# Richard Paul's Contributions to the Field of Critical Thinking Studies and to the Establishment of First Principles in Critical Thinking

**by Linda Elder**

**Abstract**

Beginning in his PhD program, and over a period of years in the 1960s, Richard Paul thoughtfully examined and deliberately critiqued existing theories of logic and reasoning. This laid the foundation for what was to become a long and splendid career of scholarship, culminating in the reconstruction and enrichment of the theory of logic, of reasoning, and of critical reasoning. Paul took what was a very narrow conception of reasoning (still used widely among philosophers today), and broadened it to more accurately represent what in fact happens in human thinking when people reason. He captured the idea of universal intellectual standards by exploring standards typically used by skilled reasoners, and then assembling these standards into a constellation of ideas easily understandable by scholars attempting to reason at the highest levels within their fields, as well as by everyday persons. Recognizing the importance of placing ethics at the heart of a substantive conception of critical thinking, Paul cultivated and extensively developed the theory of intellectual virtues; early on Paul distinguished between what he termed strong sense (or ethical) critical thinking and weak sense (or unethical) critical thinking, and staunchly advocated for fostering critical thinking in the strong sense -- in education and throughout society. Paul realized that, without intervention in egocentric and sociocentric tendencies, the mind was likely to miss pathologies in thinking. He revolutionized our conceptions of reasoning, of critical reasoning and of logic, and called into question both historical and contemporary conceptions of philosophy itself. Paul made it clear that neither metaphysics, nor formal logic, nor mathematical reasoning, nor informal logic, nor argumentation, nor any other individual subject could ever adequately guide the human mind through the myriad complexities it faces in dealing with the difficult problems of real life. Following the tradition of Socrates, Paul continually emphasized the importance of developing deep conceptual understandings based in foundational ideas and principles of analysis and critique and tested through the real living of one's life. Paul's work laid the groundwork for what may be termed first principles in critical thinking and for a legitimate field of critical thinking studies, a field which has yet to emerge due to a number of complex academic, social, and political barriers.

**Keywords:** critical thinking, Richard Paul, critical thinking studies, Philosophy, critical societies, egocentricity, sociocentricity

## I. Introduction

Richard Paul died in the fall of 2015. It is safe to say that during his life Paul contributed more to the development of the explicit concept and theory of critical thinking than any person living or dead. This article, a tribute to the life and work of Richard Paul, outlines only briefly the rich philosophy of critical thinking Paul developed over many years of thinking about reasoning, most especially *critical reasoning*. It was my tremendous fortune to have the rare chance to work with Richard Paul very closely, and indeed intimately, over more than 20 years. Throughout this time, almost all of our publications were written together. Therefore, writing this piece has been particularly

difficult, since I know he will never have the chance to read it, critique it (with great skill and vigor), and illuminate areas for improvement, which was always his way. Yet, though this piece was difficult for me to get through personally, and though the ideas within it may be only succinctly developed in the short space allowed, I am deeply honored to contribute my thoughts to this important collection of articles recognizing the erudition and scholarship of such a distinguished thinker as Richard Paul. In this article I will focus on the following:

1. Richard Paul's conception of critical thinking, which developed over half a century of research and scholarship in critical thinking – a conception that chiefly unraveled reasoning itself, revolutionizing our most basic theory of both reasoning and *critical* reasoning, and systematizing the use of critical thinking across academic and professional fields of study.

2. First Principles in Critical Thinking developed and established by Richard Paul.

3. A few of Paul's significant contributions to critical thinking that are less understood and hence less appreciated than those aspects of the theory considered primary in his work.

4. The importance of establishing a *bona fide* field of Critical Thinking Studies to remove critical thinking from the control of the field of philosophy and other academic and professional fields that have laid claim to it (or will in the future attempt to lay claim to it) and the importance of the field to the development of the conceptual underpinnings of critical thinking, as well as to its theoretical development and contextualization.

