Introduction:
Beyond Logicism in Critical Thinking

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What does it mean to think well? What's the most effective way to teach students the basics of "good thinking"?[1] These two questions are important ones that have especially preoccupied the academy for the last two decades. But they are even more pressing today, because conventionally accepted answers to them are now being called into question by dissenting voices from philosophy, psychology, education, feminist theory, and critical pedagogy. As a consequence of this multidisciplinary challenge, received ways of envisioning "critical thinking," as the theory and pedagogy of thinking skills are generally called, are evolving in new and promising directions. The essays collected in this volume, written by scholars from education, the humanities, and the social sciences, defend perspectives on the cutting edge of this transition. They represent a "second wave" in critical thinking research and pedagogy that should be of interest to present and future teachers, from any discipline and at any instructional level, who worry about how best to encourage thinking skills in students. Although the essays are primarily concerned to examine, challenge, and reformulate conventional theoretical accounts of the foundations and nature of critical thinking, they do not sacrifice pedagogy for theory. Almost all of them either explicitly discuss concrete pedagogical applications of second wave critical thinking or suggest directions in which such a pedagogy might go.

Each of the authors here takes exception to what may be described as the "logicistic" bent of the critical thinking model currently ensconced in colleges and universities. By "logicism," I mean *the unwarranted assumption that good thinking is reducible to logical thinking*. A logicistic approach to critical thinking conveys the message to students that thinking is legitimate only when it conforms to the procedures of informal (and, to a lesser extent, formal) logic and that the good thinker necessarily aims for styles of examination and appraisal that are analytical, abstract, universal, and objective. This model of thinking has become so entrenched in conventional academic wisdom that many educators accept it as canon.

In contrast to the logicistic model, the second wave of thinking skills research and pedagogy defended by this volume's authors argues that good thinking includes but is not exhaustively defined in terms of logical operations and that critical thinking instruction is therefore not straighforwardly reducible to conventional training in logical analysis. Logical skills are essential functions of good thinking, but so are non-analytic ones such as imagination and intuition, and the good thinker knows how to utilize both types. Similarly, while some styles of thinking call for the manipulation of formal operations that are abstract, this does not necessarily mean they are universally applicable. Other legitimate styles adopt a contextual approach that focuses more on normative assumptions and worldview presuppositions than upon formal logical propriety. Finally, while fair-mindedness is a desideratum of good thinking in all situations, a dogmatic objectivism that insists upon subject-neutral cogitation is not. The thinker is always present in the act of thinking, and it is precisely her active participation, with all its attendant affective, theoretical, and normative presuppositions, from which any analysis of fair-mindedness must proceed.

The essays comprising this volume explore critical thinking from the standpoint of this emerging reappraisal. Each of them takes as its point of departure the conviction that students are better taught to think well if thinking skills instruction goes beyond the conventional model's near exclusive reliance on traditional logical analysis. Some of the essays focus primarily on theoretical examinations of the nature of thinking that avoid the logicistic bias, while others are more directly concerned with nonlogicistic pedagogical strategies. Some directly examine the epistemic and cognitive foundations of good thinking, others approach the issue of critical thinking from feminist and/or Freirean perspectives, and still others are concerned with styles of critical thinking that can serve as vehicles for emancipation and personal enrichment, not simply analytical techniques. Moreover, the perspectives defended here are not always in unanimous accord. Dialogue between second wave advocates exhibits that degree of open-endedness and occasional disagreement on specific points characteristic of all healthy discussions. But despite the pluralism of their approaches, all of the essays here are directed toward the same goal: a radical reformulation and enrichment of critical thinking theory and pedagogy. Consequently, there is more harmony than cacophony in the chorus of their voices.

The essays speak for themselves, and I have no desire in my introductory remarks to anticipate their arguments in detail. But it will be helpful to set the stage for them by providing an overview of the current

thinking skills debate. To that end, I'll discuss here the logicistic orientation of conventional critical thinking and briefly indicate the lines of objections as well as alternatives to it defended by the second wave of thinking skills research.

The Critical Thinking Explosion

In 1983, *A Nation at Risk* voiced an at least decade-long concern shared by both educators and laypersons that instruction in thinking skills should be emphasized in formal courses of study at all rungs of the educational ladder.[2] This conviction was sparked by a growing awareness on the part of educators that their students, ignorant of how to think in a critical and reflective manner, were ill-prepared to master domain-specific material encountered in course work. Declines in national academic performance and SAT scores, plummeting levels of student literacy in mathematics and the sciences, and the difficulty an alarming percentage of students experienced in comprehending or formulating simple arguments, all highlighted the need to reinvigorate the curriculum by complementing "reading, 'riting, and 'rithmetic" with a fourth "R": reasoning.

In addition to concerns about levels of academic achievement, educators, public policy analysts, and others emphasized the need for curricular enhancement of thinking skills because of the need to prepare students for future participation in a pluralistic and democratic society. An individual unschooled in the basics of argument analysis and claim comparison is ill-prepared to enter a world in which he is daily confronted with political ideology, marketing rhetoric, alternative worldviews, and competing value systems. Individual as well as social well-being is predicated upon the ability of citizens to think through personal and public issues for themselves. Reflective and responsible participation in mundane decision-making processes as well as crisis situations presupposes an electorate capable of sound judgment, and an increasing number of persons feared that conventional education failed to encourage the prerequisite habits of critical analysis.

To address these two needs, colleges and universities across the United States incorporated the teaching of critical thinking into their academic packages. Sometimes offered as a specific class (usually taught by members of philosophy departments), sometimes mainstreamed across the disciplines, critical thinking education has become the highly touted goal of hundreds of educational institutions in the last ten years. What once was typically offered (if at all) as an elective or remedial course is now in many instances a graduation requirement.

