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Chapter 10

Critical Thinking

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The Nature of Critical Thinking

Critical thinking is, first and foremost, a variety of *good* thinking. As such, any adequate account of it must explain the sense in which it is good. We begin by emphasizing this *normative* character of critical thinking. This emphasis distinguishes our conception, and philosophical conceptions more generally, from psychological conceptions, which are essentially descriptive – describing psychological processes, procedures, and/or skills thought to be central to critical thinking. Such process accounts are problematic in that (1) it is impossible to determine whether particular mental operations correlate with particular cases of good thinking; (2) there is no particular set of procedures that is either necessary or sufficient for critical thinking; and (3) terms denoting thinking (for example, classifying, observing, hypothesizing) refer not to mental operations or processes but rather to different tasks requiring thinking (Bailin, 1998).

In contrast to contemporary psychological accounts of it, philosophical theorists of critical thinking are agreed that the concept is essentially a normative one. To characterize thinking as "critical" is, accordingly, to judge that it meets relevant *standards* or *criteria* of acceptability, and is thus appropriately thought of as "good." Extant philosophical accounts of critical thinking emphasize such criteria. Robert H. Ennis, for example, defines critical thinking as "reasonable reflective thinking that is focused on deciding what to believe and do" (Ennis, 1987, p. 10), and offers a detailed list of abilities, skills, and dispositions that thinking (and thinkers) must manifest if it is (they are) to be critical. Siegel characterizes the critical thinker as one who is "appropriately moved by reasons" (Siegel, 1988, p. 23), and emphasizes the critical thinker's mastery of *epistemic* criteria that reasons must meet in order to be rightly judged to be good reasons, that is, reasons that warrant beliefs, claims, and actions. Richard Paul similarly conceives of critical thinking in terms of the ability and

disposition to critically evaluate beliefs, their underlying assumptions, and the world views in which they are embedded (Paul, 1990). Matthew Lipman defines critical thinking as thinking that facilitates judgement because it relies on criteria, is self-correcting, and is sensitive to context (Lipman, 1991). Other authors, including John McPeck (1981, 1990), similarly emphasize this normative dimension of the concept. While these authors' accounts of critical thinking differ in many respects, and have their own emphases, they are nevertheless agreed on the essential normativity of the concept.

While some early treatments of critical thinking defined it only in terms of particular skills – for example, Ennis's early definition of it as "the correct assessing of statements" (Ennis, 1962, p. 83) – almost all philosophical discussion of it regards critical thinking as involving both skills or abilities and dispositions. We turn to this combination next.

Critical Thinking: Skills/Abilities and Dispositions

On most philosophical accounts of it, critical thinking involves two related, but conceptually distinct, aspects or dimensions: the *ability* to reason well and the *disposition* to do so. We discuss these in turn.

Skills/abilities

Thinking is critical just to the extent that it manifests due attention to, and concern for, the probative strength of relevant reasons (such strength being determined by the degree to which such reasons meet the epistemic criteria mentioned above). In this respect critical thinking is, as one of us puts it elsewhere, the "educational cognate" (Siegel, 1988, p. 32) of rationality, since both rational thinking and critical thinking are "coextensive with the relevance of reasons" (Scheffler, 1965, p. 107). Beliefs, judgements, and actions are rational just to the extent that the believer/ actor has good reasons for so believing, judging, or acting;[1] having the ability to think critically requires, then, having the ability to ascertain the goodness of candidate reasons. Consequently, a central task involved in educating for critical thinking is that of fostering in students the ability to assess the probative strength of reasons.

This of course raises many questions – mainly epistemological in nature – concerning the criteria by which the goodness of candidate reasons is determined. How are these criteria chosen, and who chooses them? How are they themselves justified? – and indeed, can they be justified, even in principle, in a way that is neither circular or question-begging? What is the source of their epistemic authority? Are they "absolute" or "relative"? Are they really "epistemic" or rather political, constituting tools of power and oppression? And so on. Both of us have addressed one or more of these issues at some length elsewhere (Bailin, 1992a, 1995, 1998; Siegel, 1997); we return to several of them below.[2] Of particular note is the question of the extent to which such criteria (and so critical thinking itself) are *generalizable*: are the criteria in accordance with which the goodness of candidate reasons

is determined the same in all contexts? Or do these vary from context to context? This question has divided critical thinking theorists like no other; we take it up in the next section.