5. Some major barriers to the development of a field of Critical Thinking Studies.

6. Intrinsic problems in systematizing the use of Richard Paul's approach to critical thinking within and among academic and professional subjects, as well as across human societies.

7. Where Richard Paul may have been wrong, possibly by overestimating the degree to which people are ultimately capable of cultivating critical societies.

## II. How Richard Paul Revolutionized Our Understanding of Reasoning, Critical Reasoning, and Logic – Some Historical Notes

To begin with some brief historical perspective on Richard Paul's thinking, it is interesting to note that his most significant personal notes and recorded thoughts on reasoning and logic date back to the mid 1960s, culminating in his two dissertations, the second of which was accepted as his final dissertation for the PhD in philosophy. In this dissertation, published in 1968, Paul begins the explicit critique of logic and reasoning that was to remain at the center of his life's work. In this doctoral dissertation, *Logic as Theory of Validation: an Essay in Philosophical Logic*, Paul critiques traditional approaches to logic and argues for an approach to reasoning based in natural languages. He begins to address the following questions among others (Paul, 1968):

- To what extent is it the task of the logician to examine "the logic of language" as people use language in everyday life?

- To what extent should the logician be a linguistic analyst?

- To what extent is the philosopher's

conception of "logic" in keeping with ordinary uses of the term (by ordinary people living their lives)?

- How does it make sense to best conceptualize the analysis of reasoning?
- How does it make sense to best conceptualize the assessment of reasoning?

In this dissertation, Paul lays the groundwork for what will come to be known more than two decades later as Paul's *elements of reasoning* and *universal intellectual standards*. In this early work, Paul critiques given conceptions of logic used and advanced by traditional philosophers, pointing up assumed philosophic views of logic as woefully inadequate, and hence not in keeping with natural uses of language by people in every day life. Paul's even earlier unpublished dissertation attempts to establish the importance of developing a systematic approach for dealing with the many types of questions humans must address and work through in human life. In this dissertation, Paul begins to detail and pursue a systematic method for unpacking, or deconstructing, the logic of questions. Interestingly, according to Paul, this dissertation was not approved by Paul's dissertation committee, as it was considered by the committee to be "too original." (This information was given to me in conversation with Paul. Paul's unpublished dissertation is in the library of the Foundation for Critical Thinking).

In his 1968 published dissertation, Paul is concerned to understand, analyze and evaluate traditional views of reasoning and logic, for a richer and more useful conception of both. Paul defends the following claims, among others:

1. "that the matter/form distinction will not do as a means of accounting for the subject matter of logic" (p. iv).
2. "that the concept of validation-conditions for assertions and settlement-conditions for questions *will do* as a means of accounting for the subject matter of logic" (p. iv).
3. "that if logic is concerned to develop tools for the evaluation of reasoning and if reasoning consists in the attempt to support, justify, substantiate, or validate a claim by advancing evidence which bears upon that claim, then a) the truth/validity distinction and b) the deductive/inductive reasoning distinctions are misleading and oversimplified dichotomies which stand in the way, rather than facilitate, the development of tools for the valuation of reason" (p. v).
4. "that the task of the logician (in so far as logic is concerned to develop tools for the analysis and evaluation of reasoning) is that of explicating the area of 'the logic of language' which has been called 'the logic of questions and assertions.'… [that] there is an intimate relationship between meaning, validation, and proof, and … the intersection of these concepts comes in the assertion-making function of language" (p. vi).

In this early theoretical piece, Paul argues that it is impossible to separate the tasks of verifying precisely what a reasoner is claiming from that of determining what is relevant to substantiating that claim. Hence, one cannot determine whether evidence advanced in support of a claim is relevant and complete until one is clear as to what is relevant to the claim itself, in other words, until one "is clear as to the validation–conditions of the claim at issue (p. vi)."

Though in his later, more advanced work, Paul rarely referred to validation– conditions for assertions and settlement– conditions for questions (as organizers for reasoning), we can see very clearly in this dissertation foundational conceptions he was clarifying in his own thinking, which enabled him, as his thinking developed, to move forward to a more basic and more useful conception of valid reasoning and to a concept of logic more in keeping with both educated and everyday usage.

