to suspend the either/or tendencies and to hold contradictory views and ideas for as long as possible during the critical thinking process. An extraordinary individual Katrina had the potential to solve some of the more challenging problems she faced in both academic and non-academic settings - challenges that her peers and her teachers expected her to face and attempt to solve.

Brian was more typical of the students Ms. Alsop taught. His critical thinking abilities were limited, but he had artistic ability which proved advantageous in encouraging critical thinking. Many of his friends did not have this background, so Ms. Alsop constantly tried to discover avenues to improve the students' thinking through acting or reading or writing. Eventually she began to realize that she needed to cultivate the imagination in the context of critical

thinking if she hoped to free students' minds so that they would use them more effectively and critically. She sought ways of engaging students' imaginations to encourage them to use their critical thinking abilities. She was able to make some gains with Brian by sanctioning his use of the imagination as an entryway to encourage him to think critically.

Although we frequently assume that critical thinking means using our reasoning powers, some people exercise their imagination regularly during the critical thinking process. Katrina tended to reason initially (that is to say, to analyze and construct an argument), even though she was such a well rounded thinker that she used capacities like the imagination, memory, and perception as well as reason throughout the critical thinking process to successfully meet the goals she set for herself, while remaining open to possibilities that might take her in alternate directions. Brian needed to use the imagination to spark his creative thinking, although he needed the social support and prodding of a community of learners to enable the imagination to lead to critical thought. Both Katrina and Brian integrated various mental processes to varying degrees, often by allowing the imagination to play a more prominent role in our thinking.

The dialectic of freedom Greene (1988) proposes may inform our understanding of the role of imagination in critical thinking that Katrina uses so effectively, since imagination needs freedom in order to operate fully as a dynamic in critical thinking. Freeing the imagination demands acknowledging the obstacles, in this case the long history of relegating the imagination to a role subservient to reason and regarding imagination as dangerous. The imagination has tended to suffer from the either/or syndrome that Greene wants to "break through" in order to allow freedom to emerge. Since critical thinking is often equated with reason, the operation of the mind that is generally set in opposition to it is the imagination. Like so many either/or tensions, the general solution to

resolving it in Western thought has been to assert one aspect dominant and the other subordinate. In this dissertation we have acknowledged obstacles to the free operation of the imagination and have tried to envision an imagination not set in opposition to critical thinking but in fact an integral part of it.

In this chapter I offer my own conception of critical thinking, which I call integrative critical thinking, that employs the imagination to affect and, at times, to transform our thinking. As I construct my conception, I will also explore the power of the imagination to liberate the vision and hence the minds of oppressed people - a freeing capacity which, I believe, transfers to critical thinking. In order to utilize this capacity in critical thinking, however, theorists and practitioners must avoid fragmenting the various approaches to critical thinking - knowledge, skills, and dispositions, merging the three into an organic whole. Freed by the imagination, critical thinking in actuality may be better equipped than imagination by itself to effect social and individual change and transformation. This re-formed critical thinking will not only free the mind, but enable individuals to act on their vision.

The Focus of this Dissertation

I have contended in this dissertation that the imagination is a dynamic in current conceptions of critical thinking. I have supported this contention by highlighting the features of some of the powerful contemporary conceptions of critical thinking and then linking the features of the imagination as conceived by philosophers and revealed by literary writers to some of the characteristics of critical thinking conceptions. Although these conceptions may be undermined by the negative elements of the imagination, the imagination can have a powerful influence on critical thinking if we are willing to focus on the education of

imagination as explored in the last chapter.

I build the case for the imagination as a dynamic in critical thinking because I believe that critical thinking theorists, despite their efforts to expand conceptions of critical thinking to include much more than logic and argumentation, have been remiss in ignoring the latent power of the imagination to ignite the passion of critical thinking. I would suggest that it is this passion that will entice young people like Katrina and Brian to engage in critical thinking not only in an academic setting but also in their daily lives. In this dissertation the imagination has been variously described as: initiating creativity; providing a catalyst for ideas; creating the capacity for constructing multiple possibilities; aiding in the apprehension of the perspectives of others and the imagining of conversations among perspectives (including one's own); evoking emotions; promoting self-reflection; allowing for one to envision the ends and the means to reach those ends; and, finally, constructing a new whole from parts. The imagination is often viewed as sensuous; we imagine seeing a farm scene, hearing the ducks quacking on the pond, smelling the grain in a bin in the barn. When we talk about seeing in the mind's eye, we imagine using the sense of sight. Nonsensuous imagination is not traditional and therefore is regarded with skepticism by some, because it accepts the possibility of an imagination not defined and confined by our senses. I believe that, when I am envisaging the language to describe the operation of the imagination in critical thinking, I am appealing to nonsensuous imagining. This conception of the imagination is important to this dissertation because it allows us to see how ideas can be manipulated, moved about, put together differently in the mind of a critical thinker.