Dispositions

Having the ability to determine the goodness, or probative force, of candidate reasons for belief, judgement, or action may be necessary, but cannot be sufficient, for critical thinking, since a given thinker may have the ability but not (or not systematically or routinely) use it. Accordingly, most theorists of critical thinking argue that, along with the skill or ability to assess the probative force of reasons, critical thinkers must also have relevant *dispositions*. The primary disposition consists in valuing good reasoning and being disposed to seek reasons, to assess them, and to govern beliefs and actions on the basis of such assessment. In addition, most theorists outline a subset of dispositions that are also necessary for critical thinking, including open-mindedness, fair-mindedness, independent-mindedness, an inquiring attitude, and respect for others in group inquiry and deliberation. (Bailin et al., 1999; Hare, 1979, 1985) This "two-component" conception of critical thinking – according to which critical thinking encompasses both a reason assessment component and a dispositional component[3] – is endorsed by most theorists.[4]

Problems with "skill talk"

Some theorists have criticized the use of the term "skill" in conceptualizing critical thinking, on the grounds that, when used as a noun, "skill" can be seen to refer to something within individuals, some inner entity or ability or inner possession. The problems that result from conceiving of skills as "mental operations" have been noted above (and outlined more fully in Bailin, 1998). However, references to skills, particularly in the adjectival and adverbial forms, can be understood as indicating, not inner entities or possessions, but rather thinking that meets relevant criteria. For most philosophical theorists of critical thinking, then, saying that Jones "has the skills of a critical thinker" would be taken to indicate not that Jones possesses an array of inner mental entities of some sort, but rather that Jones's thinking is skilled in the sense that her thinking meets relevant criteria (ibid., pp. 210–11). Talk of "critical thinking skills" is thus ambiguous, and can be misleading, particularly with respect to the issue of generalizability, as will be argued below. The present authors do not agree about the degree to which this ambiguity is philosophically troubling. Bailin would prefer to avoid the noun form "skills" altogether. Siegel finds such "skill talk" acceptable as long as it is taken as referring to thinking that is skilled in the sense that it meets relevant criteria. In this sense the critical thinker is rightly conceived as a thinker who has both the skills or abilities, and the dispositions, mentioned above. Our use of "skill" in what follows is to be understood in this way.

Critical Thinking and the Problem of Generalizability

Perhaps the most controversial question concerning critical thinking is whether or not it is rightly conceived as something *general*, or should be understood rather indeed as domain-, discipline-, or context-*specific*. It has seemed to many that critical thinking is rightly conceived as a set of generalized skills, abilities, and dispositions, in the sense that these can be utilized or applied across a broad range of contexts and circumstances. On this *generalist* view, it would make sense to regard (for example) the ability to detect an ordinary fallacy like begging the question, basing a generalization on too small a sample, or appealing to an illegitimate authority, as general in the sense that it is applicable across many different reasoning contexts. A critical thinker, on this view, would be able to detect such fallacies generally, that is, without regard to the particular contexts in which they occur. Parallel remarks would be made for all, or at least many, such abilities.

The *specifist* view, on the contrary, denies any such general ability. The most prominent exponent of this view, John McPeck, holds that there cannot, in principle, be any critical thinking skills or abilities that can be applied generally across subject-area domains, because thinking itself is always tied to a particular content and subject: "thinking is always thinking *about* something. To think about nothing is a conceptual impossibility" (McPeck, 1981, p. 3, emphasis in original). Consequently, McPeck argues, conceiving of general critical thinking skills, and developing courses intended to enhance students' critical thinking generally, are mistakes:

> In isolation from a particular subject, the phrase "critical thinking" neither refers to nor denotes any particular skill. It follows from this that it makes no sense to talk about critical thinking as a distinct subject and that it therefore cannot profitably be taught as such. To the extent that critical thinking is not about a specific subject X, it is both conceptually and practically empty. (ibid., p. 5)