A rich concept of logic continued to play a central role in Paul's thinking to the end of his life, and was the focus of his early article entitled "Background Logic, Critical Thinking, and Irrational Language Games" (1985). In this article, Paul details reasoning in such a way as to show that a simplistic, formulaic approach to reasoning, and the cultivation of reasoning, will not suffice. He argues that, when philosophers moved away from a Socratic orientation and perspective, instead choosing to reduce reasoning to formulas and simple procedures, a significantly wrong turn was taken in the history of philosophy and the history of ideas, resulting in long-term negative implications for the central ways in which reasoning is understood.

In this seminal article on the concept of background logic, Paul argues that reasoning entails many complexities which must be taken into account if one is to understand reasoning -- for instance, reasoning entails multiple logics, some of which may be in conflict and many of which lie at the unconscious level of our thought. To understand reasoning, both our own and that of others, we must become skilled at analyzing the depths of human thought. We must have a rich understanding of the meanings that lie beneath the surface of our thought, especially the meanings we would rather keep concealed. We must be able to open up and examine the logics functioning and interacting unconsciously in the mind -- to see how they are influencing our thought, to determine where correction is needed, and to locate hidden pathologies in thought.

In his critique of traditional philosophical approaches to reasoning, in the dissertation, and in later articles and publications Paul illuminated the conflicting nature of these approaches, as well as the limitations and often glaring inconsistencies and incompatibilities within and among them. Over time, Paul developed a clearer and more distinct sense of the importance of replacing fragmented, inconsistent, and conflicting philosophical approaches to reasoning with an integrated, systematic approach applicable across human reasoning.

As we see revealed in his published 1968 dissertation, Paul believed the primary task of the logician to be the development of ideas for analyzing and assessing reasoning in every discipline and domain of human thought -- tools to be used in reasoning through life's many complex problems and issues. He emphasized the importance of the "logic of language" to human reasoning (incorporating Wittgenstein's view on language as fundamentally connected with *usage* in everyday life, rather than relying on esoteric theories of meaning). He set forth the notion that every subject and discipline entails a fundamental logic that can and should be explicitly formulated (and for which an adequate theory of reasoning must provide the foundation).

Scholars of Richard Paul's thinking should see from this brief historical outline that Paul's focus on the importance of explicating intellectual tools for analyzing and assessing reasoning in his 1968 dissertation, and his emphasis on understanding logic and its proper role in human thought, lay the groundwork for what would become his life's work.

## III. Paul's Conception of Critical Thinking and its Connection with Other Core Definitions of Critical Thinking

Throughout the 1970s, 80s, 90s and beyond, Richard Paul's conception of critical thinking continued to develop and deepen. He applied critical thinking concepts in his own classroom as a university professor over more than 30 years and in his extensive work in teaching instructors at all levels how to foster critical thinking in their own classrooms.

Throughout his research and scholarship in critical thinking, expanding over half a century, Paul consistently argued that no individual definition could possibly capture all the important and essential ingredients of a rich conception of critical thinking (in the same way that no single definition can capture a robust conception of science, or psychology, or anthropology, or indeed any complex field of study). Paul believed that the concept of critical thinking can and should be articulated in many overlapping ways, both fundamental and complex. For Paul, the most basic insight into critical thinking lies in understanding that because humans cannot be trusted to reason clearly, logically, reasonably, or deeply, we need explicit conceptual tools for intervening in our thinking, for assessing it, and where necessary or useful, for improving it.

