

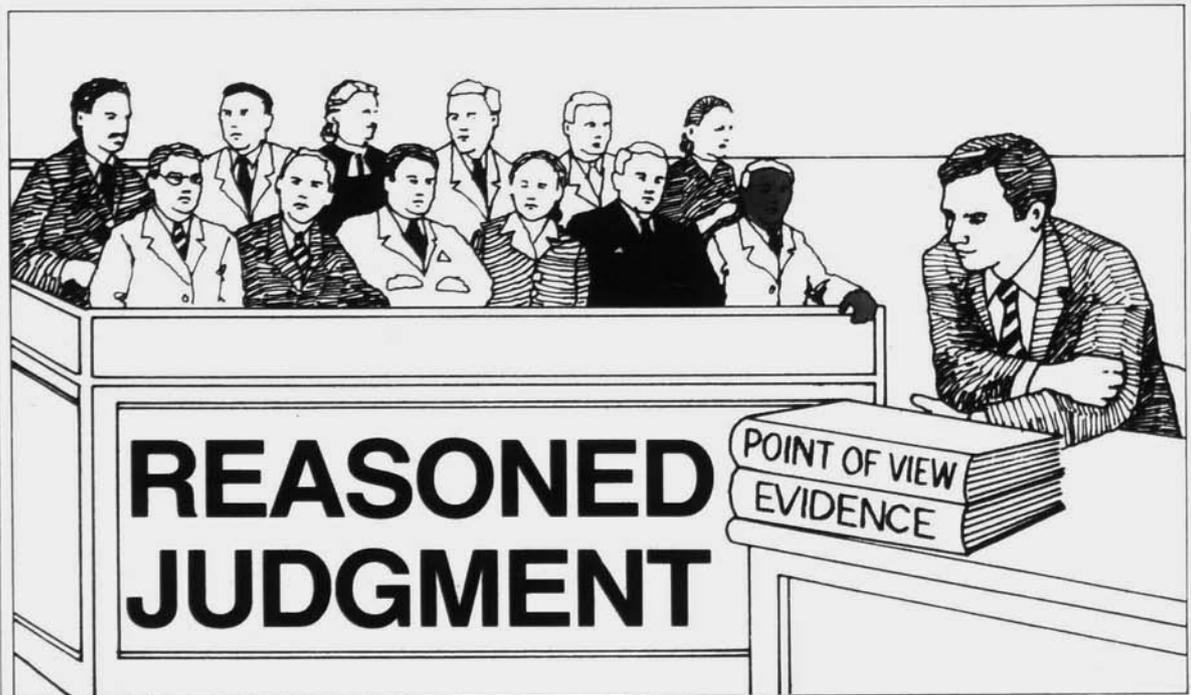
# Critical Thinking:

Fundamental to Education  
for a Free Society

---

RICHARD W. PAUL

*Without the ability to reason dialectically, students are intellectually, emotionally, and morally incomplete.*



The "critical thinking" movement, whose early stirrings can be traced back to and beyond Edward Glaser's *An Experiment in the Development of Critical Thinking* (1941) and his development with Watson of the *Watson-Glaser Critical Thinking Test* (1940), is now, after a long and halting start, building up a head of steam.

California is a bellwether in this regard. Four years ago, the massive 19-campus California State University instituted a graduation requirement in critical thinking intended to achieve:

an understanding of the relationship of language to logic, leading to the ability to analyze, criticize, and advocate ideas, to reason inductively and deductively, and to reach factual or judgmental conclusions based on sound inferences drawn from unambiguous statements of knowledge or belief.

Within two years the even larger community college system established a parallel requirement. And now, two years further down the line, the California State Department of Education is preparing to test all 8th grade pupils in three areas: reading and written expression, math, and social studies. Remarkably, and representing a strikingly new testing emphasis, approximately one-third of the items have been designed to test critical thinking skills. David Gordon, California's Associate Superintendent of Public Instruction, recently said that he considered the state at the very beginning of a series of reforms in this direction, including textbooks, curriculum, staff development, and teacher education.

---

Richard W. Paul is Director, Center for Critical Thinking and Moral Critique, Sonoma State University, Rohnert Park, California.

Everyone with any claim to knowledge of critical thinking skills seems to agree, however, that most school systems and most teachers are not well prepared for this transformation of emphasis.

Predictably, a variety of quick-fix, miracle cures have sprung up. Turning to them is a distinct temptation, especially given the increasing variety of imperatives and mandates under which schools are operating. I advocate both a short- and a long-term strategy, based on a global analysis of where we now stand and of what ultimately we should strive to achieve. Our strategy should reflect a realistic appraisal of (1) the basic cognitive and affective "tendencies" of the human mind in its "normal" uncritical state; (2) the categorically different modes of problem types and reasoning appropriate to them; (3) the social and personal conditions under which cognitive and affective processes develop; (4) the present critical thinking skills of teachers and students; and (5) the fundamental intellectual, affective, and social obstacles to the further development of such skills.