The "specifist" view defended by McPeck has many adherents. However, it also has been subject to much criticism. A particularly telling criticism, in our view, is that while it is true that particular acts or episodes of thinking always have particular content, and so are about some particular thing or other, it simply does not follow that nothing general can be said about the activity of thinking, conceived as the general activity of which all particular episodes of thinking are instances (Siegel, 1988, p. 19). That particular episodes of thinking always have particular content is perfectly compatible with there being general thinking skills or abilities that are applicable to a wide range of domains, subjects, or contexts.[5]

A second issue raised by McPeck is that of the place of context-, domain-, or subject-specific content knowledge in critical thinking. McPeck insists – rightly in our view – that such knowledge is very often essential for critical thinking. This is, we think, the correct insight of specifism. But it doesn't upend generalism, for the latter view makes full room for the role of subject-specific content knowledge in critical thinking. As William Hare conclusively demonstrates, advocates of critical thinking who conceive it in generalist terms have systematically acknowledged the essential role of subject-specific content

knowledge in any educationally adequate effort to foster students' critical thinking (Hare, 1995).

So how then should we think about the generalizability of critical thinking? On this point the present authors agree to a certain extent. We both agree that if the question is broken down, so that we ask not whether critical thinking as a whole is generalizable, but rather whether each component of it is generalizable, we find the following. First, the reason assessment component – which has in effect been the subject of most of the discussion of generalizability – is *partly* generalizable. Here both the specifists and the generalists are importantly right. The specifists are right to insist both that subject-specific knowledge is often (Bailin would say always) necessary for critical thinking, and that many of the criteria in accordance with which reasons are appropriately assessed are indeed domain- or subject-specific. The generalists are right to insist that some criteria of reason assessment (for example, those that determine the constitution of valid or fallacious forms of reasoning) are not domain-specific, but are general in that they are applicable across widely varied contexts. Moreover, the *epistemology underlying critical thinking* – according to which there is a rejection of relativism, an important distinction to be drawn between rational justification and truth, and a recognition that rational justification, though distinct from truth, is a fallible indicator of it – is itself fully generalizable. Finally, the "critical spirit" component, that complex of dispositions, attitudes, habits of mind, and character traits, characteristic of the critical thinker, is also fully generalizable.

The present authors differ on some points, however. Bailin emphasizes the centrality of subject-specific knowledge, while Siegel emphasizes the generalizability of abilities constitutive of critical thinking (for example, the abilities to recognize and detect particular fallacies, valid forms of reasoning, and types of good reasons) as well as the highly general applicability of many criteria of reason assessment. Bailin believes that the generalizability issue has been on the whole unhappily characterized by focusing on skills or abilities. She urges that it be reframed so as to focus on the understandings (intellectual resources) required in order to make reasoned judgements in particular contexts. This move reframes the issue of generalizability from the question of whether certain skills transfer to a variety of contexts to the question of what constellation of intellectual resources is required in particular contexts in response to particular challenges and what the range of application is for particular resources (Bailin, 1998, pp. 211–16). (As argued above, some resources are quite narrow and others quite broad.) The problem, then, becomes one of determining the range of use and application of the principles and criteria that underlie our public traditions of inquiry rather than looking for general skills or abilities within individuals, with its attendant conceptual problems. Siegel regards these problems as straightforwardly handled by making clear, as we have above, that the skills and abilities in question are those that, when exercised, result in thinking which is skilled in the sense that it meets relevant criteria. He is also wary of couching the matter in terms of the principles and criteria that underlie public traditions of inquiry, since those principles and criteria are themselves always open to critical scrutiny and revision (a point on which we are agreed). On his view critical thinking is mainly, though not fully, generalizable; the generalist view is correct on the whole, but the specifist view is also correct in important respects (Siegel, 1997, chapter 2).