Reflecting this institutional surge of interest in critical thinking instruction, learned journals representing a number of disciplines run dozens of articles each year that discuss the theory and pedagogy of thinking skills. National and regional workshops geared to train professors and administrators in the latest strategies for teaching critical thinking regularly meet. The publishing industry continues to churn out critical thinking textbooks and manuals. Although the academy's systematic campaign to institutionalize thinking skills instruction initially encountered a degree of scepticism from some of its members, critical thinking is now accepted by most educators as both a pedagogical and even normative necessity. As one of them put it in 1985, instruction in thinking skills "is not an educational option. Students have a moral right to be taught how to think critically."[3]

In short, beginning in the 1970s and continuing to the present, a curricular trend toward thinking skills instruction escalated into what can only be described as a critical thinking explosion. This is not to say that critical thinking as an educational objective is a new idea. As we shall see shortly, the ideal of schooling students in what is now called "critical thinking" was explicitly defended in this century as early as the 1940s.[4] But the decline in student performance, which became distressingly evident in the 1970s and 1980s, as well as the perceived need to better prepare students for responsible citizenship, focused the nation's attention on the need for immediate remedial measures, and critical thinking as a central curricular concern came into its own.

The Received Model of Critical Thinking

The explosion of interest in critical thinking that spread across the academy in the last twenty years, focusing squarely and almost exclusively as it does on the canons of logical analysis, operates from an orientation I earlier characterized as logicistic. As a consequence, standard textbooks and courses in critical thinking typically concentrate on exercises and lectures that drill students in the mechanics of logical argumentation (inductive and deductive reasoning, fallacy recognition, quantitative and statistical calculation, evidence assessment, and problem solving), while ignoring or at best minimally attending to modes of thinking that emphasize imaginative creativity, personal commitment, self-inspection, or a sensitivity to contextual styles of discourse and persuasion. An examination of college and university catalogs reveals, in fact, that many institutions use the terms "critical thinking" and "informal logic" interchangeably in their rosters of course

descriptions. As Joanne Kurfiss correctly notes, "teaching 'critical thinking,' at least at the introductory level, has become almost synonymous with the methods of applied informal logic."[5]

The logicistic reduction of critical thinking to logical analysis is, then, the defining feature of the currently received approach to teaching thinking skills. The obvious question to be asked is why critical thinking took this logicistic direction. Four explanations are especially pertinent.

The first is the obvious fact that ability to manipulate the rigorous techniques of logical analysis is a necessary condition for success in academic courses of study. Students are expected to wrestle with competing arguments and claims across the disciplines, and the degree to which they can reflectively adjudicate between them is frequently proportionate to their skill in calling on the basic techniques of informal (and, to a lesser degree, formal) logic. In the face of a student population often unschooled in even the most elementary rules of inference, assessment, and evaluation, it is understandable that critical thinking courses should have addressed the problem by concentrating so heavily on the mechanics of logical analysis. One significant factor in critical thinking's drift toward logicism, then, is the presence of a real need to train students in analytical strategies that will initiate them into the rigorous world of academic/intellectual discourse.

Another explanation for the logicistic orientation of conventional critical thinking—and one, moreover, that's often overlooked—is the fact that most courses in critical thinking typically have been taught by academic philosophers whose professional training included a rigorous and systematic study of logic. In addition, until quite recently most of the standard textbooks in critical thinking were authored by philosophers. The virtual monopoly on undergraduate instruction in thinking skills enjoyed (or sometimes endured) by philosophy departments ensured that most courses in critical thinking would reflect the discipline's high regard for logical analysis. This is not to suggest that academic philosophers are an uninspired breed of logic-choppers (I, after all, am an academic philosopher!), but only that most of them, by virtue of both their intellectual tradition and training, tend to think of courses in thinking skills in terms of courses in elementary logic. Nor, obviously, are they alone in this regard. The very fact that curricular responsibility for critical thinking courses normally has been handed to philosophy departments suggests that colleagues from other disciplines as well as administrators likewise assume that good thinking just is logical thinking, or they at least trust philosophers to define thinking for the academic community.

A third reason for critical thinking's logicistic drift is the simple fact, readily acknowledged by anyone who has taught a course in thinking skills, that it is much more difficult to devise classroom lectures and strategies on imaginative or contextual (etc.) ways of thinking than simply to plan the course around instruction in straightforward logical technique.   Notwithstanding the inevitable ambiguity in interpretation and judgment surrounding informal logic (especially, for example, in its treatment of fallacies), it is still relatively simple to teach students the basics of logical analysis. It is a much more complicated enterprise, from both the instructor's and the student's perspective, to teach logical techniques *and* evaluative strategies that fall out of the mainstream approach.   In constructing a syllabus that concentrates on logical skills, the instructor has a multitude of resources on which to rely. Interest in nonanalytical ways of thinking, on the other hand, has only recently emerged, and consequently teaching resources are not as available. There are no mainstream textbooks currently on the market that approach thinking skills from other than logicistic perspectives (for an extended defense of this claim, see Laura Duhan Kaplan's essay in this volume). Consequently, instructors who make use of conventional textbooks are forced either to ignore alternative strategies and modes of presentation or supplement textbook material with exercises and lectures of their own making.   The latter project, given the relative lack of convenient resource materials, is an onerous task indeed.