I emphasize the importance of recognizing and highlighting a fundamental difference between two distinct conceptions of critical thinking skills; that is, a conception of these skills in a weak sense and in a strong sense. Conceived of in a *weak sense*, critical thinking skills are understood as a set of discrete micro-logical skills ultimately extrinsic to the character of the person; skills that can be tacked onto other learning. In the *strong sense*, critical thinking skills are understood as a set of integrated macro-logical skills ultimately intrinsic to the character of the person and to insight into one's own cognitive and affective processes. If we opt for the latter, we

will concern ourselves not only with the development of *technical reason*—skills that do not transform one's grasp of one's basic cognitive and affective processes—but also with the development of *emancipatory reason*—skills that generate not only fundamental insight into but also some command of one's own cognitive and affective processes. Also in the strong sense, we emphasize comprehensive critical thinking skills essential to the free, rational, and autonomous mind. In the weak sense, we are content to develop what typically comes down to "vocational" thinking skills, which by themselves have little influence on a person's intellectual, emotional, or moral autonomy.

By aspiring to strong-sense critical thinking skills for long-term goals, and by taking stock of where we now stand, careful consideration of the evidence will eventually convince us that:

1. There are deep-seated tendencies in the human mind to reason in order to maximize getting, and to justify getting, what we often unconsciously want. This typically involves using cognitive and affective processes to maintain self-serving or pleasant illusions, to rule out or unfairly undermine opposing ideas, to link our identity with ideas that are "ours" (such that disagreement is experienced as ego-threatening), and otherwise to distort or "misinterpret" our experience to serve our own advantage.

2. There is a fundamental difference between the kinds of problems one faces in technical domains and those in the logically messy "real world." Solutions to technical problems are typically determined by *one* self-consistent close-textured system of ideas and procedures. In contrast, the problems of everyday life are rarely settled in a rational manner as a result of

“Unlike the case of computer skills or other technical skills, there is a natural disinclination for people to recognize the degree to which they themselves have not developed critical thinking skills.”

opposing points of view, contradictory lines of reasoning, and the realities of power and self-delusion.

3. To this point the schools, to the extent they have addressed problem solving, have focused their efforts on technical problems and technical reason and procedure, and have either illicitly reduced real-world problems to them or have tacitly inculcated into students the prefabricated “apodictic answers” of the dominant social majority or some favored minority.

4. Our capacity to command our cognitive and affective processes is heavily influenced by the character of our early lives, both at home and school. Very special preparation is necessary if we want children to develop into adults who are comfortable with and skilled in weighing, reconciling, and assessing contradictory arguments and points of view through dialogue, discussion, and debate.

5. Teaching strategies need to be revamped across the board—especially in social studies and basic academic competencies—to stress the development of dialectical knowledge and skills, and thus self-formed, self-reasoned conviction.

#### **The Short-Term Strategy**

The best short-term strategy is to facilitate the understanding and the teaching of micro-logical, analytic critical thinking skills within established subject areas. At the base of this is the importance of skill in the elementary critical/analytic vocabulary of the English language: a working knowledge of such mundane terms as *premise*, *reason*, *conclusion*, *inference*, *assumption*, *relevant/irrelevant*, *consistent/contradictory*, *credible/doubtful*, *evidence*, *fact*, *interpretation*, *question-at-issue*, *problem*, and so on. Teachers should be encouraged to take at least one university level

course in critical thinking that provides practice in the basic micro-logical skills associated with these terms. Such a course can teach them how to isolate and distinguish issues, premises, assumptions, conclusions, and inferences, and to master the rudiments of argument assessment.

The nationally normed tests, such as the Watson-Glaser and the Cornell Critical Thinking Tests, should be available to teachers, who should learn how to formulate test questions modeled on them. A full range of critical thinking books and materials, both university level and “curricular,” should also be available to teachers, along with brainstorming sessions on their use. Teachers need to begin to do some critical thinking about critical thinking programs, to gain a grasp of what makes sense to them and of what they can begin immediately to do.

An important caveat should be entered here, however. Unlike the case of computer skills or other technical skills, there is a natural disinclination for people to recognize the degree to which they themselves have not developed critical thinking skills. Educators tend to retreat to simplistic curriculum packages that do not lay an appropriate foundation for higher level (strong-sense) critical thinking skills, or to dismiss the need for any new curriculum materials or learnings at all (“All good teachers naturally teach critical thinking”). Most people, including the most uncritical, take offense at the suggestion that they lack skill in this area. This ego-identification with critical thinking (it is the *others* who need it) is a continual problem in the nurturing of such skills. To the extent that people lack critical thinking skills, they conceptualize those who have them as prejudiced, close-minded, overly academic, negative or nit-picky.

It is well, therefore, to emphasize from the outset that the ability to think critically is a matter of *degree*. No one is without *any* critical skills, and no one has them so fully that there are no areas of his or her life and thought in which uncritical thinking is dominant. Open-mindedness may be the proper, but it is not the "natural," disposition of the human mind.