Paul founded the National Council for Excellence in Critical Thinking under the auspices of the Center for Critical Thinking and Moral Critique and the Foundation for Critical Thinking to expand critical thinking principles across educational institutions the U.S. during the late 1980s and early 1990s. In 1987 Richard Paul and Michael Scriven (Scriven and Paul, 1987) crafted the following definition of critical thinking for the National Council:

*Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness.*

*It entails the examination of those structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue; assumptions; concepts; empirical grounding; reasoning leading to conclusions; implications and consequences; objections from alternative viewpoints; and frame of reference. Critical thinking — in being responsive to variable subject matter, issues, and purposes — is incorporated in a family of interwoven modes of thinking, among them: scientific thinking, mathematical thinking, historical thinking, anthropological thinking, economic thinking, moral thinking, and philosophical thinking.*

*Critical thinking can be seen as having two components: 1) a set of information and belief generating and processing skills, and 2) the habit, based on intellectual commitment, of using those skills to guide behavior. It is thus to be contrasted with: 1) the mere acquisition and retention of information alone, because it involves a particular way in which information is sought and treated; 2) the mere possession of a set of skills, because it involves the continual use of them; and 3) the mere*

> *use of those skills ("as an exercise") without acceptance of their results.*
>
> *Critical thinking varies according to the motivation underlying it. When grounded in selfish motives, it is often manifested in the skillful manipulation of ideas in service of one's own, or one's groups', vested interest. As such it is typically intellectually flawed, however pragmatically successful it might be. When grounded in fairmindedness and intellectual integrity, it is typically of a higher order intellectually, though subject to the charge of "idealism" by those habituated to its selfish use.*
>
> *Critical thinking of any kind is never universal in any individual; everyone is subject to episodes of undisciplined or irrational thought. Its quality is therefore typically a matter of degree and dependent on, among other things, the quality and depth of experience in a given domain of thinking or with respect to a particular class of questions. No one is a critical thinker through-and-through, but only to such-and-such a degree, with such-and-such insights and blind spots, subject to such-and-such tendencies towards self-delusion. For this reason, the development of critical thinking skills and dispositions is a life-long endeavor.*

Though a given definition of critical thinking will naturally be limited, the Paul and Scriven definition goes a long way toward capturing the key variables in a robust conception of critical thinking, a conception which could conceivably spread across human societies, should humans ever collectively achieve the will, and the understandings, required for advancing fairminded critical societies.

Richard Paul plausibly articulated the concept of critical thinking in more ways than any other theoretician living or deceased, for he articulated it in scores of published articles, books, thinkers' guides, and essays, as well as in private notes and diagrams written throughout his many decades of thinking about thinking, about the logic of thinking, and about disciplined reasoning. It seems clear that Paul's articulation of the concept and theory of critical thinking, taking into account its details and particulars, intimately links with all, or virtually all, other legitimate theory on critical thinking extant.

*A. Edward Glaser*

For instance, an extensive consideration of the literature on critical thinking reveals similar overlapping definitions and conceptions of critical thinking (Esterle & Cluman, 1993; Mosely et. al 2005; Paul & Elder 1997). An early use of the term "critical thinking" may be traced to the first methodologically disciplined study of critical thinking, conducted in 1941 by Edward Glaser and reported in *An Experiment in the Development of Critical Thinking*. Glaser's conception, rich in details, unites with Paul's conception, and hence emphasizes foundations in thinking:

> [critical thinking] . . . calls for persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends . . . . [It] requires ability to recognize problems, to find workable means for meeting those problems, to gather and marshal pertinent information, to recognize unstated assumptions and values, to comprehend and use language with accuracy, clarity, and discrimination, to interpret data, to appraise evidence and evaluate arguments, to recognize the existence (or non-existence) of logical

> relationships . . . to draw warranted conclusions and generalizations at which one arrives, to reconstruct one's patterns of beliefs on the basis of wider experience, and to render accurate judgments about specific thinking and qualities in everyday life. (Glaser, pp. 5-6)

*B. Robert Ennis*

Paul's conception encompasses and goes considerably beyond Robert Ennis's definition: "critical thinking is a process, the goal of which is to make reasonable decisions about what to believe and what to do" (Ennis, 1996). Ennis contends that critical thinkers are disposed to:

- seriously consider points of view other than their own.
- endorse a position to the extent that, but only to the extent that, it is justified by the information available.
- determine, and maintain focus on, the conclusion or question.
- be reflectively aware of their own basic beliefs.
- discover and listen to other's views and reasons.
- know the reasons offered in support of a conclusion and decide whether the reasons are acceptable before making a final judgment about an argument.