There is little doubt that part of the reason for the conventional approach to teaching critical thinking is the relative unavailability of nonlogicistic texts from which instructors can take their cues. But the problem is not simply one of lack of unorthodox texts. More profoundly, the fact that it is difficult to locate alternative materials reflects the reality that mainstream *theoretical analyses* of critical thinking, which in turn inform and fashion *pedagogical applications* of it, work from the presumption that good thinking is reducible to logical thinking and that therefore the proper way to teach students how to think well is to concentrate on honing their analytical skills. This theoretical conviction about the nature of thinking is the final and most significant explanation of why conventional instruction in critical thinking operates from a logicistic perspective.   Theory does not, of course, always dictate practice. Sometimes the practical tail wags the theoretical dog. But in the context of critical thinking, the influence of theoretical accounts of good thinking on instructional styles is evident as well as pervasive.

Most orthodox theoretical accounts of critical thinking argue that the ultimate function of good thinking (and, by implication, the primary

goal of thinking skills instruction) is to distinguish between justified and unjustified claims or beliefs. This is done by applying the rules and techniques of formal and informal logic to propositional expressions in order to determine if their statements are true and their arguments valid or sound. Justified claims and beliefs, then, reduce to those that stand up to the rigorous tests of logical analysis, while unjustified ones, obviously, do not. A good thinker, consequently, is one who is skilled in the manipulation of logical criteria and who willingly abides by the evaluative conclusions it generates.

But why does conventional critical thinking theory accept the logical canon as a necessary and sufficient guide for the ascertainment of justified belief? The standard answer is that logical rules of inference and appraisal guarantee certain methodological principles that supposedly are necessary for distinguishing between legitimate and illegitimate claims. These principles are prescriptive as well as descriptive. Sound thinking *should* invoke them, and justified beliefs, the consequences of sound thinking, *are arrived at* through their invocation. The three primary principles are objectivity, abstraction, and universality. Good thinking demands that the thinker adopt an impersonal, distanced relationship to the object of her investigation, suspending theoretical and normative presuppositions as well as her affective responses to the topic at hand. This *objective* stance ensures fair-mindedness and impartiality, both of which are viewed as sine qua non conditions for clear analysis. Moreover, good thinking requires that the thinker detach the claim or argument under examination from its broader context in order to concentrate exclusively on its logical propriety. Such *abstraction* clears the field of supposedly irrelevant historical or ideological considerations by allowing the thinker to examine the object of inquiry in isolation from "extraneous" factors. Finally, the analytical procedures invoked by good thinking are equally applicable to all knowledge claims because they are formal, in the sense that they are defined by logical rules independent of time, place, or content. Their *universality* thereby ensures that the good thinker can utilize them in any discourse context whatsoever as a means of determining justified belief.

That this idea of what constitutes good thinking is endorsed by most conventional critical thinking theorists is obvious when one focuses on the particular models they defend. To illustrate the point, three of the most representative of them, defended by Edward Glaser, Robert Ennis, and Harvey Siegel, will briefly be examined.

In the 1940s, the psychologist Edward Glaser defended a still influential model of critical thinking that presupposed the reducibility of

good to logical thinking. According to Glaser, critical thinking, or that set of cognitive operations that exemplify good thinking, is definable in terms of three functional characteristics: "(1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods."[6] It's clear from Glaser's discussion of these three characteristics that what constitutes the "thoughtful" disposition of his first point is a willingness and ability to conform in a dispassionate, objective way to the "methods of logical inquiry and reasoning" he appeals to in his second. That these methods are exclusively analytical is clearly indicated by Glaser's list of critical thinking's primary programmatic concerns: definition, inference, scientific method and attitude, prejudice, propaganda, and values and logic. Moreover, the ability to invoke formal analytical standards in each of these concerns is, Glaser claims, a skill transferable to all forms of disciplinary discourse. It depends neither on the context of investigation nor the psychological, theoretical, or normative predispositions of the individual thinker. Logical skills are properly understood as abstract methodological blueprints which provide sufficient evaluative standards for sound thinking.

A subsequent proponent of the view that good thinking is logical thinking is the philosopher Robert Ennis. In his highly influential "A Concept of Critical Thinking" (1962), Ennis defines critical thinking in a straightforwardly logical way as "the correct assessment of statements."[7] According to Ennis, a critical thinker is characterized by her mastery of analytical operations that enable her to judge relationships between propositions (the "logical" dimension), evaluate the claims of others (the "criterial" dimension), and persuasively defend her own beliefs (the "pragmatic" dimension). Success in the exercise of these skills more specifically entails mastery of twelve operations that are clearly logical in nature. They include examining claims for ambiguity, contradiction, deductive necessity, inductive strength, specificity, and evidence reliability. The obvious implication is that dexterity in the exercise of rationality's three functions (the logical, criterial, and pragmatic dimensions) requires the ability to manipulate the rules and procedures of logic. In later publications,[8] Ennis allows that good thinking includes a willingness as well as the ability to utilize logical techniques, but his acknowledgement of the role dispositional factors play in critical thinking does not affect the logicistic drift of his theoretical model. Within the context of Ennis's paradigm, an attitudinal disposition to think "well" clearly means the willingness to exercise one's logical expertise.

The final representative of conventional critical thinking theory to be considered here is Harvey Siegel, a philosopher who champions what is known as the "reasons conception" of critical thinking.[9] Siegel is one of the leading figures in what has come to be known as the "Informal Logic Movement,"[10] and his model of critical thinking both reflects and encourages logicistic strategies in the classroom.