Additional short-term goals should include the following:

1. Training master teachers in a few of the best programs available; for example, *Philosophy for Children* and *Law in a Free Society*.<sup>1</sup> Both programs were carefully designed by scholars, begin in the early elementary years, and aim at foundational critical thinking skills. Both also provide the kind of staff development that lessens the possibility of superficiality, and focus on much needed dialogue and discussion rather than lecture.

2. Encouraging teachers and curriculum specialists to attend the growing number of critical thinking conferences.

3. Working to develop a schoolwide attitude in which reasoning within unorthodox and conflicting points of view and respectful reasoned disagreement is considered essential and healthy (a very difficult goal to achieve).

4. Encouraging special attention to what Bloom (1981) has called "latent" curricula and "unspoken" values that may undermine the critical spirit (again, very difficult).

5. Establishing a working relationship with at least one university critical thinking instructor (not because he or she will grasp all of the difficulties you face but because it is useful to get the kind of feedback that will help to avoid straying into what seems to be, but is not, critical thinking instruction).

"Whenever we claim to know anything, our confidence is justified to the degree we have carefully attended to possible mistakes."

The ideal is to take those first steps that initiate the teaching of relatively "self-contained" critical thinking skills: testing for inferences that explicitly do or do not follow, for recognition of assumptions and clear-cut contradictions, for initial formulations of reasons to support conclusions, for consideration of evidence rather than reliance on authority, and so forth, and that enhance the development of an environment conducive to strong-sense critical thinking skills. Wherever possible, students should be given every opportunity to advance ideas of their own and to give reasons to support them, as well as opportunities to hear the objections of other students. If this is done carefully in an atmosphere of cooperation and while learning critical analytic terms, students will begin to use critical distinctions when defending their ideas. This vocabulary integration sets in motion a very healthy process that, properly nurtured, can lead to at least primitive emancipatory thinking skills.

### Long-Term Strategy

An effective long-range strategy should have two components: an explication of obstacles to the development of

strong-sense critical thinking skills, and an increasing recognition of the distinctive nature and importance of dialectical issues and of the manner in which they can be brought into the traditional school curriculum.

It is not enough to recognize that all human thought is embedded in human activity and all human activity embedded in human thought. We need to recognize in addition that much of our thinking is subconscious, automated, and irrational. The capacity to explicate the roots of the thinking that is "hidden" from us and to purge it when irrational are crucial. Long-range strategy must have, in other words, an explicative/purgative, as well as a constructive/developmental, dimension.

*Obstacle One: The Denial of the Need*  
Without ignoring the many ways in which they intersect, it is illuminating to recognize the degree to which we live in two very different noetic worlds: a world of technical and technological order and clarity, and a world of personal and social disorder and confusion. We are increasingly adept at solving problems in the first domain and increasingly endangered by our inability to solve problems in the other.

Various explanations have been given for this unhappy state of affairs. One of the most popular identifies a two-fold root cause of the problem: First, a lack of willingness on the part of those who are right, and know they are, to "stand tall" and refuse to be pushed around by those who are wrong (and are being irrational, stubborn, or malevolent); and second, the difficulty of getting the others (our opposition) to see the rationality and fair-mindedness of our views and the irrationality, close-mindedness, or malevolence of theirs.

President Reagan, to take a recent striking example, put it succinctly when he claimed that one country, the USSR, is the "focus of all evil in the world," an "evil empire," which understands nothing but force and power and steel-eyed determination. That a one-dimensional explanation of this sort can still not only catch the public's fancy but seem intelligible to many national leaders, not to mention some "intellectuals," testifies to the primitive state of much of our thinking when it comes to nontechnical, non-technological human problems.

President Reagan's nationalistic expostulations are reminiscent of a tendency to ethnocentrism deep in our own and perhaps in all cultures:

Fellow Americans, we are God's chosen people. Yonder at Bunker Hill and Yorktown His providence was above us. At New Orleans and on ensanguined seas His hand sustained us. Abraham Lincoln was His minister, and His was the altar of Freedom the boys in blue set on a hundred battlefields. His power directed Dewey in the East and delivered the Spanish fleet into our hands on the eve of Liberty's natal day, as he delivered the elder armada into the hands of our English sires two centuries ago. His great purposes are revealed in the progress of the flag, which surpasses the intentions of congresses and cabinets, and leads us like a holier pillar of cloud by day and pillar of fire by night into situations

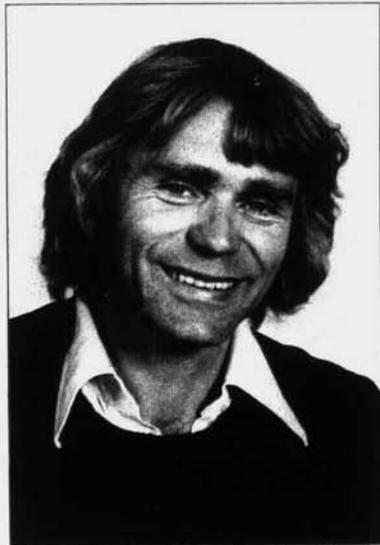
"Collectively reinforced egocentric and sociocentric thought, conjoined with massive technical knowledge and power, are not the foundations for a genuine democracy."