Integrative Critical Thinking

I have adopted the phrase "integrative critical thinking" to describe the kind of thinking I am proposing in this dissertation. I particularly emphasize critical thinking's integrative nature to contrast it with traditional critical thinking conceptions which, for better or worse, are associated more with separating and analyzing parts without necessarily emphasizing the shaping of those parts into a whole. By admitting a role for the imagination, I am implicitly accepting critical thinking as an integrative process. It is enabled by an imagination that generates a variety of possible avenues for our thinking and our conclusions, evokes emotions held in creative tension with reason, projects a conclusion (or conclusions) to one's thought process and the means to reach conclusions, and allows for creativity.

Integrative critical thinking is still characterized by criticism, judgment, and the evaluation of evidence and claims. The goal of this critical thinking is integrative in the sense that the critical component is intended to lead to a solution or belief or conclusion greater than the sum of its parts. Critical thinking integrates the traditional approaches of logic and argumentation with the newer approaches which acknowledge that critical thinking occurs in a social context and is influenced by and is an integral part of the dynamics that constitute that context. In its most powerful role critical thinking is an integral part of the complete person and the society in which he or she lives.

Non-integrative critical thinking tends to focus on the criticism and evaluation of the parts of an argument. Such thinking does not take into account the context of thinking nor does it encourage critical thinkers to be themselves integrative - to see the parts of the argument as leading to a greater contextual whole. This contextual whole includes the criticism and evaluation of the parts but also incorporates the emotional impact of the argument on the individual, the

willingness to draw from other capacities such as the perception and memory to bolster the argument, and the integration of imagination into the critical thinking process in order to envisage possible solutions to the argument and various means to reach the solutions. Students trained to be non-integrative equate critical thinking with one conception of thinking (for example, the evaluation of statements and arguments) and draw sharp distinctions between this function and others, thus encouraging in them a tendency to eschew the use of the imagination and other capacities when they address a critical thinking issue.

Moving Toward the Integration of the Three Approaches to Critical Thinking

Integrative critical thinking does not tolerate the separation of critical thinking approaches - mainly because the separations are artificial. When we teach critical thinking, we should not say that teaching the subject matter effectively is adequate for instilling critical thinking in students any more than extracting skills for instruction or creating a climate that fosters critical thinking dispositions is satisfactory. In reality, these three distinct approaches are actually parts of a single approach in an integrative conception of critical thinking.

The imagination operating among the approaches activates the mind to envision, synthesize, and integrate. We may begin our critical thinking with reason assessment using logical or subject-specific principles which "warrant beliefs, claims and actions properly" (Siegel, 1988, p. 34), but, if we wish to open ourselves to allow the mind to operate fully, if we hope to free the mind to imagine, then our reasons for beliefs, claims, and actions will often take our critical thinking journey far afield from simply observing the fallacies of certain types of thinking to interconnect knowledge, skills, and dispositions (a process which we observed in Katrina's critical thinking).

In looking at an example of critical thinking, we will notice the role of the imagination as it operates in an example of critical thinking. Let us say that we have a general belief, which prompts a claim, that we can eliminate the problem of students dropping out of our schools. We accumulate information on the drop-out rate from various sources (including speaking to authorities on the subject, school officials, and young people who have left school). Through the process we develop a powerful knowledge base, which evolves while critically assessing the information and the logic of our reasoning. If we try to suppress the imagination in this process, then we do not move beyond the accumulation of knowledge and the implementation of a plan that does not get at the root causes of the problem. If we allow the imagination the freedom to operate in critical thinking, then in the process of accumulating knowledge and assessing the reasons for our claims we open ourselves to and often consciously engage in envisioning how this information fits into the puzzle of the drop-out problem. This imaginative process prompts us to use our knowledge differently, to synthesize information in a way not envisioned when the problem was first constructed, and to return to assessing our reasons for new contentions or claims evolving from this process. During the process we envision the reality of other individuals affected by the drop-out problem - the school officials, our politicians, parents of dropouts, and especially students themselves. This form of empathy is similar to Paul's focus on exploring other individual's perspectives as part of the dialectic and dialogic approach he advocates for critical thinking (Paul, 1984, 1990). In fact, it is this process which Paul most specifically connects with the imagination. Ultimately this process leads to the emergence of the emotional, which may need to become a temporary focus because of its importance in getting the whole picture before making a decision or solving a problem. This process may result in our imagining an alternate solution (or alternate solutions) very different from the present methods

of solving the problem. We may then analyze and visualize the steps needed to move from the present situation to an envisioned ideal solution.

Maxine Greene's Dialectic

Maxine Greene (1988) also recognizes the inadequacies of our traditional ways of thinking that separate. Although she specifically theorizes about a dialectic of freedom, she provides a model that is useful in talking about the integration of various critical thinking approaches. She uses the words "opening" and "spaces" metaphorically to suggest a process of discovery and a place in the mind where the dualities exist simultaneously and operate together to transform the world. She acknowledges dualistic or separated thinking in our thought processes and interweaves the notion of dialectic to address the tension she perceives as inherent in our thought process - to "break through, whenever possible, the persisting either/ors" (p. 8). We cannot ignore the tension that exists between the two aspects of a duality (or the multiple aspects of approaches), because they will exist even when we find the space to hold them together. To Greene the either/or contrasts, which our society tends to regard as opposites, actually have a "dialectic relation," which result in spaces created through a mediation - "something that occurs between nature and culture, work and action, technologies and human minds" (p. 8) - or dialogue, which creates conditions where students "can take initiatives and uncover humanizing possibilities" (p. 13). To overcome obstacles we must recognize and name them, to perceive the resistances, thus bringing them into our consciousness to discover alternatives. If we are unable to perceive the obstacles, "imagine a better state of things, share with others a project of change" (Greene, 1988, p. 9), we are doomed to "remain anchored and submerged" (p. 9) rather than free despite claims to the contrary.