Despite our disagreements concerning how best to frame the question of generalizability, the necessity of subject-specific knowledge for critical thinking, and the viability of "skill talk" in its characterization, we hope the substantial agreement between us concerning generalizability is clear. In particular, we are agreed that some principles and criteria of reason-assessment are quite narrow, and others quite broad; we are agreed as well that the dispositions and habits of mind that characterize the critical thinker, and the epistemology underlying critical thinking, are fully generalizable (Bailin, 1998; Siegel, 1997). We are agreed, finally, that both generalism and specifism are correct in the important respects just indicated.[6]

The Relationship Between Critical Thinking and Creative Thinking

An issue frequently raised in discussions of critical thinking concerns the relationship between critical thinking and creative thinking. The assumption is generally made that they are two different and distinct kinds of thinking. Critical thinking is viewed as strictly analytic and evaluative, an algorithmic process that consists in arriving at the correct evaluations of ideas, arguments, or products. It is considered to be necessarily noncreative since it involves a fairly mechanical process of following existing rules and thus is not able to transcend frameworks or result in new ideas. Creative thinking, on the other hand, is seen as strictly generative, the kind of thinking that allows for the breaking of rules, the transcending of frameworks, and the creation of novel products. As such, it is considered to be noncritical, since criticism must take place according to prevailing criteria but being creative involves violating these criteria (for example, de Bono, 1970).

The relationship between the two kinds of thinking is a subject of debate. Some theorists view critical thinking and creative thinking as distinct but complementary, while others believe that they are in opposition to one another – that the generation of new ideas requires the abandonment of the logic and criteria of assessment that characterize critical thinking (de Bono, 1976).

It is our view that the dichotomy between critical thinking and creative thinking is ill-founded. There are evaluative, analytic, logical aspects to creating new ideas or products and an imaginative, constructive dimension to their assessment. A conceptualization in terms of two distinct types of thinking, critical and creative, is seriously problematic.

First, consider the claim that creative thinking is strictly generative and nonevaluative, that the creation of new ideas and products is a result of a type of thinking that does not involve logic or critical assessment but involves the unconstrained generation of ideas. This claim is incompatible with the fact that creativity involves not simply the generation of novelty but rather the generation of products that constitute improvements or innovations, products that have significance in terms of the context of the domain. Analysis, logic, and evaluation are necessarily involved in such creative production. Critical judgement is central to the identification of problems, the recognition of inadequacies in existing solutions, the decision that a new approach is required, the determination of directions for investigation, and the recognition of possible solutions. The thinking that leads to creative

achievement can best be seen, then, not in terms of unconstrained generation, but rather in terms of a reasonable and critical response to a problem situation (Bailin, 1987, 1992a).

The characterization of critical thinking as strictly analytic, selective, and ruledetermined is similarly problematic. Thinking that is directed primarily toward the evaluation or criticism of ideas or products is not algorithmic but has a generative, imaginative component. The application of criteria is not a mechanical process but involves both some interpretation of circumstances, and imaginative judgement as to the applicability of criteria in different circumstances and to whether the criteria have been met. Similarly, inventing hypotheses, generating counterexamples, constructing counterarguments, and envisioning potential problems are all important aspects of critical thinking that have a generative dimension. Finally, arriving at an overall assessment in any complex circumstance requires constructing a view based on the questioning, weighing, rejecting, reconciling, and integrating of numerous divergent points of view, and may lead to the questioning of assumptions and the redefinition of a problem (Bailin, 1990).

Both the constraints of logic and the inventiveness of imagination are evident in all instances of serious thought. There is a creative dimension in all critical thinking, and in some cases, critical deliberation leads to the questioning of assumptions, the breaking of rules, the rearrangement of elements – and thus results in products that exhibit considerable novelty.

Some proponents of the dichotomy between critical thinking and creative thinking accept the idea that both critical and creative thinking are necessary to all complex thought, but maintain that they are distinct and take place at different stages of the thinking process. An individual first researches a problem in a logical, analytical way (critical thinking), then suspends critical judgement and generates large numbers of ideas (creative thinking), then reactivates critical judgement to evaluate the proposed solutions (critical thinking). We would argue, however, that one cannot really distinguish two different kinds of thinking. The very process of generating ideas involves evaluation since it is constrained by various criteria related to the problem situation and to what would constitute an effective and innovative solution. If this were not the case, the result would be chaos rather than creation. Nor is it possible to identify an evaluative phase of thinking that lacks a generative dimension. The terms “critical thinking” and “creative thinking” can be used to refer to the generative and to the evaluative aspects of thinking for purposes of analysis and discussion, but it is important to be clear that these are not really two different kinds of thinking that can be engaged in separately.