unforeseen by finite wisdom, and duties unexpected by the unprophetic heart of selfishness. The American people cannot use a dishonest medium of exchange; it is ours to set the world its example of right and honor. We cannot fly from our world duties; it is ours to execute the purpose of a fate that has driven us to be greater than our small intention. We cannot retreat from any soil where Providence has unfurled our banner; it is ours to save that soil for liberty and civilization. For liberty and civilization and God's promise fulfilled, the flag must henceforth be the symbol and the sign to all mankind—the flag! (Beveridge, 1898).

These sentiments remind us of the views articulated by children interviewed by Piaget in his study for UNESCO of the causes of war (Campbell, 1976).

*Piaget:* Have you heard of such people as foreigners?

*Michel M. (9 years, 6 months old):* Yes, the French, the Americans, the



*MediaServices, Sonoma State University*

**Richard Paul**

Russians, the English. . . .

*Piaget:* Quite right. Are there differences between all these people?

*Michel:* Oh yes, they don't speak the same language.

*Piaget:* And what else?

*Michel:* I don't know.

*Piaget:* What do you think of the French, for instance? Do you like them or not? Try and tell me as much as possible.

*Michel:* The French are very serious, they don't worry about anything, and it's dirty there.

*Piaget:* And what do you think of the Americans?

*Michel:* They're ever so rich and clever. They've discovered the atom bomb.

*Piaget:* And what do you think of the Russians?

*Michel:* They're bad, they're always wanting to make war.

*Piaget:* And what's your opinion of the English?

*Michel:* I don't know . . . they're nice. . . .

*Piaget:* Now look, how did you come to know all you've told me?

*Michel:* I don't know . . . I've heard it . . . that's what people say.

*Piaget:* If you didn't have nationality and you were given a free choice of nationality, which would you choose?

*Maurice (8 years, 3 months old):* Swiss nationality.

*Piaget:* Why?

*Maurice:* Because I was born in Switzerland.

*Piaget:* Now look, do you think the French and the Swiss are equally nice, or the one nicer or less nice than the other?

*Maurice:* The Swiss are nicer.

*Piaget:* Why?

*Maurice:* The French are always nasty.

*Piaget:* Who is more intelligent, the

Swiss or the French, or do you think they're just the same?

*Maurice:* The Swiss are more intelligent.

*Piaget:* Why?

*Maurice:* Because they learn French quickly.

*Piaget:* If I asked a French boy to choose any nationality he liked, what country do you think he'd choose?

*Maurice:* He'd choose France.

*Piaget:* Why?

*Maurice:* Because he was born in France.

*Piaget:* And what would he say about who's the nicer? Would he think the Swiss and the French equally nice or one better than the other?

*Maurice:* He'd say the French are nicer.

*Piaget:* Why?

*Maurice:* Because he was born in France.

*Piaget:* And who would he think more intelligent?

*Maurice:* The French.

*Piaget:* Why?

*Maurice:* He's say that the French want to learn quicker than the Swiss.

*Piaget:* Now you and the French boy don't really give the same answer. Who do you think answered best?

*Maurice:* I did.

*Piaget:* Why?

*Maurice:* Because Switzerland is always better.

*Piaget:* If you were born without any nationality and you were given a free choice, what nationality would you choose?

*Marina (7 years, 9 months old):* Italian.

*Piaget:* Why?

*Marina:* Because it's my country. I like it better than Argentina where my father works, because Argentina isn't my country.

*Piaget:* Are the Italians just the same,

or more, or less intelligent than the Argentinians? What do you think?

*Marina:* The Italians are more intelligent.

*Piaget:* Why?

*Marina:* I can see the people I live with, they're Italians.

*Piaget:* If I were to give a child from Argentina a free choice of nationality, what do you think he would choose?

*Marina:* He'd want to stay an Argentinian.

*Piaget:* Why?

*Marina:* Because that's his country.

*Piaget:* And if I were to ask him who is more intelligent, the Argentinians or the Italians, what do you think he would answer?

*Marina:* He'd say Argentinians.

*Piaget:* Why?

*Marina:* Because there wasn't any war.

*Piaget:* Good. Now who was really right in the choice he made and what he said, the Argentinian child, you or both?

*Marina:* I was right.

*Piaget:* Why?

*Marina:* Because I chose Italy.

For both the President of the United States and these children, the world is a nationalistically simple one in which the forces of good (embodied in ourselves) stand opposed by the forces of evil (those who oppose us). The need for emancipatory reason is a need of "the other," the stranger, the foreigner, the opposition.

From this vantage point the task of the schools is that of passing on our way of thinking to children, exposing them to all the reasons why we are right and superior and unquestionable and, at the same time, developing technical abilities and technological power to defend (enforce) our views. The school's task, in short, is to inculcate cultural patriotism and facilitate vocational training.