The reasons conception of critical thinking is described by Siegel in the following manner:

> To be a critical thinker is to be appropriately moved by reasons. To be a rational person is to believe and act on the basis of reasons. There is then a deep conceptual connection, by way of the notion of reasons, between critical thinkers and rational persons. Critical thinking is best conceived, consequently, as the educational cognate of rationality: critical thinking involves bringing to bear all matters relevant to the rationality of belief and action; and education aimed at the promulgation of critical thinking is nothing less than education aimed at the fostering of rationality and the development of rational persons.[11]

The obvious question prompted by this passage is: What does Siegel mean by "rationality"? He answers by saying that rationality is "coextensive with the relevance of reasons" and that to be a rational or critical thinker is to be moved by "the importance, and convicting force, of reasons."[12]

This statement is revealing once one realizes what Siegel intends by the "relevance of reasons." Although he explicitly states that he does not wish to conflate critical thinking and informal logic,[13] what constitutes relevant reasons (or "principles," as he elsewhere refers to them) is determined by the rules and criteria of logical analysis. A claim is relevantly reasoned or justified if it rejects "arbitrariness, inconsistency, and partiality [and] presupposes a recognition of the binding force of standards, taken to be universal and objective."[14] In light of the formal qualities of universality and objectivity he ascribes to these standards, Siegel can only have in mind the methodological and evaluative criteria appropriate to logical analysis. Like the later Ennis, Siegel claims that mere ability without disposition to think "rationally"—i.e., logically—is insufficient. This, in fact, appears to be his primary justification for denying that he identifies critical thinking with informal logic. But, again, like Ennis, Siegel's logicistic reduction of good thinking to logical thinking entails that his disposition to think rationally is nothing more

than a thinker's willingness to abide by the formal constraints of logical propriety.

The reductionistic models of Glaser, Ennis, Siegel and other like-minded theorists provide conventional critical thinking with justifications of its logicistic approach. If good thinking in fact is identical to logical thinking, then it follows that the best way to encourage better thinking in students is to train them in logical analysis: this is the conditional defended by received critical thinking theory and exemplified in its pedagogy.

The Second Wave of Critical Thinking

Good thinking necessarily implies the ability to manipulate the analytical procedures of informal and formal logic. Second wave proponents of critical thinking are in unanimous agreement on this point. They are not irrationalists. But they do contend that the logicistic reduction of good thinking to logical thinking legitimizes a theoretical model and pedagogical tone that are both problematic. The former's emphasis on logical operations imposes a paradigm that is conceptually rigid as well as out of touch with the ways in which reasonable people actually think. The latter's emphasis on the mechanics of logical analysis risks giving students the impression that logical thinking is the only cognitive game in town, thereby generating the possibility of transforming prospective good thinkers into mechanical logic-choppers.

More specifically, second wave theorists argue that logicism's normative/methodological standards of universality, objectivity, and abstraction, when examined from a nonlogicistic perspective, in fact reveal themselves to be disguised justifications of *totalization, desubjectification*, and *decontextualization*. An examination of each of these charges goes to the heart of both the second wave's criticism of logicism as well as its own alternative approach.

Universality/Totalization. The logicistic model of critical thinking claims that the rules of inference and appraisal characteristic of logical analysis are (1) sufficient directives for how to think well and (2) sufficient standards for the determination of justified beliefs. Logical thinking, in other words, provides both a methodology and a set of evaluative criteria that are applicable to any legitimate investigation. This claim of universal applicability, of course, is touted by advocates of the received model as one of its virtues. They see it as guaranteeing uniform standards, principles, and techniques by which to guide and discipline thinking.

On a nonlogicistic reading, however, the universality claimed by the conventional model tends toward an unwarranted totalization. To "totalize" a methodology or set of evaluative criteria is to posit them as the only legitimate ones available and, by implication, to discount alternative approaches and standards.[15] The logicistic model is a totalization in the sense that it claims logical thinking is the *only* mode of good thinking and logical technique the *only* method for determining the justifiability of claims. Logical operations and analysis are not viewed simply as necessary conditions for the possibility of good thinking. Instead, they are perceived, along with a "disposition to think logically," as sufficient ones.

The totalization toward which logicism's ideal of universality leans gives rise to three consequences that directly impact on the theory and pedagogy of critical thinking.

In the first place, it tends to disenfranchise any style of thinking or evaluative criterion that is not in the analytic mainstream. For example, cognitive operations such as creative imagination, intuition, or insight, because they do not obviously conform to the inferential procedures associated with logical analysis, are immediately suspect. This is not to say that the conventional model of good thinking completely ignores them, but only that it tends to reduce them to either disguised or opaque inferential processes or, more commonly, to ignore or only minimally treat them in its pedagogy. Yet, as Delores Gallo and Kerry Walters argue in their contributions to this volume, good thinking is predicated upon the exercise of nonanalytical modes of thinking, such as imagination and empathic intuition, as well as the straightforwardly logical ones defended by conventional critical thinking. The good thinker does not simply react to received claims and problems, although the ability to do so is undeniably crucial. She also occasionally goes beyond them by creatively suspending strict rules of inference and evidence in order to envision new possibilities, innovative procedures, and fresh, potentially fecund, problems. Consequently, effective training in thinking skills entails exposure to strategies and exercises that strengthen creative as well as analytic modes.[16]

Second, logicism's tendency to totalization encourages a thinking style that can give rise to an unreasonably aggressive or adversarial spirit. The reduction of good thinking to logical thinking tends to emphasize a cognitive style that Peter Elbow and Richard Paul in their contributions refer to respectively as "the doubting game" and "sophistry." Critical thinkers, working under the logicistic assumption that good thinking entails dissection of every claim they encounter in

order to discover its logical weaknesses, assume an a priori scepticism that transforms dialogue into a forensic exercise that has as its only point beating one's opponent by challenging his logic and evidence. Such an attitude is only to be expected if one operates from a model that totalizes logical technique as the sufficient condition for sound thinking.[17]

This adversarial spirit is not, however, maximally conducive to good thinking from the perspective of second wave critical thinking advocates. While it is true that certain contexts call for the critical thinker to challenge the logical soundness of arguments and the evidential backing of beliefs, it is equally true that good thinking requires him at times to suspend his scepticism long enough to relate empathically to perspectives contrary to his own, to accept them in a noncontentious spirit in order to explore their styles as well as content. Elbow refers to this receptive spirit as "the believing game," Blythe Clinchy calls it "connected knowing," and most of the other authors in this volume discuss its functional importance to good thinking. Their willingness to temper the adversarial spirit bred by logicism with empathic, connected styles is predicated on a rejection of the totalized claim that logical analysis is the only way of adequately appraising beliefs.