*C. Harvey Siegel*

Similarly, Paul's conception of critical thinking links with, and indeed encompasses, that of Harvey Siegel. Siegel (1988) defines critical thinking as "thinking that is appropriately moved by reasons." He contends that those with the "critical spirit," possess -- in addition to skills and abilities -- dispositions or habits of mind. Finally, Siegel says this:

> one who has the critical attitude has a certain character as well as certain skills: a character which is inclined to seek, and to base judgment and action upon, reasoning; which rejects partiality and arbitrariness; which is committed to the objective evaluation of relevant evidence; and which values such aspects of critical thinking as intellectual honesty, justice to evidence, sympathetic and impartial consideration of interests, objectivity, and impartiality.

In explaining the term "critical thinking," Paul often referred to its etymological roots, for example when he says:

> The intellectual roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates 2,500 years ago who discovered by a method of probing questioning that people could not rationally justify their confident claims to knowledge. Confused meanings, inadequate evidence, or self-contradictory beliefs often lurked beneath smooth but largely empty rhetoric. Socrates established the fact that one cannot depend upon those in "authority" to have sound knowledge and insight. He demonstrated that persons may have power and high position and yet be deeply confused and irrational. He established the importance of asking deep questions that probe profoundly into thinking before we accept ideas as worthy of belief (Paul, Elder & Bartell, 1997, p. 8)

Because the human mind is capable of operating in any number of pathological ways, Paul insisted that humans should systematically intercede in thought with the best tools for intervention, practically speaking. To do this, Paul believed humans must understand how the mind works, where it tends to go wrong, and how it can be

transformed through the deliberate use of intellectual concepts and principles.

In sum, Paul's theory of critical thinking is basic and fundamental; it interlaces with all reasonable conceptions of critical thinking extant. In other words, all authoritative conceptions of critical thinking, if carefully examined, reveal similar interrelated components, or at least highlight one or more essential features of Paul's concept of critical thinking. None of these main concepts negates the essential components of the others; all assume human thought to be often problematic or even pathological. All illuminate the need for cultivating disciplined, critical reasoning across human societies.

## IV. Richard Paul's Seminal Contributions to Critical Thinking

Though an academic field of Critical Thinking Studies has yet to be established, it is my view that Richard Paul's contributions to the theory and application of critical thinking will be central to any future *bona fide* field of critical thinking studies, In research in the field, in critical reviews of his work, in instructional and daily application, students, researchers, faculty, scholars, and analysts have tended to focus on the following of Paul's many central contributions to the field of critical thinking in addition to the Paul-Scriven definition.

### *A. The Elements of Reasoning*

Paul's analysis of reasoning, which deconstructs reasoning into eight indispensable structures, or parts, fundamentally transformed not only our conception of critical thinking, but of reasoning itself. After years of research, study, and deliberation Paul ultimately narrowed down the parts of one's reasoning to these essential elements: *purpose, question, information, inferences, assumptions, concepts, inferences,* and *point of view*. (See figure 1). Paul's concept of reasoning enables us to deal explicitly with the many complexities found in human reasoning. Again, Paul's conception richly expands reasoning beyond traditional anemic philosophical emphases on premises and conclusions in reasoning, on the narrow standard of validity in reasoning, on philosophical argumentation *as* critical thinking, and on fallacy theory *as* critical thinking. Decades after its conception, this richer idea of reasoning has yet to gain acceptance in mainstream philosophical societies and philosophical academic communities; formal logic as well as metaphysics still pervade the field of philosophy, impeding the development of the field of critical thinking studies, and hence of philosophy itself – assuming that philosophy is tasked with helping people *live the examined life*, as Socrates insisted (Paul, 2011)

Here is a sentence that summarizes the elements:

*Whenever we think, we think for a purpose within a point of view based on assumptions which lead to implications and consequences, and we use data, facts, and experiences to make inferences and judgments which are based on concepts and theories in order to answer a question or solve a problem.*

There is then a set of questions that relate to the elements:

1. What is my fundamental *purpose*?
2. What is my *point of view* with respect to the issue?
3. What *assumptions* am I using in my reasoning?
4. What are the *implications* of my reasoning (if I am correct)?
5. What *information* do I need to answer my question?
6. What are my most fundamental

*inferences* or conclusions?