The distinguished American anthropologist, William Graham Sumner (1959), conservative though he was, sharply challenged this way of thinking, though he had no illusions about the difficulty of transforming the schools into vehicles for human and social emancipation:

School education, unless it is regulated by the best knowledge and good sense, will produce men and women who are all of one pattern, as if turned in a lathe ... The examination papers show the pet ideas of the examiners ... An orthodoxy is produced in regard to all the great doctrines of life ... (There is a desire) that children shall be taught just that one thing which is "right" in the view and interest of those in control, and nothing else.

Sumner even had a conception of what a society would be like if critical thinking—in what I am calling the strong sense—were a fundamental social value:

The critical habit of thought, if usual in a society, will pervade all its mores, because it is a way of taking up the problems of life. People educated in it cannot be stampeded by stump orators and are never deceived by dithyrambic oratory. They are slow to believe. They can hold things as possible or probable in all degrees, without certainty and without pain. They can wait for evidence and weigh evidence, uninfluenced by the emphasis and confidence with which assertions are made on one side or the other. They can resist appeals to their dearest prejudices and all kinds of cajolery. Education in the critical faculty is the only education of which it can be truly said that it makes good citizens.

Sumner's concept of a "developed critical faculty" is one that clearly goes much beyond that envisioned by those who link it to a shopping list of atomic academic skills. It is a pervasive organizing core of mental habits, and a shaping force in the character of a person. It is fair-mindedness brought into the heart of everyday life, into all of its manifold dimensions. As a social commitment, it transforms the very

nature of how life is lived and human transactions mediated.

*Obstacle Two: The Failure of Cognitive Psychology and Problem Solving Theorists To Call Attention To The Logic of Dialectical Issues*

One of the major weaknesses in cognitive psychology and in problem solving theory today is the failure to highlight the striking difference between the logic of technical problems and those of a dialectical nature. Until one recognizes this difference, there is a tendency to reduce all problems to technical ones and so to render all knowledge and all problems procedural, if not algorithmic. Susceptibility to operationalism is both the virtue and the limitation of technical crafts and disciplines. Progress is made in technical domains by severely narrowing what qualifies as appropriate subject matter and appropriate treatment of it. All concepts developed are specifically designed to serve restricted disciplinary purposes. Additionally, scope is typically further limited to what is quantifiable. For these reasons many of the concepts and attendant skills of application are relatively subject-specific.

Consider the wide variety of technical disciplines that can be brought to bear on the study of humans: physics, chemistry, neurology, physiology, biology, medicine, psychology, economics, sociology, anthropology, history, and philosophy. Put another way, humans are physical, chemical, neurological, biological, psychological, economic, sociological, historical, and philosophical beings, but they are all of these at once. Each person is *one* being, not many. To the extent that a problem about humans is rendered *technical* it is reduced to a relatively narrow system of exclusionary ideas; technical precision and manageability

are achieved by excluding a variety of other technical and nontechnical features. Specialized disciplines develop by generating ever more specialized subdisciplines, abstracting further and further from the "wholeness" of things.

This is made more evident when we reflect upon those disciplines whose study of humankind does not appear to admit, beyond a range of foundational premises, to discipline-wide unanimity: history, psychology, sociology, anthropology, economics, and philosophy. In each of these social "sciences" and humanities, there are a variety of alternative systems or competing viewpoints. Generate a question within them, and you typically generate a field of possible conflicting lines of reasoning and answers. Raise questions about their application to everyday life problems, and the debate often intensifies. The issues are properly understood as dialectical, as calling for dialogical reasoning, for thinking critically and reciprocally within opposing points of view. This ability to move up and back between contradictory lines of reasoning, using each to critically cross-examine the other, is not characteristic of the technical mind. Technical knowledge is typically developed by restriction to one frame of reference, to one standpoint. Knowledge arrived at dialectically, in contrast, is like the verdict, with supporting reasoning, of a jury. There is no fail-safe, technical path to it. There are at least two points of view to entertain. It is not, as problem-solving theorists tend to characterize all problems, a movement from an initial state through a series of transformations (or operations) to a final (answering) state.

Despite the need for nontechnical, dialectical, integrative thinking, most

“Part of the dues we must pay to justify rational confidence is empathy into the strongest case that can be made against our conclusion.”

of the work in cognitive psychology and problem-solving theory seems to be premised on the notion that all problem solving can be understood on the model of processes appropriate to technical disciplines. Since each technical domain generates a dominant logical system, which in turn creates criteria and procedures for cognitive moves within them, there is a tendency to try to reduce problem solving to a technical or scientific model. This was true from the earliest beginnings of problem solving theory.

For example, Dewey (1933, 1938) thought that one could approach all problems through the following ordered scientific steps: (1) identify the problem, (2) establish facts, (3) formulate hypotheses, (4) test hypotheses, and (5) evaluate results. Polya (1957) formulated a similar general procedure.