What emerges in Greene's thinking is a dialectic of freedom. Separations (like the ones among the three approaches to critical thinking instruction) create obstacles to our thinking and the accomplishments that accompany thinking. She underscores in the context of her discussion on freedom a relationship between freedom and the imagination. These two concepts operating interactively establish "the ability to make present what is absent, to summon up a condition that is not yet" (p. 16). In integrative critical thinking we have a sense of anticipation and the capacity to act on it. If the culmination of critical thinking comes from knowledge, it requires skills to reach it and dispositions to motivate it to go on.

The standard critical thinking approaches suffer from either/or thinking. For example, we select either a knowledge approach or a skills approach, but one approach is often minimized when the other is elevated. If we follow Greene's contentions, we need to consider the knowledge of a subject and the skills to decode that knowledge in a dialectical relationship where knowledge and skills interact for the common purpose of solving a problem - one emerging at certain times and the other at other times, but neither being dismissed. *Thus, if Alison in Ms. Alsop's class was thinking critically in an integrative way about the meaning of the white whale in Moby Dick, she would need to have the knowledge that comes from reading the novel and an understanding of the context in which the whale appears. She would also need to become knowledgeable about the symbolic use of whiteness and the numerous allusions (many of them Biblical) that Melville uses to enrich our understanding of the whale. To get the necessary information required Alison to use the skills of analysis and evaluation as well as retrieval and research. Alison then had to apply the information she had retrieved through these skills to enlarge her knowledge base. Throughout the process, Alison used her imagination to envision how the information retrieved by the skills fits into her knowledge about the white whale and began to imagine the pieces in a new,*

perhaps more expansive, understanding. The interaction between the knowledge we gain and the skills we have to use that knowledge is continual.

The Critical Thinking Context

The integrative critical thinker engages in an interactive process. The skills (both subject-neutral and subject-specific) involved with reason assessment are generally developed because of a critical spirit or attitude or disposition we have to engage in such assessment. And all of this reason assessment occurs in a context. Dewey (1916) suggests that this context should not be viewed in a disconnected way but should be informed by an enriched knowledge, which responds to connections in the world, approaching events and issues in the world from various angles. He believes that we "get at a new event indirectly instead of immediately - by invention, ingenuity, resourcefulness [all closely linked to the imagination]. An ideally perfect knowledge would represent such a network of interconnections that any past experience would offer a point of advantage from which to get at the problem presented in a new experience" (p. 396). The aspect of Dewey's theory of knowledge, which seems akin to and a part of expanded conceptions of critical thinking, seems to draw its energy from imagination.

In raising the level of consciousness in the mind, revitalizing the rational, and synthesizing apparently separate qualities, the imagination draws knowledge, skills, and dispositions approaches together in an interconnected way characteristic of integrative critical thinking. The organic whole that forms one meta-approach combining the three no longer sees a single approach dominating the others, but rather this approach encourages a dynamic in which becoming immersed in the context sparks the imagination to draw on certain skills and dispositions, both of which interact to elevate and enrich knowledge and make leaps of insight and

intuition.

Imagination's Liberating Role

Even if our mindset rejects the imagination in favor of reason or the rational, it is often difficult to escape imagination's transformative and liberatory role in critical thinking or philosophical thinking . Plato, for example, believes the ability to think in images is a lower form of thinking, the higher form a more abstract process of the manipulation of "pure ideas" free of the senses. Nevertheless, he does not dismiss a certain power inherent in the operation of the imagination. In Philebus Plato (1952) posits the imagination as akin to a "painter who draws images in the soul" (p. 624) portraying our thoughts. Plato's own philosophical writings belie his negative feelings about the imagination and demonstrate how powerful that "painter" truly is in our thought process. The Republic is a wonderful example of the power of the imagination, a power which seems to transform Plato's thought and clarify his philosophy. The image of the myth of the cave is one of the more famous in philosophy. By having Socrates envision a prisoner in a cave moving from darkness and shadows to the light of day, Plato depicts an allegory for education and the discovery of knowledge. It is a story of liberation, the vehicle of which is the creation of images. Through the painting of an image, Plato gives us access to his abstract ideas. In a sense it brings philosophical ideas into the lives of the readers. Even though Plato is apprehensive about the power of the imagination, its use in his works implicitly testifies to its transformative role.

Although few other philosophers in Western culture have created images as memorable and vital as Plato, they have often drawn on the imagination to illuminate their writing. Aristotle (1958), for example, uses the image of the

master and slave to illustrate the relationship between reason and imagination, which needs to be controlled the way that a slave needs to be controlled. Hume (1969) draws on the image of the theater in the mind to gain insight into the way the mind operates. Sartre's works are suffused with images. One of the more famous examples in The Psychology of the Imagination (Sartre, 1966) is his depiction of Franconay, a female impersonator of Maurice Chevalier, whose impersonation can only be accepted through the imagination. This example is used to demonstrate that, when we imagine, we do more than simply create a visual image. We also capture subtle nuances that emerge from all of our other senses and our emotions.