Finally, conventional critical thinking's totalization of logic gives rise to theoretical frameworks as well as pedagogical attitudes that breed intolerance of thinking styles that embrace ambiguities or unresolved contraries. Given its logicistic drift, the received model views ambiguous statements as prima facie dubious and sets of contraries as unresolved confusions. Thinking, if it is sound, functions in a straight-forwardly inferential fashion in which each step smoothly and transparently prepares the way for the next. Similarly, sound thinking must generate beliefs that are consistent with one another. The good thinker, then, eliminates ambiguities and resolves tensions, contraries, and oppositions. Failure to do so indicates a breakdown in the analysis.

The second wave of critical thinking argues that the urge to resolve ambiguity and standing contraries, while appropriate in some contexts, is misguided in others. Part of what it means to be a good thinker is to recognize a multiplicity of cognitive approaches and styles, ones that very often are not consistent with one another but are nonetheless complementary. Some of these styles properly aim for maximum clarity and resolution, while others accommodate themselves to the presence of ambiguity and even paradox in both process and conclusion. Anne Phelan and James Garrison, for example, defend a style of thinking they call a "feminist poetic"; Walters contrasts what he calls the "pattern of discovery" mode of thinking, which can tolerate a certain degree of

ambiguity, and the "calculus of justification" mode, which cannot; and both Clinchy and Elbow argue for a critical thinking that sometimes "embraces" rather than always strives to eliminate contraries. The point is not that these authors deny the virtues of clear, concise, logical thinking. Rather, they argue that some styles of thinking are comfortable with ambiguity, that ambiguity is often inevitable in both process and belief, and that the nonlogicistic critical thinker does not automatically discount ambiguity as mere sloppy thinking.

Because the methodological and evaluative standard of universality espoused by conventional critical thinking tends in both theory and pedagogy toward totalization, logicistic interpretations of good thinking may be viewed as "Procrustean" in spirit. Procrustes, you may recall, was the legendary innkeeper whose perverse sense of professional propriety led him to lob off the limbs of his clients so that they would not overflow his uniformly sized beds. It never seems to have occurred to Procrustes that a more sensible strategy would have been to accommodate his beds to his customers, rather than the other way around. Similarly, logicistic critical thinking's tendency to totalize lobs off styles of thinking and investigation that fail to conform to its paradigm of logical analysis. True, some ways of thinking fit best into logical beds, but others do not, and it is these latter styles to which second wave critical thinking wishes to draw our attention.

Objectivity/Desubjectification. There is a longstanding although increasingly challenged tradition in the West that has it that objectivity is a necessary condition for good thinking and belief justification. A thinker is objective in this sense when he detaches himself from both the act and object of thinking to ensure that the enterprise is "untainted" by personal convictions, presuppositions, or biases, regardless of whether they are psychological, theoretical, or normative in nature. Such an immaculate approach, tradition has it, is guaranteed by formal analytical techniques that concentrate on the internal logical structure and evidential strength of arguments and claims and ignore the thinker's personal (and therefore irrelevant) predilections.

The received model of critical thinking endorses this traditional notion of objectivity. Its logicistic approach is geared toward training students to cultivate "fair-mindedness," an attitude it claims is sustained only by separating personal considerations from claim investigation and argument appraisal. Good thinking, then, is reduced to anonymous thinking.

In contrast, second wave critical thinking argues that the ideal of "desubjectifying" thinking is impossible, and that even if it were not, it

would not necessarily lead to maximally good thinking. Thinking is always performed by a subject who is an active participant in the process. Moreover, the involvement of the subject in the process of thinking, far from sullying the outcome, in fact can enrich it.

The traditional assumption that good thinking is desubjectivized (or anonymous) thinking ignores the constructivist dimension of knowing. The knowing subject is not a passive spectator who simply receives information that is anonymously processed in a formalistic black box. Instead, she brings to the act of knowing a complex set of presuppositions and commitments, and this set necessarily informs the type of information she concentrates on as well as the inflections she places on it. There is not, then, a radical separation between the knower and the object of knowing or the knower and the act of knowing. This does not entail that all thinking is irremediably subjective or private. As John Dewey was fond of pointing out, a reflective awareness of the personal commitments and prejudices one brings to the process of thinking is in itself a safeguard against falling into the trap of radical privatism. Although the subject is always an active participant in the process of thinking, she is nonetheless capable of recognizing her own predilections and thereby preventing them from imperialistically absorbing alternative ones. This modified notion of objectivity, unlike the traditional one, does not insist on the impartiality or neutrality supposedly guaranteed by desubjectification. Instead, it argues that awareness of one's constructivist input is sufficient to guard against overweeningly subjective projections. One acknowledges one's participation and commitments without uncritically abandoning oneself to either of them.[18]