Barry Beyer (1984) identifies insufficient proceduralization as a major problem in instruction in thinking skills. He advises teachers to provide “... step-by-step instructions on how to use specific thinking skills,” indeed to spell out “... exactly how to execute a skill.” He demands that “the crucial part of teaching a skill is discussing its operational procedures.” There is no apparent recognition on his part that the largest and most important form of human thinking—dialectical thinking—cannot, by its very nature, be reduced to an operational procedure. When we think dialectically we are guided by *principles*, not *procedures*, and the application of the principles is often subject to discussion or debate.

The most vexing and significant real life problems are logically messy. They span multiple categories and disciplines. They are typically not *in* any one of them. The general attitude of mind, for example, that enables one

with apparent peace and tranquility to confuse egocentric dogmatism with genuine conviction, to accept vague avowals as true beliefs, to take sentimental credulity for moral insight, to harmonize technical truths with pleasant delusions and superstitions, to wander in and out of a vast panoply of self-serving reifications, to use confusion to one's advantage, to perform social roles that one does not know one is performing—is not a problem whose solution lies in a discipline, or in a procedure, or in finding the connection between the data and the unknown, or in considering an auxiliary problem or in using special operators, or in performing a cost-benefit analysis, or in learning mnemonic techniques or memory codes or study systems or protocol analysis.

Once into the ebb and flow of mundane life, into its messy criss-crossing of categories, values, and points of view, its inevitable blending of the intellectual, the affective, and the moral, its embodying of irrationality in social practices and beliefs, there is little room for the neat and abstract procedures of technical reason. What is called for is dialogic, point-counterpoint, argument for and argument against, scrutiny of individual event against the background of this or that global “totalizing” of it into one's life. What is called for is liberating emancipatory reason, the ability to reason across, between, and beyond the neatly marshalled data of any given technical domain. Because it cannot presuppose or restrict itself to any one system or technical language or procedure, it must be dialectical. That is, it must move back and forth between opposing points of view. It must consider how this or that situation might be handled if we looked at it this way, or how if we looked at it that way, of what

follows from this construal and what from that, of what objection can be raised to this and what objection to that. It is the logic that is mocked in the typically closed-minded exchanges of mundane human arguments about the personal and social affairs of life. It is the logic that is concept-generating as well as concept-using (since our point of view is shaped as we use it in a way parallel to case law).

Now, precisely because it is not procedural, not susceptible to a decision-procedure or a set of technical maneuvers, there is the temptation to retreat either to apodictic self-righteousness (let us pass on to our children our heritage, our wisdom, so they like us can recognize the folly of those who oppose us) or to vacuous or self-contradictory relativism (we cannot teach dialectical thinking skills for they are in the realm of opinion or faith). Both choices fail to give due recognition, or any recognition at all, to the proper role of dialectical reason, which, when used as a means of penetrating and assessing the logic of our mundane lives, alone creates the possibility of becoming intellectually, emotionally, and morally autonomous persons.

*Obstacle Three: Childhood Ego-Identification With Adult Beliefs: A Foundation For Closed-Mindedness*

If we do not control the fundamental logical structures—the assumptions, values, and beliefs—that shape our own thought, feeling responses, and moral judgments, then in a significant sense we are not free. Close scrutiny of the process by which most children come to imbibe those structures and of the evidence that can be adduced to demonstrate that most adults are both oblivious to them and typically unable to resist them mandates the recogni-

tion that we have not yet learned how to make fundamental intellectual, emotional, and moral emancipation a probable outcome of parenting or schooling. The ultimate court of appeal of a free and open mind is, and must be, the principles of comprehensive reason and evidence, not external authority, ego-identification, or technical expertise, the willingness to listen to and empathize with all contending perspectives on an issue without presupposing any connection between the truth and any preselected line of reasoning. The foundation for this capacity, if it is to flourish, must be laid in the early years of life. It is determined by what behavior is rewarded and penalized, by the process that is used to shape children's identities. It depends on whether and to what extent children are persuaded that their goodness as human beings depends on believing what those in authority believe. When love and affection are contingent on specific belief states, those belief states become an integral part of children's identities. They become egocentric extensions of children, who are thus denied opportunities to separate their own beings from the belief structures that adults are, in effect, imposing. Children become literally dependent, intellectually and emotionally, on them and are unable later, without trauma, to subject them to serious critical scrutiny. In this way, children are condemned to closed-mindedness.

Our present process of raising and teaching children is having precisely this unhappy effect. Children come to adulthood today as intellectual, emotional, and moral cripples. They are not whole or free persons in the sense delineated in this article, and they have no conception that they are not. Like all persons whose belief states are

ego-identifications, they conceive of those who disagree with them—independently of how rationally the case is put against the favored point of view—as *biased*. They may have learned how to affect an adult veneer, how to put on socially accepted masks, at root, however, infantile egocentric identifications and commitments rule their minds. They do not know how to conduct a serious discussion of their own most fundamental beliefs. Indeed, they do not know in most cases what those beliefs are. They are unable to empathize with the reasoning of those who seriously disagree with them. If adept at conceptual moves at all, their adeptness is in dodges such as transforming the reasoning of those who seriously disagree with them into caricatures. They know, like politicians, how to retreat into vagueness to protect their challenged beliefs.