Imagination even emerges in the writings of critical thinking theorists. Harvey Siegel (1988), for example, uses images as techniques to make his theory clearer and more understandable. In the chapter on "The Indoctrination Objection," for example, he focuses on the relationship between critical thinking and indoctrination. He finds this issue a particularly troublesome one to address, since those who wish to indoctrinate reject a role for critical thinking in one's thinking and certainly reject critical thinking as an educational ideal in society. To clarify his contention that critical thinking is not indoctrination, Siegel offers examples of two fictional characters - Johnny and Janie. He uses the image of Johnny to discuss the nature of an individual indoctrinated in such a way that he permanently refrains from giving justifying reasons. Janie, on the other hand, receives beliefs without reasons, but this state is temporary and Janie will eventually be open to being educated into justifying beliefs and reasons. Thus, Siegel is able to make a subtle, but important, distinction between indoctrination and "non-indoctrinative belief-inculcation" (p. 83). Once again, the imagination clarifies abstract thinking and underscores its value at one level as an aspect of critical thinking, even if we are not inclined to acknowledge a role for the

imagination in our thinking.

The Natural Emergence of the Imagination

If imagination tends to emerge naturally during the critical thinking process, then we face a troublesome issue. Why do we need to argue for the infusion of imagination in critical thinking under these circumstances? Admittedly the imagination, a constant presence in our minds, is a mental operation that is accessible at will, as I have suggested at various points in the dissertation. It might be compared to the presence of a talent for playing basketball. A person with such a talent might be able to shoot and dribble a basketball well and inspire awe among his or her peers. However, the talent remains unrealized if we leave it at this level of development. We must be trained in the techniques of basketball playing and couple it with the natural talent if we hope to see the talent grow and reach its potential.

The imagination operates in critical thinking in a similar way. It also naturally emerges during the critical thinking process and enriches that process occasionally in spite of the thinker. It enhances our thinking and engages our reasoning power. For the imagination not to be impeded and unable to reach its full positive potential in the critical thinking process, however, it must be educated and nurtured. This educational process requires our recognizing the imagination's qualities so that we can consciously use them. We focus on the active imagination in this case. It includes the enmeshing of opposites and the willingness and openness to envision a transformed individual and society. We need to cultivate the imagination, not to lift it above reason or other operations of the mind but to make it a respected aspect of integrative critical thinking. Under these circumstances the imagination becomes a catalyst for our thinking and the

synthesizing power interconnecting the various approaches to critical thinking. The imagination in critical thinking provides the connective tissue for critical thinking.

What does this imagination look like when it is in operation? As we have seen in our discussion of the three approaches to critical thinking, knowledge, skills, and dispositions will interact and form a whole in a context that will allow the imagination to emerge and to draw them together. Our consciousness is heightened and continually evolves as we deal with the complexity and multiplicity of critical thinking problems and situations. We discover a problem or situation and examine it, evaluating the situation and context, imagining various possibilities and uncovering alternate ideas, testing the ideas and analyzing the results. The process constantly emphasizes interrelationships and interaction and always moves toward reintegration with the whole.

The Contemporary Embrace of the Liberatory Imagination

In order to fully appreciate the role of the imagination as a dynamic in critical thinking, it is helpful to consider its capacity to free the perspectives of those who believe themselves oppressed or subservient. Contemporary philosophers and theorists have not only recognized the power of the imagination, but embraced it in order potentially to transform lives as well. The wish is to create images that can liberate us from oppression and encourage autonomy and opportunity. Some philosophers and theorists believe the imagination to be a mental capacity paramount in their theories and the lives of the individuals they seek to transform and not simply a mental capacity that mediates other capacities. Because the imagination, although universally regarded as a powerful (if not dangerous) concept, has traditionally been associated with subservience and

suppression, it has been embraced by groups traditionally oppressed in our society to communicate a liberating way of thinking in order to shatter the dominant white male culture that extols the virtues of reasoning and the rational (often associated with the masculine) over the imaginative and the emotional (often associated with the feminine).

Freire's "dissident" imagination. Few educational theorists have explored more extensively the effects of oppression and liberation on individuals and society than Paulo Freire (1969, 1973). He is particularly cognizant of the contradictory role of education to promote and support the dominant culture and yet also to enable the voices of the oppressed, of those who are often silent or silenced, to emerge. Through imagination, coupled with a heightened critical consciousness, Freire envisions this contradiction resolved in such a way that not only education but society may be liberated and transformed. This process begins through language, where students name aspects of their lives and then rename them in order to change them, a process which Maxine Greene (1988) echoes in The Dialectic of Freedom. In Freire's work with Ira Shor (1985), he and Shor suggest that the imagination of the dominant culture, an imagination which is commonly fostered in the schools, provides "many tools to shape the way people think about the past, present, and future" (p. 185). What is missing is a "dissident" imagination, one that can "anticipate a history different from the one we live in now" (p. 185). A liberating pedagogy demands such an imagination.