In addition, the subject's reflective participation in the act of thinking makes room for a personal response to arguments, claims, and situations disallowed by the logicistic model's endorsement of desubjectification. It recognizes, as Elbow, Clinchy, and Gallo point out, the importance of interpersonal, affective, and empathic elements in reacting to and appraising alternative perspectives. It encourages the thinker to examine her own worldview commitments as well as those of others in a critical yet nonadversarial manner, thereby rescuing her, as Paul argues, from a sterile, uninvolved method of investigation and assessment. Moreover, as Karl Hoestetler, Henry Giroux, and Laura Duhan Kaplan suggest, the thinker's self-aware participation in the act of thinking fine-tunes her appreciation for the necessity to commit herself to certain beliefs and styles of appraisal that enhance community and liberation, rather than impersonally and passively regarding them

as phenomena that have no significant impact on her life. The subject, in short, has a personal and frequently normative stake in what she thinks about, and to insist on distancing herself from the act of thinking is to indulge in either self-deception or rationalized indifference. It follows that good thinking need not strive for anonymous thinking. The good thinker recognizes the importance of giving a fair hearing to diverse perspectives but does not suppose that such an ideal demands an artificial neutrality on her part.

Just as conventional critical thinking's tendency toward total-ization bespeaks a Procrustean spirit, so its emphasis on desubjecti-fication points to an unwarranted reification. The ideal of anonymous thinking may suit contrived classroom situations where students are called on to decide between two or more arguments in which they have no personal interest and even less commitment, but it is clearly inap-propriate for "realworld" modes of investigation and appraisal. Human beings are not detached thinking substances. They are embodied, affective, and engaged subjects who approach decision making and claim appraisal from standpoints necessarily informed by their personal perspectives. To ignore the complexity of thinking by adopting a reified model that emphasizes impersonal analysis at the expense of the personal dimension is, perhaps, to ensure that students become adept at the "logical game," but it is also to ill-train them in the art of good thinking.

Abstraction/Decontextualization. The reification engendered by logicistic critical thinking's interpretation of objectivity as desubjecti-fication also emerges in its acceptance of abstraction as both a meth-odological and evaluative criterion. Just as logicistic notions of objectivity hold that the aspiring good thinker must remove himself from the act of thinking, so logicistic notions of abstraction maintain that the object of thought must be detached from its environment. In the former case, the object of the reification is internal, directed at the subject; in the latter case, it is external, directed toward the object.

Abstraction, in the sense advocated by the received model of critical thinking, involves the deliberate effort to focus exclusively on the logical and evidential strengths of a single argument, irrespective of considerations of its origin, ideological inflection, historical setting, or, often, even its relationship to alternative arguments. According to the received view, these factors are as irrelevant to the critical scrutiny of an argument as are the thinking subject's personal presuppositions and commitments. An examination of them admittedly may provide insight into the argument's functional connection to a broader context, but the

purpose of logical thinking is first and foremost to inspect and evaluate the argument's internal logical structure. Consequently, the good thinker takes pains to abstract arguments and claims he examines from the contexts in which they arise in order to hone in on their logical strengths and weaknesses.

The logicistic notion of abstraction leads to a decontextualization of thinking that second wave pedagogues claim is as problematic as the tendency toward desubjectification. They contend that just as subjects cannot be separated from the process of thinking, so thinking itself cannot be separated from the context in which it arises. All thinking is performed in concrete situations by concrete individuals, and to abstract from either of these two settings is to risk missing the overall meaning, purpose, and nuances of a claim or argument. Styles of thinking as well as ideas themselves are inextricably connected with broader, more complex environments of discourse, place, time, value, and worldview, and to neglect these environments is to limit the function and range of thinking in an unwarranted way.

In her discussion of feminism and critical thinking, for example, Mary Warren argues that all thinking is conditioned (although not inevitably determined) by what she and others refer to as "conceptual frameworks." These frameworks set the conceptual and methodological tone not only of *what* we think about but also *how* we go about thinking. A patriarchal frame of reference, for instance, establishes certain prescriptive methodological procedures and conceptual blueprints that validate standards of investigation and appraisal quite differently from those endorsed by, say, nonpatriarchal frameworks. Consequently, failure to subject framework assumptions to critical examination hazards an implicit canonization of what in fact may be historically conditioned epistemic and methodological principles. This is a point that logicistic abstraction misses. Its methodological decontextualization focuses on specific arguments within conceptual frameworks without subjecting the frameworks themselves to critical scrutiny. Similarly, as Connie Missimer points out in her contribution, a decontextualized approach to critical thinking (what she calls the "Individual View") neglects to consider alternative arguments or paradigms and even goes so far as to dismiss them if they run counter to conventional wisdom as defined by the received framework. Good thinking, maintains Missimer, is a social artifact, predicated on a community of inquirers, that regularly examines arguments and claims by weighing them against alternative ones. But the logicistic model's emphasis on abstraction often reduces it to an exercise in which an isolated individual focuses on discrete arguments and claims within a single conceptual framework.

A decontextualized approach often leads to a pedagogy of critical thinking that, as both John McPeck and Richard Paul point out in their contributions to this volume, trivializes the meaning of what it is to think well. McPeck contends that the abstraction espoused by the conventional model postulates critical thinking as a "general ability" whose nature in no way depends on the context of discourse or examination to which it's applied. This reification of thinking skills in turn transforms critical thinking instruction into a kind of "trivial pursuit" game in which student players dislocate claims and arguments from their broader contexts in order to manipulate them in accordance with the mechanics of logical analysis. In a similar fashion, Paul argues that critical thinking instruction that focuses on decontextualized arguments schools students in sophistry rather than good thinking. This "weak sense" approach to teaching thinking skills fails to encourage students to reflect on the theoretical and normative worldview commitments that inform discrete beliefs and arguments and directs them instead to the nuts and bolts of "atomistic" analysis, in which mechanical fallacy-spotting is a primary goal.