This need not be the case. Children can be raised to value the authority of their own reasoning capacities. They can be taught comprehensive principles of rational thought. They can learn to consider it natural that people differ in their beliefs and points of view. And they can learn to grasp this not as a quaint peculiarity of people but as a tool for learning. They can learn how to learn from others, even from their objections, contrary perceptions, and differing ways of thinking.

But how is this to be done? How are these obstacles to be overcome? How are we to teach dialectical reasoning and pave the way for human emancipation?

**Teaching Basic Academic Competencies As Incipient Higher Order Thinking Skills**

Let's return for a moment to the mandate for instruction in critical thinking

formulated by the California State University system and focus on a central feature; namely, that strategies "be designed to achieve an understanding of the relationship of language to logic leading to the ability to analyze, criticize, and advocate ideas." The important assumption here is that unless one achieves an understanding of the relationship of language to logic, one will not develop the ability to analyze, criticize, and advocate ideas. It is essential to recognize that there are differences between the structure and purposes of technical languages, the nature and use of concepts within them, and those of a natural language like English, German, or French. The differences are parallel to those between technical and dialectical issues, and the divergent modes of reasoning they require. Teachers should realize when, on the one hand, they are in essence teaching a technical language, and so presupposing *one* standpoint and a specialized technically defined hierarchy of problems and when, on the other, they are in a domain where multiple standpoints are possible, and so where some key concepts are being used in a nontechnical way, and where opposing lines of thought need to be considered. Whenever we think, we conceptualize and make inferences from our conceptualization, based upon assumptions. In technical domains like math, physics, and chemistry, however, the concepts and assumptions are *given*. They are not in the standard case to be challenged by an alternative point of view. The logic, on the one hand, and the technical language, on the other, are virtually opposite sides of the same coin. But the affairs of everyday life, including the inner life of the mind, are fundamentally conducted within the logic of a natural language, and the key concepts are inevitably used nontechnical-

ly and (when properly handled) dialectically.

How we read, write, speak, listen, and reason varies, or should vary, in accordance with these fundamental distinctions. Do I read, write, speak, listen, and reason so as to throw myself totally into one well-defined point of view and make its rules, regulations, and operations the controlling variables in my thinking? Or do I read, write, speak, listen, and reason so as to entertain comparisons and contrasts between ideas in competition from different competing perspectives? Do I reason monologically or dialogically?

Most of our students have virtually no experience in this second and crucially important mode of reading, writing, speaking, listening, and reasoning, even though many of their everyday experiences presuppose such abilities. In their everyday lives they often talk and listen to people who are looking at events and situations in a variety of ways. Their parents and their peers often see situations differently from them. They are often frustrated by their inability to come to terms with these conflicts and dilemmas.

If we understand speaking and writing as constructing a point of view, developing ideas in some logical relation to each other, and listening and reading, as entering into someone else's point of view, into *his* or *her* organization of ideas, then we are in a better position to grasp how the teaching of basic academic competencies ought to be understood as incipient higher order thinking skills.

Furthermore, we will recognize that when we are listening to or reading ideas that conflict with our ego-identified belief states, we have a different problem to combat than when the difficulty is not a matter of resistance but of technical complexity. Learning how to listen to and read (without

distortion) lines of reasoning whose possible truth we egocentrically wish to rule out is an essential experience and should constitute a significant element at all ages and at all levels of educational development. As in all areas of intellectual and emotional competency, these reading and listening capacities must be built up progressively and over a long time. They are acquired by degrees. They are always amenable to further development.

### **Dialectical Knowledge Is Not Opinion But Macro-Logical Synthesis**

It may be thought that dialectical reasoning (the reasoning called for whenever we are confronted by issues that cross categories or disciplinary lines, by issues for which different possible points of view can plausibly be developed) limits one by definition to *opinions*. This would be a mistake. To say, as a jury must ultimately, that a given defendant is innocent or guilty is not to imply that we seek their opinion as such. We are seeking their *reasoned judgment*, and we expect them to use the best comprehensive canons of reasoning and evidence to get it. We expect them to enter empathically into the arguments of both prosecution and defense, and we want the strongest possible case to be made on both sides. A juror who fulfills these standards and in the end concludes that the accused is guilty or innocent may properly be said to *know* what the verdict enunciates. He or she may know it as well as he or she knows this or that technical truth. The knowledge is conditional, of course, but so too is technical knowledge.

A scientific experiment, for example, produces scientific knowledge to the extent that (1) its conditions were carefully and appropriately controlled,

(2) its results were accurately recorded, and (3) accurately interpreted. Put another way, most of the important knowledge we have is the result of integrative acts of the mind; and inevitably the more we integrate, the more we must scrutinize what is left out, what is highlighted, and how the whole is being interpreted. The process is always subject to error. There are mistakes possible in all processes that lead to knowledge. Whenever we claim to know anything, our confidence is justified to the degree we have carefully attended to possible mistakes.