“Critical Thinking” and Other Terms Referring to Thinking

Also of interest is the relationship between critical thinking and other terms referring to thinking. Some theorists offer taxonomies of thinking that categorize critical thinking alongside such terms as *problem solving*, *decision making*, and *inquiry* (for example, Swartz and Perkins, 1989). Thus critical thinking is seen as one form of thinking among many. We would claim, however, that terms such as problem solving, decision making, or

inquiry refer to different contexts in which thinking is required, while critical thinking is a normative term that refers to how such thinking is carried out. Problem solving emphasizes the need to deal with a particular problem or problematic situation; decision making involves the making of choices; inquiry refers to an attempt to answer a question or explore an issue. Any of these activities can be carried out in a critical or an uncritical manner. When they are carried out in accordance with the relevant criteria, they would all constitute instances of critical thinking. Thus critical thinking does not describe one type of thinking among others, but is an umbrella term that refers to the quality of thinking, whatever the context or activity.

The term *higher-order thinking* can also usefully be contrasted with critical thinking. Higher-order thinking generally refers to advanced or complex thinking in contrast to simpler, less sophisticated, forms of thinking. Bloom's taxonomy illustrates well the type of hierarchy of kinds of thinking upon which the idea of higher-order thinking is based, with knowledge at the bottom, progressing through comprehension, application, analysis, and synthesis, to evaluation at the top (Bloom, 1956). Other schemes view sensing in the lowest category, with remembering, recognizing, and recalling next, and comparing, classifying, interpreting, and evaluating in the highest category (Judd, 1936). One major difficulty with this type of scheme is its mischaracterization of activities such as analyzing, evaluating, or interpreting as kinds of thinking. As argued above, such terms do not refer to thinking processes at all but rather to particular outcomes that result from the application of certain critical standards, and the nature of what is involved in achieving any one of these will vary with the context. Moreover, the notion of a hierarchy of kinds of thinking is itself problematic. Knowledge, for example, if viewed as something more than the accumulation of isolated and unproblematic pieces of information, might well be seen as the pinnacle of thinking rather than as the base, as might the comprehension of certain highly complex and difficult understandings. We would argue, then, that rather than attempting to categorize thinking into different kinds to be placed on a hierarchy, it is much more fruitful to focus on what is involved in fulfilling the relevant critical criteria, no matter what the task or context – that is, to focus on critical thinking.

Critical Thinking and Education

Critical thinking (and so rationality) is often, and in our view rightly, regarded as a fundamental aim, and overriding ideal, of education. To so regard it is to hold that educational activities ought to be designed and conducted in such a way that the construction and evaluation of reasons (in accordance with relevant criteria) is paramount, throughout the curriculum. As Israel Scheffler puts the point: "Critical thinking is of the first importance in the conception and organization of educational activities" (Scheffler, [1973] 1989, p. 1). "Rationality . . . is a matter of *reasons*, and to take it as a fundamental educational ideal is to make as pervasive as possible the free and critical quest for reasons, in all realms of study" (ibid., p. 62, emphasis in original). So to take it is to regard the fostering of the abilities and dispositions of critical thinking in students as the prime

educational directive, of central importance to the design and implementation of curriculum and educational policy. This is not to say that other aims and ideals might not also be of serious importance, but that none outrank the primary obligation of educational institutions and efforts to foster critical thinking.