Feminist imagination. Examining the need for liberation from a different perspective, Karen Hansen and Ilene Philipson (1990) have edited a collection of essays devoted entirely to the feminist imagination, a reader that underscores throughout its pages the importance of images in liberating women from the oppression they have faced. Writing from a socialist-feminist perspective, the authors in this book examine the past, the present, and the future images

developed by socialist feminists. The section on the future is particularly interesting, here we have explained new images for women that are designed not only to free them from the "totalizing visions of male power and female victimization" (Elayne Rapping, 1990, p. 540), but also images that capture the visions of feminists, who are "actively rewriting the texts of their bodies and societies" (Donna Haraway, 1990, p. 607). Haraway uses the myth of the cyborg to construct a new image for women; it is a myth about "transgressed boundaries, potent fusions, and dangerous possibilities that progressive people might explore as one part of needed political work" (p. 585). The cyborg uses writing - the telling and retelling of stories - to subvert the hierarchies and dualities of Western culture and to reinvent a world for women.

A latina imagination. Haraway's use of myth - the use of figurative language to envision an alternate, more liberating world - is also characteristic of many theorists focusing on the liberating power of imagination. Maria Lugones (1994) also uses imaginative analogies to define a hybrid, Latina imagination with liberating possibilities. She focuses on two egg analogies to explore separation - the separation of splitting as exemplified in the separation of the white from the yolk (an exercise in purity) and separation as exemplified in the making of mayonnaise (an exercise in impurity that results in differing degrees of coalescence). Both are appropriate to explain what Lugones calls *mestizaje*, "a metaphor for both impurity and resistance" (p. 459). *Mestizaje* is defined as consciousness that is ambiguous, resisting dichotomies, and residing "in the middle of either/or" (p. 459). Fragmentation is associated with purity (as exemplified in the separation of the white from the yolk), while multiplicity is associated with impurity (as exemplified in the constitution of mayonnaise). Lugones carefully examines the logic of purity, in which the individual is "a fiction of his [sic] own imagination" (p. 467), a fiction that others (namely, those

who are impure and multiple) help to create in their subservient, "other" roles. Because the "others" don't fit into the logic of purity, because they are viewed as outside the unity of purity, they are subject to control. On the other hand, curdle separation, which is a phrase to describe the logic of impurity, resists the logic of control, remaining "a haphazard technique of survival as an active subject, or . . . an art of resistance, metamorphosis, transformation" (p. 4). Lugones recommends that the Latina imagination focus on the art of resistance, which leads to transformation and liberation.

The Liberating Imagination and Critical Thinking

It is important to consider just how it is that the imagination can free the human mind to envision new ways of living. By itself it does not necessarily prompt us to act, but it gives us the tools to begin the process of changing and transforming our lives. It is the imagination acting within integrative critical thinking that enables us to envision a new life and to execute that vision.

The liberating and transforming power of the imagination also provides a means for transforming our thought processes so that we can envision ourselves from someone else's perspective, much in the way as Paul (1990) suggests in his study of critical thinking. This can help us to develop alternate habits of mind or ways of living, if we open our minds to multiple perspectives and possibilities and engage in self-reflection as we examine other perspectives. We should note, however, that seeing ourselves from the perspective of others is not necessarily liberating, if the other is the dominant culture. So, for women, seeing themselves from the perspective of the dominant white male culture can be oppressive; African Americans and Latino/as experience similar displacement when they see themselves from the perspective of the dominant culture. Thus, we need to take

account of the context in which critical thinking occurs in order for individuals in different cultures to engage in critical thinking.

We have seen in our discussion of narrow conceptions of critical thinking that the primary focus in critical thinking so conceived is the analysis and assessment of arguments through a formal or informal logical process. That approach requires the recognition of fallacies and the development of logical counterarguments. This process tends to separate various approaches to critical thinking by especially focusing on certain skills of analysis. The role of emotion and feelings are almost totally excluded in the process.

When we allow the imagination to emerge, argument analysis and the assessment of reasons become less prominent (although they do not necessarily disappear if they are needed during the critical thinking process). The integrative critical thinker begins to envision alternative solutions, sometimes before and sometimes after the analysis of arguments. The imaginative process encourages him or her to draw from various parts of the mind (including the emotions). Thus, analysis may be necessary but it may be eclipsed by feelings and emotions or our memories and perceptions of the context. The more creative we allow ourselves to be, the more likely we will stretch critical thinking to assist us in many areas of our lives. If we engage in analysis, that process may stimulate images that enable us to make connections designed to discover alternate arguments and solutions. Our dispositions to reflect and be openminded come to bear as we examine a problem or argument, as we explore the context and use our skills to address the issue or solve the problem.

Dissident, latina, or feminist imaginations show us the power of the imagination to envision alternate realities to serve as the basis of liberation. This process is enhanced, I believe, by entering into interactive conversation in a community of integrative critical thinkers. In doing so we are less likely to focus

on only limited evaluation of arguments and more likely to attend to the larger context. In doing so we may revise the initial problem and generate alternative "solutions" for evaluation. If we assume that the imagination of the disenfranchised individual emphasizes multiplicity, a "both/and" rather than "either/or" mentality, possibilities, holism, complexity, pluralism, and connection, then the critical thinking developed in this study fits well with that conception. All of this can heighten our critical consciousness, which can construct a new vision, one we not only imagine but act on to make a reality.