Abstracting beliefs and arguments from their wider concerns also tends to discourage self-examination and the search for meaning that are necessary for individual well-being and honesty. Since all thinking is informed by conceptual frameworks, the good thinker must examine her own commitments and presuppositions as well as those of others. But to decontextualize thinking is to inhibit this kind of reflection by sundering beliefs from their broader attitudinal and conceptual contexts. It forces the thinker, as Lenore Langsdorf says in her contribution, to focus on techniques of "instrumental reason"—the mechanics, for instance, of problem solving—at the expense of self-reflective "judgment," which explores the relationship between discrete claims and the broader matrices, personal as well as cultural, to which those claims are organically connected. Thomas Warren echoes Langsdorf's concern by arguing that conventional models of critical thinking focus so exclusively on the decontextualized analysis of beliefs that they ignore the central roles of "ponderment" and "wonder" in good thinking. Effective thinking, he contends, is much more than a calculative strategy for assessing detached claims. It is a "quest for meaning," whose success depends on a self-exploration motivated by a disposition similar to Platonic eros. Both Langsdorf and Warren conclude, then, that personal enlightenment is as important a goal for the critical thinker as is the mastery of logical technique. Unfortunately, logicistic strategies of teaching thinking skills tend to avoid discussions of the former and overplay the latter.

There is one more problem with the conventional model's decontextualized approach to thinking skills: it tends to abstract claim assessment and argument evaluation from related questions of intellectual responsibility as well as emancipation from social and political forms of ideology. This is a particularly ironic consequence, given the conventional model's claim that one of its educational aspirations is to prepare students for responsible participation in a pluralistic democracy.

According to second wave advocates such as Laura Duhan Kaplan and Henry Giroux, the good thinker is one who exercises reflective autonomy in her responses to competing ideas from both the intellectual and political marketplaces. But reflective autonomy is predicated upon the ability to weigh particular claims against the background of broader concerns and alternative perspectives. Only after such a contextual analysis is attempted is the critical thinker in a position either to decide between competing positions or to replace both with a third. Conventional thinking skills instruction, given its emphasis on the decontextualized analysis of discrete arguments, ill-prepares students for this broader enterprise. Instead, according to Kaplan, it encourages a "banking" approach to judgment, in which the thinker works strictly within the confines of the status quo options given to him, while at the same time hampering his realization that knowledge claims, as Giroux says, are inseparable from "human interests, norms, and values" and must be evaluated with reference to them. After all, if the primary function of a good thinker is to focus on the logical value of discrete arguments, there's no need to worry about the arguments' social and normative implications. This short-sightedness not only bespeaks a breakdown in effective thinking. It also generates an ethical indifference and social complacency that suggest frightening possibilities.

Second wave critical thinking, then, calls for a theory and pedagogy that corrects logicism's unfortunate tendencies toward totalization, desubjectification, and decontextualization. In place of the received model, it defends an account of good thinking that stresses the primacy of logical analysis and creative modes of thinking, acknowledges the influence of affective, cultural, and normative elements in the appraisal of beliefs, tempers the adversarial nature of logicistic critical thinking with an emphasis on empathic, interpersonal, and connected styles, is sensitive to the contextual matrices that accent both the process and standards of thinking, and takes seriously the emancipatory and enlightening functions of good thinking. It seeks, in short, to provide a model of critical thinking that takes into account the embodied, historical, and multiconnotated nature of human thought and discourse.

The Second Wave Challenge

The second wave challenge to the logicistic model aims for nothing less than a radical rethinking of what it means to be a reasonable, reflective person. As we've seen, this does not mean that the second wave dismisses the functional importance of logical analysis to good thinking. But it does entail that the hitherto conventional identification of critical and logical thinking be reexamined and that the theory and pedagogy of thinking skills progress to a richer, more integrated stage of development. Instruction in critical thinking as a central component of college and university curricula is here to stay. The task facing educators now is to ensure that it weans itself away from its logicistic loyalties to incorporate strategies that better reflect the rich complexity of good thinking. To accomplish this goal, two things are needed: a more inclusive theoretical model of critical thinking that recognizes the multi-functionality, contextuality, and emancipatory nature of good thinking, and a pedagogical approach capable of incorporating second wave insights into existing critical thinking classes.

The essays in this volume do not claim to address either of these needs in a definitive, complete way. Indeed, it is unlikely that the needs can ever be once-and-for-all met. As the second wave contends, thinking is a dialogical, open-ended process, and that obviously includes the enterprise of thinking about thinking itself. But the fourteen perspectives collected here go a long way toward invigorating the ongoing conversation about thinking skills. They chart paths that go beyond logicism and towards a style of thinking that is analytic yet creative, rigorous but not rigid, and critical as well as committed. This new style, the second wave argues, avoids the drift to totalization and reification characteristic of logicism and consequently provides a model of thinking that is grounded in experience as well as open to alternative ways of knowing, evaluating, and appraising. Such a model promises to truly prepare students for initiation into the life of the mind as well as the world of concrete relationships and responsibilities.

Notes

1. Here and throughout this Introduction I prefer to use the phrase "good thinking" in place of the more usual "rationality" because the latter, at least as it's commonly employed, carries with it the implication of the exclusively analytical process of investigation and appraisal. As the second wave of critical thinking suggests, however, this logicistic reading of "rationality" begs the

question of what it means to be a reflective, sound-thinking individual. Perhaps a less laden term such as "reasonableness" should be substituted for "rationality" in all discussions of critical thinking.