Why should the fostering of critical thinking be thought to be so important? Siegel offers four reasons for so thinking (Siegel, 1988, chapter 3). First, and most importantly, striving to foster critical thinking in students is necessary if they are to be treated with *respect as persons*. The moral requirement to treat students with respect as persons requires that we strive to enable them to think for themselves, competently and well, rather than to deny them the fundamental ability to determine for themselves, to the greatest extent possible, the contours of their own minds and lives. Acknowledging them as persons of equal moral worth requires that we treat students as independent centers of consciousness, with needs and interests not less important than our own, who are at least in principle capable of determining for themselves how best to live and who to be. As educators, treating them with respect involves striving to enable them to judge such matters for themselves. Doing so competently requires judging in accordance with the criteria governing critical thinking. Consequently, treating students with respect requires fostering in them the abilities and dispositions of critical thinking.

A second reason for regarding critical thinking as a fundamental educational ideal involves education's generally recognized task of preparing students for adulthood. Such preparation cannot properly be conceived in terms of preparing students for preconceived roles; rather, it must be understood to involve student self-sufficiency and self-direction. In this the place of critical thinking is manifest. A third reason for regarding the fostering of critical thinking as a central aim of education is the role it plays in the rational traditions that have always been at the center of educational activities and efforts – mathematics, science, literature, art, history, and so forth. All these traditions incorporate and rely upon critical thinking; mastering or becoming initiated into the former both requires, and is basic to the fostering and enhancement of, the latter. A fourth reason involves the place of careful analysis, good thinking, and reasoned deliberation in democratic life. To the extent that we value democracy, we must be committed to the fostering of the abilities and dispositions of critical thinking. Democracy can flourish just to the extent that its citizenry is able to reason well regarding political issues and matters of public policy, scrutinize the media, and generally meet the demands of democratic citizenship, many of which require the abilities and dispositions constitutive of critical thinking.

These four reasons can and should be spelled out at greater length, but they are sufficiently powerful, we think, to justify regarding critical thinking as a fundamental educational ideal. As suggested above, efforts to foster critical thinking aim at the promotion of independent thinking, personal autonomy, and reasoned judgement in thought and action; these particular aims are in turn justified in terms of broader conceptions of knowledge, reasons, and persons: for example, that all knowledge is fallible, that it is possible to objectively evaluate the goodness of reasons, and that personal autonomy is an important value (Bailin, 1998, p. 204). These aims, and the broader conceptions in terms of which they are grounded, are philosophically contentious; it is no surprise, then, that

they – and the educational ideal of critical thinking itself – have been challenged. We turn to these challenges next.

Critiques of Critical Thinking

Much recent discussion about critical thinking has taken the form of challenges to prevailing conceptions and their justification. These criticisms, which emanate primarily from postmodern and feminist perspectives, charge that critical thinking favors the values and practices of the dominant groups in society and devalues those of groups traditionally lacking in power (for example, T. Bridges, 1991; Garrison and Phelan, 1989; Martin, 1992; Orr, 1989; Thayer-Bacon, 1992, 1993). These criticisms include: that critical thinking privileges rational, linear thought over intuition; that critical thinking is aggressive and confrontational rather than collegial and collaborative; that critical thinking neglects or downplays emotions; that critical thinking deals in abstraction and devalues lived experience and concrete particularity; that critical thinking is individualistic and privileges personal autonomy over community and relationship; and that critical thinking presupposes the possibility of objectivity and thus does not recognize an individual's situatedness (Bailin, 1995).