In sum, then, we began this study by focusing on the contemporary conceptions of critical thinking that appear to be far more expansive than traditional conceptions which underscore only logic, argumentation, and assessment of reasons. The expanded conceptions are meant to be generative, creative, and constructive. Theorists who have expanded their views about critical thinking tend to be uncomfortable with dualities, want to draw from all approaches to critical thinking, are open to accepting creativity in the process, and attend to the social context. I concluded with an exploration of how expanded conceptions of critical thinking, once they acknowledge the place of the imagination in this form of thinking, can be liberating for the individual and potentially for society as well. We have reached this point through an exploration of the nature of the philosophical and literary imagination and by a consideration of how the imagination can assist in the transcending of dualities and hierarchies, which tend to negate a holistic perspective of our world. In the culminating chapter I will focus on the implications of the argument in this dissertation for curriculum development, teacher education, and future research.

CHAPTER TEN

REWARDS OF THE CRITICAL THINKING JOURNEY

If thinking is the method of intelligent learning, of "learning that employs and rewards mind" (Dewey, 1916, p. 180), then the journey in this dissertation has been one of discovering the nature of this method. The purpose of this dissertation has been not only to uncover a profound and vibrant conception of critical thinking, but also to model the "intelligent learning" that emerges from the thinking process. The mind is rewarded, I believe, when it is used to make connections which enable us to reconceive the ordinary as well as the extraordinary.

Toni Morrison (1992) in her monograph, Playing in the Dark, writes of her desire to "draw a map. . . of a critical geography and use that map to open as much space for discovery, intellectual adventure, and close exploration as did the original charting of the New World - without the mandate for conquest" (p. 3). Although the purpose of this dissertation differs from Morrison's purpose, the analogy is apt for this study. I have tried to draw a map for growth and discovery. The landscape the map depicts begins with critical thinking, which is often equated with reason. In contending that conceptions of critical thinking are being expanded and emancipated from the limitations of more traditional conceptions of critical thinking that emphasize logic and argumentation, I have tried to answer several crucial questions. Why is it necessary to expand our conceptions of critical thinking beyond logic and argumentation? What is the nature of those expanded conceptions? Can we find a motivating factor or quality of mind that

connects these expanded conceptions?

In this dissertation I particularly focus on the imagination as a factor that enriches and provides vitality to expanded conceptions of critical thinking. We find imagination in many territories, but I concentrate on the imagination conceptualized by philosophers and writers. They point out qualities of the imagination similar to the qualities of thinking that characterize expanded conceptions of critical thinking and aim for a capacity that might enable critical thinking to be a more powerful and useful way of thinking in everyday life situations. The map converges on a redesigned conception of critical thinking that draws together the three major approaches to critical thinking instruction (the knowledge, skills, and dispositions approaches) and has the potential to liberate our thinking and ourselves.

The intellectual adventure in search of an understanding of critical thinking, if pursued to its conclusion, has multiple implications. If we accept, first, that critical thinking truly must be expanded to make it more creative, dynamic, and useful for everyday thinking and, second, that imagination is an essential element of critical thinking enabling such expansion, then we must reexamine: 1) the curriculum providing the framework for introducing and fostering expanded conceptions of critical thinking; 2) teacher education programs designed to ensure that students receive practice in and an understanding of critical thinking and its role in various subject areas; and, finally, 3) research studies which focus on the nature of critical thinking infused with the imagination.

Implications

Forming a Community of Thinkers

I have argued that the imagination tends to be fostered and educated in a social context. Although he focuses on methods of controlling the imagination, Samuel Johnson demonstrates the importance of a social context in developing the mind's capacities in order to create a balanced thought process. Many of the writers who view the imagination as a liberating consciousness suggest that the imagination is generated in a social context. The development of the imagination as a part of critical thinking, therefore, may best be fostered within a community of thinkers (which the teacher must establish and nourish). This is not new to the literature on critical thinking (see Brown, 1991), but the development of such a community of inquirers to cultivate the imagination during inquiry is novel.

Because of its novelty and its importance, we need to establish teacher preparation programs that model such communities and that train young teachers to introduce and foster them in classrooms. It means emphasizing yet again with interns as well as veteran teachers the significance of having the teacher's role not be only a deliverer of information but a facilitator of the thought process. The teacher needs to learn to become sensitive to the dialectic inherent in critical thinking and to recognize when to focus on the imagination and when to downplay it, when to highlight skills and when to keep them submerged, when to focus on the acquisition of content and when to enable the process to overshadow specific content.

The Effects of Curriculum Orientations on Critical Thinking Instruction

At the teacher preparation level this will require the prospective teacher to critically appraise various curriculum approaches or choices that propose expanded conceptions of critical thinking. What we must do is refocus the curriculum to encourage a critical thinking that is infused with imagination - to acknowledge the importance of academic content not for the purpose of disseminating knowledge but rather for engaging students in an interactive dialogue to construct meaning. The curriculum will need to be more fluid than controlled in order to allow the imagination to operate actively and dynamically for individual growth and for the development of social consciousness.