7. What is the most basic *concept* in the question?

8. What is the key *question* I am trying to answer?

These elements can be summarized and expanded upon in a diagram such as this one:

All Thinking is Defined by the Eight Elements that Make It Up

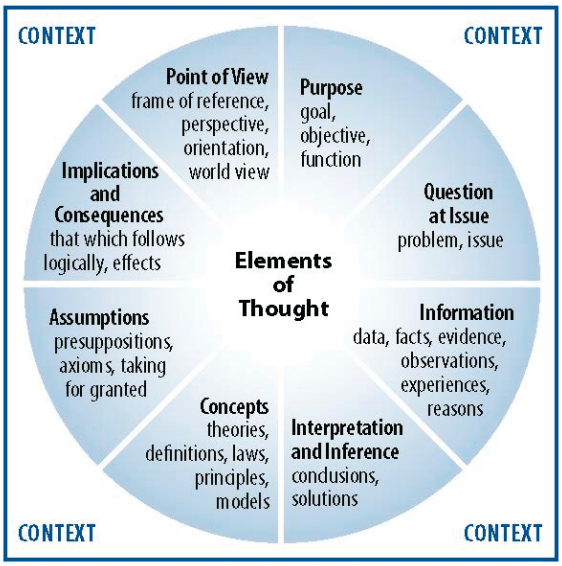


*Figure 1 (Elder & Paul, 2012)*

Similarly, Paul's concept of critical thinking disabuses us of the notion that scientific reasoning *is to be equated with* critical thinking, or that the study of rhetoric *is the same thing as* critical thinking, or that communications courses *naturally entail* critical thinking, or that indeed any subject *is itself* critical thinking.

*B. The Universal Standards*

In connection with the elements of reasoning, or structures of thought, which clarified, expanded and greatly enhanced our conception of reasoning, Richard Paul also conceptualized, for the first time in a systematic way, *criteria* for thought -- standards used to assess reasoning within any domain of human thought by persons reasoning at high levels of quality. Again, Paul ultimately came to refer to these criteria predominantly as *universal intellectual standards* (ultimately modified from his original term *perfections of thought*.)

Reasonable people internalize these standards and explicitly use them in their thinking. When they do, their thinking becomes better because it is more *clear*, more *accurate*, more *precise*, more *relevant*, *deeper*, *broader*, more *logical*, more *significant*, and more *fair*. This section will elaborate on these nine standards with a brief description and associated questions for each one, but it should be acknowledged that this is not a complete list and that there are other standards such as credibility and practicality that could be added.

1. **Clarity**: understandable, the meaning can be grasped

   Could you elaborate further?

   Could you give me an example?

   Could you illustrate what you mean?

2. **Accuracy**: free from errors or distortions, true

   How could we check on that?

   How could we find out if that is true?

   How could we verify or test that?

3. **Precision**: exact to the necessary level of detail

   Could you be more specific?

   Could you give me more details?

Could you be more exact?

4. **Relevance**: relating to the matter at hand

   How does that relate to the problem?

   How does that bear on the question? How does that help us with the issue?

5. **Depth**: containing complexities and multiple interrelationships

   What factors make this a difficult problem?

   What are some of the complexities of this question?

   What are some of the difficulties that we need to deal with?

6. **Breadth**: encompassing multiple viewpoints

   Do we need to look at this from another perspective?

   Do we need to consider another point of view?

   Do we need to look at this in other ways?