These criticisms are, generally, of two sorts. One type of criticism challenges particular aspects of critical thinking theory and practice but leaves intact its foundational underpinnings. Some of the criticisms of this type have provided useful correctives to problems, omissions, or elements that have not been sufficiently emphasized in critical thinking theory and practice. Others, however, are misdirected in failing to recognize aspects that already exist in much contemporary critical thinking theory, or are problematic in suggesting revisions that might undermine important aspects of critical thinking. Consider, for example, the charge that critical thinking neglects or downplays emotion. Contrary to this complaint, many critical thinking theorists explicitly acknowledge a role for emotions in critical thinking, enjoining us, for example, to be sensitive to the feelings of others (Bailin, 1995) and to understand other perspectives (Paul, 1990). Indeed, emotional aspects are central to Siegel's notion of the critical spirit (Siegel, 1988) and to Scheffler's account of critical thinking (Scheffler, 1991). And Ennis has added caring to his list of critical thinking dispositions in response to some feminist critiques of critical thinking (Ennis, 1996, p. 369). What most critical theorists would caution against, however, is a reliance on emotion without critical assessment. What is advocated is an appropriate role for emotion, one which enhances rather than detracts from one's assessing and acting upon reasons. A similar point can be made with respect to the charge that critical thinking is aggressive and confrontational and devalues collegiality and collaboration. Although it may be the case that critical thinking has sometimes been practiced in a confrontational manner, there is nothing in critical thinking theory that requires or even suggests that it must be so practiced or understood. Many theorists in fact acknowledge that critical thinking can be practiced in a collegial, collaborative manner, and argue that such practice may better serve our purposes as critical thinkers.[7] And although autonomy is generally advocated as a value central to critical thinking, this does not preclude an acknowledgement of the role of joint and communal inquiry (Bailin et al., 1999, p. 289).

The claim that critical thinking privileges rational, linear, deductive thought over intuition bears further examination. First, it must be pointed out that the equation of rational thought with linear and deductive reasoning is problematic. Deductive reasoning represents only a narrow subset of rational thinking; the latter also encompasses (at least) inductive, probabilistic, analogical, and abductive ("inference to the best explanation") reasoning. In addition, as pointed out previously, critical thinking does have a generative, imaginative component. It is the case, however, that critical thinking theorists do advocate rational thought (conceived of in this broader way) over intuition as a means of deciding what to believe or do, and the challenge to this position represents a more radical type of critique of critical thinking than the ones discussed to this point. The previously mentioned critiques offer challenges and correctives to the manner in which critical thinking is currently, or has been, conceptualized or practiced but nonetheless accept its role and importance. This second type of criticism challenges the very foundation of critical thinking theory and practice.

According to this type of criticism, critical thinking is only one mode of understanding – that of the dominant groups in society – but it has been privileged as the only legitimate mode of understanding. Such privileging, it is alleged, is biased in excluding the modes of understanding of those groups traditionally lacking in power and status (women and minorities, for example). Critical thinking is seen, then, as one ideology among others. Its principles and criteria are seen as arbitrary, and the promotion of critical thinking is seen as an act of cultural hegemony. Andrea Nye, for example, argues that logic (which includes critical thinking) is an invention of men that structures speech situations that occur between men and thus excludes many voices, while it falsely presents itself as universal (Nye, 1990). This type of criticism goes much deeper than a critique of certain contingent and remediable biases in critical thinking. It puts into question the validity of the entire enterprise and its claims to universality. If accepted, it would necessitate a recognition of the partiality of the enterprise of critical thinking and the recognition of other modes of understanding, intuition for example, as equally valid.

We find this second, more radical type of criticism seriously problematic, however. One problem is that the charge of arbitrariness is based on a misrepresentation of the nature of critical criteria and principles. These principles are not simply the products of group interests but are embedded in traditions of rational inquiry and are closely tied to purposes – for example, predicting and explaining natural phenomena, recovering and understanding the past, developing and appreciating works of art, and so forth – that are not group-specific. Moreover one of the defining characteristics of rational inquiry is that it is self-correcting (Lipman, 1991; Scheffler, [1967] 1982). Thus the criteria themselves can be, and regularly are, modified in the face of criticisms and our purposes as thinkers. And the traditions themselves are dynamic, open-ended, plural ones that contain alternative or competing streams (Bailin, 1992a). Thus critical modes of inquiry provide for the possibility, and actuality, of alterations of the traditions themselves, in the light both of new evidence, arguments, problems, and limitations discovered during the course of inquiry and also in light of criticisms from competing streams within the tradition and insights from other traditions and frameworks. Rational inquiry gives rise to criticism, and criticisms of a tradition inevitably grow out of the traditions that they criticize, appeal to values inherent

in these traditions, and presuppose rationality by appealing to reasons. Indeed, it could not be otherwise, since any attempt to engage in questioning, criticism, and inquiry presupposes rationality and a recognition of the force of reasons. Criticism rests on rationality, including the criticisms of rationality itself, and any proposed alternative would ultimately have to be assessed on the basis of critical thinking principles and criteria (Siegel, 1988, 1997).