This refocused curriculum encouraging critical thinking infused with the imagination assumes the educability of the imagination as part of the process of educating in critical thinking. That educating process is not static or linear, but evolves as the needs of the young person learning to think critically become evident. Although the curriculum should continually emphasize the dynamic interaction (or dialectic, if you will) between the imagination and reason, there may be times when the teacher will focus on encouraging the imagination to emerge and even to dominate in order to cultivate that side of critical thinking, while at other times he or she may emphasize logic and argumentation.

Ms. Alsop's perspective on curriculum development changed during her years as a teacher. Early in her career she would probably have been described as an academic rationalist, who believed in cultural transmission through the study of literature. At this period of her career she regarded an emphasis on cognitive development as weak and unchallenging for students. Her critical thinking instruction tended not to be overt, because she thought students learned to think critically by studying challenging literature. Although she never entirely

abandoned aspects of that belief during her career, she did move more toward a cognitive development perspective, especially as she expanded her conception of critical thinking to incorporate more of the affective and imaginative. As she uncovered a role for the imagination in critical thinking, she also began to observe a social reform function for the curriculum and tried to foster it among her students in a community conducive to thinking. Ms. Alsop, then, began to view the curriculum development process with critical thinking at its core as a multifaceted process that enabled students to interact with each other and with texts to discover themselves as individuals and social beings.

Within an inquiring community, we must attend to some of the curriculum issues mentioned above. If we are emphasizing a changing role for the teacher from a transmitter of knowledge to a facilitator enabling the students to uncover and/or construct knowledge, then the emphasis of our engagement in the curriculum will shift from coverage of material to an in-depth examination and exploration of it. Again, this is not new to the critical thinking arena, but it becomes even more imperative as we uncover the imagination in critical thinking. It will take time for the imagination to emerge and interact with critical thinking processes. It will require providing opportunities for students to imaginatively explore topics and problems through the reading of literature, an investigation of art, the writing of creative explorations designed to address a particular situation, and the engagement in dialogue and conversation, in which conjecturing and envisioning are encouraged. Although "covering the material does not necessarily preclude students becoming actively engaged in the learning process, if we spend time "covering the material," we have fewer opportunities to think critically and certainly no chance for the imagination to be fostered in such a way that our consciousness may grow and blossom. A coverage approach tends to encourage a teacher delivery method in order to ensure that the class covers a set amount of

material. If we want to foster critical thinking (with the powerful imaginative quality in it) and to build a community to allow for the fostering, then we need to sacrifice coverage; we need to delve deeply into material and view it from various rational and imaginative perspectives.

Preservice Critical Thinking Instruction

In order for these shifts to be implemented in the classroom, it is necessary to change the mindset of the teacher. Although some of this may be effected through an ongoing inservice program in the schools, the greater impact will be made by changing the mindsets of prospective teachers. To do this we need to educate preservice teachers about the nature of critical thinking, the various approaches to this activity, and the role of the imagination in it. Most students have not been exposed to the critical thinking landscape and have little background knowledge to understand the rationale behind different critical thinking approaches.

Once the students have been introduced to critical thinking theories, it is then necessary to consider how the imagination operates in critical thinking, what it does to generate ideas and ignite leaps of judgment. In integrative critical thinking students observe not only how the imagination is used during the critical thinking process but also how it enables the critical thinker to integrate various ideas and utilize other mental capacities (like perception, memory, and intellect). Students consider problems and issues, which critical thinking enables us to resolve. They focus on aspects of the problem and related issues in order to intuit the entire terrain in which the problem may be found. They spend some time as individuals and as a group envisioning alternative solutions and outlining them without assuming that any of them are too trivial or ridiculous. At some point they

engage in a more active reasoning process, where they develop arguments to support certain alternatives. The imagination comes into play as the students try to envision individuals living out the solutions and dealing with the consequences of a decision. Through this enterprise it is imperative to recognize the emotions and feelings, which Warnock suggests the imagination plays a role in eliciting. The imagination may be framed by a more rational thought process, but the emotions should be an acknowledged part of critical thinking and the curriculum, even when the rational seems to dominate.

The problems of the imagination. At some point critical thinking curriculum and instruction must address the problems Bogdan identifies in her examination of the imagination. While Bogdan (1992) argues that these problems need to be attended to in the context of the imaginative products of literature, I contend that they appropriately can be regarded as problems in critical thinking as well, because of the role that I envision the imagination playing in critical thinking. The implications for curriculum and instruction and teacher preparation programs may be identified as a process of sensitizing present and prospective teachers to the metaproblem and incorporating it into their curriculum plans. For young people this means exploring the metaproblem in the community of thinkers - to work with students to justify the dialectic of critical thinking and to recognize the value of the imaginative element to the overall critical thinking process. This should be an ongoing process, since justification will constantly be an issue for those who are skeptical or unknowledgeable about a critical thinking infused with the imagination.