Synthesis across or beyond technical categories can be well or poorly justified. When outside the purely technical, part of the dues we must pay to justify rational confidence is empathy into the strongest case that can be made against our conclusion. These, unfortunately, are dues rarely paid. When they are, a person is not expressing a mere opinion, but rendering a rational verdict.

Finally, it should be emphasized that dialectically achieved synthesis is based on comprehensive rational principles, not on specialized procedures and concepts. It is *principled*, not procedural, thought. Like the law, it is based on the capacity of the mind to marshal cases and examples that illustrate principles; unlike the law, it does not require any technical concepts or procedures to do this. It is based on our capacity to achieve command of a natural language and our own minds and to use both as resources to make rational assessments of experience and human life, to create a standpoint in life that is neither egocentric nor ethnocentric.

### A Final Plea

When, as the result of a trial, the jury comes to a verdict of guilty or innocent; when, as a result of political debate, a citizen decides to vote for one of the candidates; when, as a result of reading the case for alternative political systems, one concludes that one is superior to the others; when, as a result of hearing various sides of a family argument, one becomes persuaded that one way of putting things is more justified and accurate; when, as a result of reading many reports on the need for educational reform, one is prepared to argue for one of them; when, as a result of entertaining various representations of national security and the building of

“Open-mindedness may be the proper, but it is not the ‘natural,’ disposition of the human mind.”

more nuclear weapons, one reasons to a position on the issue; when, after reading and thinking about various approaches to the raising of children, one opts for one; when, after “knowing” a person for a number of years and exploring various interpretations of his or her character, one decides that he or she would make a good marriage partner—*one is reasoning dialectically*. Dialectical thought is the master-principle of all rational experience and human emancipation. It cultivates the mind and orients the person as technical training cannot. It meets the need of persons to bring harmony and order into their lives; to work out an amalgamation of ideas from various dimensions of experience; to achieve, in short, intellectual, emotional, and moral integrity. The proper doing of it is our ultimate defense against closed-mindedness.

Collectively reinforced egocentric and sociocentric thought, conjoined with massive technical knowledge and power, are not the foundations for a genuine democracy. The basic insight that was formulated over a hundred years ago by John Stuart Mill (1858) is as true today, and as ignored, as it was when he first wrote it:

In the case of any person whose judgment is really deserving of confidence, how has it become so? Because he has kept his mind open to criticism of his opinions and conduct. Because it has been his practice to listen to all that could be said against him; to profit by as much of it as was just, and expound to himself, and upon occasion to others, the fallacy of what was fallacious. Because he has felt, that the only way in which a human being can make some approach to knowing the whole of a subject, is by hearing what can be said about it by persons of every variety of opinion, and studying all modes in which it can be looked at by every character of mind. No wise man ever acquired wisdom in any mode but this, nor is it in the nature of human intellect to become wise in any other manner.

If the schools do not rise to meet this social need, what social institution will? If this is not the fundamental task and ultimate justification for public education, what is? □

<sup>1</sup>See p. 53 for information about *Philosophy For Children: Law In A Free Society* was developed by the Center for Civic Education in cooperation with the State Bar of California and UCLA.

### References

- Beveridge, Albert J., U.S. Senator. “The March of the Flag,” 1898.
- Beyer, Barry. “Improving Thinking Skills—Defining the Problem.” *Phi Delta Kappan* (March 1984).
- Bloom, Benjamin. *All Our Children Learning*. New York: McGraw-Hill, 1981, pp. 22–24.
- Campbell, Sarah, ed. *Piaget Sampler: An Introduction to Jean Piaget Through His Own Words*. New York: John Wiley & Sons, 1976.
- Dewey, John. *cf. How We Think*. Boston: D. C. Heath & Co., 1933.
- Dewey, John. *Logic: The Theory of Inquiry*. New York: Holt, Rinehart, & Winston, 1938, Chapters VI and XXIV.
- Giere, Ronald. *Understanding Scientific Reasoning*. New York: Holt, Rinehart & Winston, 1978.
- Hayes, John R. *The Complete Problem Solver*. Philadelphia: The Franklin Institute Press, 1981.
- Jammer, M. *Concepts of Space: The History of Theories of Space in Physics*. Cambridge: Harvard University Press, 1957, p. xi.
- Milgram, Stanley. *Obedience to Authority*. New York: Harper & Row, 1969.
- Mill, John Stuart. *On Liberty*. Edited by Albury Castell. Illinois: AHM Publishing Co., 1947, p. 20.
- Polya, Gorgy. *How To Solve It*. New York: Doubleday Anchor, 1957.
- Sumner, William G. *Folkways and Mores*. Edited by Edward Sagarin. New York: Schocken Books, 1959.

Copyright © 1984 by the Association for Supervision and Curriculum Development. All rights reserved.