Conclusion

We have offered an account of critical thinking that emphasizes its normative character. According to that account, critical thinking involves both the ability to assess the probative strength of reasons and the disposition to do so. We have indicated potential problems with talk of critical thinking skills, and urged that such "skill talk" be understood not as referring to inner entities or processes but rather as indicating that thinking which is critical is "skilled" in that such thinking satisfies relevant criteria. We have discussed the difficult question of generalizability and offered our own somewhat distinct approaches to it. We have urged that critical thinking not be conceived as radically distinct from creative thinking, but rather that there are evaluative, analytic, logical aspects to creating new ideas or products and an imaginative, constructive dimension to their assessment. We have discussed the relationship between critical thinking and other terms referring to thinking, suggesting that placing these terms in hierarchical schemes is less helpful than focusing on the way in which critical thinking, with its emphasis on the meeting of relevant criteria, is applicable to them all. We have argued that critical thinking is rightly regarded as a fundamental educational ideal, and have offered reasons for regarding it as such. Finally, we have addressed several recent critiques of critical thinking, suggesting that while there is considerable merit in some of them, the more radical challenges fail in that they in the end rely on the very critical thinking they aim to challenge.

There is obviously much more to be said about all of this. But we hope that enough has been said to indicate what critical thinking it, what it is not, why it is valuable and why it is educationally basic.

Notes

1 An important epistemological issue is: do believers/actors have to be *aware* of the goodness of their reasons in order for their beliefs/actions to count as rational, or to be (to the relevant extent) justified? For brief explanation of this "internalism/externalism" controversy, see Siegel (1998, p. 33, n. 7).

2 We particularly recommend the discussions of Nicholas Burbules (1995) and Mark Weinstein, which defend views in important respects opposed to ours (and which are critically examined in chapters 7 and 8–9, respectively, of Siegel, 1997); we enthusiastically recommend as well Emily Robertson's (1995, 1999) penetrating discussions of these matters. Broad, very helpful discussions of many of these issues from the perspectives of

the allied fields of informal logic and argumentation theory may be found in Johnson and Blair (1994) and van Eemeren et al. (1996, chapter 6).

3 Virtually all the major theorists of critical thinking, including Bailin, Ennis, Lipman, McPeck, Paul, and Siegel, make dispositions central to their accounts of critical thinking. The latter characterizes them as part of the "critical spirit," which includes attitudes, dispositions, habits of mind, and character traits (Siegel, 1988, pp. 39–42), and offers an account of them in Siegel (1999).

4 One theorist who challenges the inclusion of dispositions in an adequate conception of critical thinking is Connie Missimer (1990). This paper (and subsequent discussion by Missimer) are discussed in Siegel (1993), expanded and reprinted as chapter 4 of Siegel (1997).

5 These and other criticisms of McPeck's case for "specifism," and references to many critical discussions of McPeck's book, are given in Siegel (1988, pp. 18–30). Engaging recent defenses of it include Johnson and Gardner (1999) and Gardner and Johnson (1996).

6 There is of course much more to the generalizability debate than we have indicated here. The papers collected in Norris (1992) provide a fuller picture of the many strands of the debate.

7 For example, one of the habits of mind recommended by Bailin et al. is "respect for others in group inquiry and deliberation (commitment to open, critical discussion in which all persons are given a fair hearing and their feelings as well as their interests are taken into account)" Bailin et al. (1999, p. 295).

Recommendations for Further Reading

Bailin, S., Case, R., Coombs, J. R., and Daniels, L. B. (1999) Conceptualizing critical thinking, *Journal of Curriculum Studies*, 31.3, pp. 285–302.

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Robertson, E. (1999) The value of reason: why not a sardine can opener? in R. Curren (ed.) *Philosophy of Education 1999*, Philosophy of Education Society.

Siegel, H. (1988) *Educating Reason: Rationality, Critical Thinking and Education*, Routledge.