During the process the way we encourage students to respond may draw students into the critical thinking process or discourage them from engaging in it. Frye (1964) believes that a reader must respond to a work of the imagination in a detached and critical way in order to transcend stock responses and begin to make

connections. The ideal response for critical thinking, as I have suggested, would be of a dialectical nature, in which a thinker alternates between actively, imaginatively, and personally engaging in the critical thinking topic and detaching himself or herself in a more critical response. For preservice and inservice programs this dialectic needs to be modeled for students and teachers must understand it from the inside by operating in an environment in which adults engage in the dialectic to solve problems. Consequently the entire school needs to be structured in such a way that individuals are interacting cooperatively in order to address issues and solve problems. The community of thinkers, then, is more than individual classrooms; it includes all people in the school and, if possible, the wider community.

The issue of how we respond during the critical thinking process demands that we address other issues which Bogdan describes as problems characterized under the poetics of need. Preservice and inservice teachers will continually be teaching students who may be regarded as disenfranchised or outside the traditional frame of reference in society. A student's place in society should not preclude him or her from engaging in the critical thinking process, but such thinking may highlight his or her status in society. It becomes crucial for the prospective teacher to be aware of the problems students face as they begin to explore critical thinking. We might ask how a teacher handles an issue where a student feels he or she cannot enter a detached, critical stage of critical thinking because the issue being investigated affects her personally. Bogdan describes this problem as the feeling problem. In reality the individual may deal with the more emotional and personal issues before entering a dialectic in which needed critical responses may be possible. This response may be complicated by a power differential. A student may feel threatened by an engagement in critical thinking because she or he perceives critical thinking as an activity of those in a more

powerful position in society. The teacher will need to assist the student to discover and strengthen her own identity and source of power before she can feel fully comfortable in participating in a community of thinkers.

We develop and reinforce the capacity to use the imagination to free our minds, to envision alternatives in the world, and to act on them by fostering social interaction and encouraging young people to imagine alternatives to the present circumstances and problems they face. Once again, the process is a dialectical one, in which students uncover the barriers to change and discover the novel possibilities during the process. Occasionally the imagination will be the only part of our consciousness we will be able to draw from. At other times we may gravitate toward a more rational process of breaking down the component parts of the problem and analyzing them. Most times the thinker's mind will move seamlessly from the imagination to rationality and back again. This movement, however, occurs through practice, modeling, and conversing among a group of people who are also groping for solutions and freeing their minds to discover how we might live better or differently.

During this process we cannot rule out the possibility that students will refuse to engage in the critical thinking process, at least as we describe it here. We need to discover, as Ms. Alsop tried to learn, the activities that will enable these students to enter the conversation and think critically.

Questions to Promote Research on Integrative Critical Thinking

Many of these implications mentioned in this chapter may also suggest some directions for research. I offer the following focus questions for research in the area of integrative critical thinking:

- 1) What are the best ways to accurately assess the occurrence of integrative critical thinking?
- 2) What teaching strategies best foster integrative critical thinking?
- 3) What barriers emerge when we ask students to do integrative critical thinking?
- 4) How can we determine whether or not students are using integrative critical thinking in a variety of contexts (for example, to solve their everyday problems)?
- 5) Do "good" teachers already model integrative critical thinking?
- 6) How do different cultural backgrounds influence the teaching and learning of integrative critical thinking?

Conclusion

The implications explored in this chapter evolve from the acknowledgement that expanded conceptions of critical thinking are not presently introduced in the classroom. In order to establish a critical thinking program in a school or a teacher education program, it is necessary to make changes in the school or teacher preparation program itself. The curriculum and instruction needs to focus more on depth than coverage and must acknowledge that the imagination helps to activate and energize critical thinking. In some curriculum areas such acknowledgement may be difficult, since the imagination is now seen as belonging to the domain of the arts. The science and mathematics curricula may be the most notable, since so much of the math and science taught in schools relies on processes involving logic and analytical reasoning. In these areas, as in others where educators are more willing to acknowledge the imagination, present and prospective teachers must come to understand the role that the imagination plays

in critical thinking and how it can be fostered and developed in order to be used effectively. In addition, curriculum and instruction must be designed to face the issues that can potentially sidetrack critical thinking and the imaginative role in critical thinking. As we focus on a type of thinking that challenges our basic assumptions about ourselves and the society we live in, we make critical thinking a risky process, open to attack and constantly in need of an advocate. The teacher and other officials in the school must be the advocates for integrative critical thinking, and they must model it in the school and the community.

Critical thinking is necessarily a complex concept primarily because the mind is a complex and interactive organism. While scientists are better understanding how the mind works, philosophers and writers are also seeking to uncover the mysteries of the mind that enable us to analyze and synthesize, to make the leaps necessary to discover new possibilities. Although imaginative visions can be used to seek and find better, more imaginative ways to be oppressive and to exploit others, these visions have also allowed us to solve problems, create new inventions, discover cures for once fatal diseases, make improvements in the quality of life for disenfranchised individuals, and liberate a segment of a country's population to make them equal partners in a new government. Integrative critical thinking can be an empowering process. If we hope to see them grow and discover new possibilities for themselves, it is one we must foster in our young people.

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