2. National Assessment of Education Progress, *A Nation at Risk: The Imperative for Educational Reforms* (Washington, D.C.: U.S. Government Printing Office, 1983). A Gallup survey two years after the publication of *A Nation at Risk* indicated that the improvement of thinking skills in students was considered a top priority of American educators. See A. Gallup, "The Gallup Poll of Teachers' Attitudes Toward the Public Schools," *Phi Delta Kappan* 66 (1985): 327.

3. Stephen P. Norris, "Synthesis of Research on Critical Thinking," *Educational Leadership* 42 (1985): 40–45.

4. Obviously, the ideal of teaching students thinking skills extends back to antiquity. A good case can be made for the claim that Aristotle was the first advocate of critical thinking. His *Prior Analytics* develops the theory of syllogistic inference, the *Posterior Analytics* defends a theory of demonstration, the *Topics* is a manual of inductive reasoning, and his *De Sophisticus Elenchus* examines fallacy types. Moreover, Sophistic eristic as a style of argumentation is another likely locus classicus of critical thinking. My claim here is not that thinking skills instruction was invented de novo in the 1940s, but only that its most recent permutation—logicism—explicitly emerged then.

5. Joanne G. Kurfiss, *Critical Thinking: Theory, Research, Practice, and Possibility* (Washington, D.C.: ASHE-ERIC Higher Education Report, No. 2, 1988), p. 14.

6. Edward M. Glaser, *An Experiment in the Development of Critical Thinking* (New York: Teachers College of Columbia University, Bureau of Publications, 1941). Along with G. Watson, Glaser has also formulated the "Watson-Glaser Critical Thinking Appraisal," a widely used multiple-choice test of reasoning skills at high school and college levels.

7. Robert H. Ennis, "A Concept of Critical Thinking," *Harvard Educational Review* 32 (1962): 81–111. Like Glaser before him, Ennis also coauthored a thinking skills measurement known as the "Cornell Tests of Critical Thinking Ability."

8. See, for example, Robert H. Ennis, "A Conception of Rational Thinking," in J. R. Coombs, ed., *Philosophy of Education 1979: Proceedings of the Thirty-fifth Annual Meeting of the Philosophy of Education Society* (Bloomington, Ill.: Philosophy of Education Society, 1980), pp. 3–30; and "Rational Thinking and Educational Practice," in J. F. Soltis, ed., *Philosophy and Education: Eightieth yearbook of the National Society for the Study of Education, Part 1* (Chicago, Ill.: The National Society for the Study of Education, 1981), pp. 143–83.

9. As Siegel frankly and graciously acknowledges, his "reasons conception" model of critical thinking is heavily indebted to the work of philosopher of education Israel Scheffler. For Scheffler on education and thinking skills, see, for example, his *Conditions of Knowledge* (Chicago, Ill.: Scott Foresman, 1965) and *Reason and Teaching* (New York: Routledge & Kegan Paul, 1973).

10. The "Informal Logic Movement," a leading voice in the popularization of the logicistic model of critical thinking, hosted its first international conference on informal logic and thinking skills in 1978. For the proceedings, see J. Anthony Blair and Ralph H. Johnson, eds., *Informal Logic: The First International Symposium* (Inverness, Calif.: Edgepress, 1980). The collection contains an informative essay on the history of the Movement: J. A. Blair and R. H. Johnson, "The Recent Development of Informal Logic," op. cit., pp. 3–28.

11. Harvey Siegel, *Educating Reason: Rationality, Critical Thinking, and Education* (New York: Routledge, 1988), pp. 32–33.

12. Ibid., p. 33.

13. Ibid., p. 7.

14. Ibid., p. 34.

15. I adapt the term "totalization" from Karl Mannheim's discussion of "total ideologies": those ideological constructs that are closed conceptual frameworks in the sense that they claim to provide necessary and sufficient explanatory and evaluative standards, and hence disenfranchise dissenting perspectives in an a priori way. See K. Mannheim, *Ideology and Utopia: An Introduction to the Sociology of Knowledge*, trans. Louis Wirth and Edward Shils (New York: Harcourt, Brace, 1956). For an extended treatment of ideological totalization in the Mannheimian sense, see Chapter One of my *The Sane Society Ideal in Modern Utopianism* (New York and Toronto: Edwin Mellen Press, 1989). I discuss the problems of closed conceptual frameworks more fully in "On Worldviews, Commitment, and Critical Thinking," *Informal Logic* 11 (1989): 75–89.

16. For discussions of the centrality of imagination and intuition to good thinking as well as effective instruction in thinking skills, two recent works are especially recommended: Kieran Egan and Dan Nadaner, eds. *Imagination and Education* (New York: Teachers College Press, 1988) and Nel Noddings and Paul J. Shore, *Awakening the Inner Eye: Intuition in Education* (New York: Teachers College Press, 1984).

17. For more on the adversarial tendencies of the logicistic model's totalizing propensity, see my "Critical Thinking and the Danger of Intellectual Conformity," *Innovative Higher Education* 11 (1987): 94–102, and "On Bullshitting and Brainstorming," *Teaching Philosophy* 11 (1988): 301–13.

18. In her *Reflections on Gender and Science* (New Haven: Yale University Press, 1985), Evelyn Fox Keller defends a modified concept of objectivity she calls "dynamic objectivity." In contrast to traditional "objectivism," which insists on the anonymity of the thinker, dynamic objectivity makes room for an empathic connection between knower and known that acknowledges the epistemic role of subjective experience without propelling the knower into a radically self-enclosed privatism. See especially Chapter Six, "Dynamic Objectivity: Love, Power, and Knowledge," pp. 115–26.