7. **Logic**: the parts make sense together, no contradictions

   Does this all make sense together?

   Does your first paragraph fit in with your last?

   Does what you day follow from the evidence?

8. **Significance**: focusing on the important, not trivial

   Is this the most important problem to consider?

   Is this the central idea to focus on?

   Which of these facts are more important?

9. **Fairness**: justifiable, not self-serving or one-sided

   Do I have any vested interest in this issue?

   Am I sympathetically representing the viewpoints of others?

*C. Strong Sense Critical Thinking versus Weak Sense Critical Thinking*

One of the more pointed parts of Paul's conception of critical thinking was an insistence on distinguishing critical thinking in the *strong sense* from critical thinking in the *weak sense*. The point is that one could be a thinker with formidable intellectual skills but still not be a critical thinker in an authentic way. Here is the contrast Paul insisted on:

1. **Strong Sense Critical Thinking**

- Is impartial, unprejudiced, multi-sided, empathic, non-parochial, intellectually unlimited, fairminded,
- Uses intellectual ability in the service of objective, dispassionate truth, exhibits the ability and disposition to approach all views empathically, without vested interests or favoritism,
- Has a commitment to view events or phenomena as separate from one's self and thus to be judged as they are, without reference to one's personal feelings, prejudices, opinions or the like,
- And to do so in ways that go beyond "finesse," beyond clever argument, emotional appeals, beyond smooth, seductive and beguiling uses of language; committed to the fair treatment of all, especially the

unsophisticated and the vulnerable.

2. **Weak Sense Critical Thinking**

- Is partial, prejudiced, one-sided, egocentric, sociocentric, intellectually limited, parochial, selfish,
- Uses intellectual ability primarily in the service of one's selfish interest or advantage (or the interest and advantage of one's group, religion, culture, nation, gender),
- Has a pronounced disposition to view events or phenomena as they relate to one's vested interest and, thus, to judge things in the light of one's feelings, prejudices, opinions, or the like,
- And to do so in a clever, "effective" way—showing a high degree of practical intelligence and skill in contrivance, often mentally quick, cunning, shrewd; skilled in manipulating the unsophisticated and vulnerable.

As one can readily see, the distinction between the two kinds of critical thinkers is essentially an ethical distinction based on the aims and the manner in which critical thinking skills are employed. This distinction dovetails with the next component of Paul's conception of critical thinking, namely, the intellectual virtues.

*D. The Intellectual Virtues*

An important part of Paul's overall conception of critical thinking is that to be a critical thinker one must display a healthy measure of the valuable intellectual traits that are the intellectual virtues. While others theorists have often focused on one or the other intellectual virtue, such as autonomy or courage or humility, Paul aimed to include a much broader array of traits of character needed to be a genuine critical thinker in the strong sense. From the Critical Thinking Community website, here is a list with accompanying descriptions:

1. **Intellectual Humility**: Having a consciousness of the limits of one's knowledge, including a sensitivity to circumstances in which one's native egocentrism is likely to function self-deceptively; sensitivity to bias, prejudice and limitations of one's viewpoint. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one's beliefs.

2. **Intellectual Courage**: Having a consciousness of the need to face and fairly address ideas, beliefs or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing. This courage is connected with the recognition that ideas considered dangerous or absurd are sometimes rationally justified (in whole or in part) and that conclusions and beliefs inculcated in us are sometimes false or misleading. To determine for ourselves which is which, we must not passively and uncritically "accept" what we have "learned." Intellectual courage comes into play here, because inevitably we will come to see some truth in some ideas considered dangerous and absurd, and distortion or falsity in some ideas strongly held in our social group. We need courage to be true to our own thinking in such circumstances. The penalties for non-conformity can be severe.

3. **Intellectual Empathy**: Having a consciousness of the need to imaginatively put oneself in the place of others in order to genuinely understand them, which requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions of long-standing thought or belief. This trait correlates with the ability to reconstruct accurately the viewpoints and reasoning of others and to reason from premises, assumptions, and ideas other than our own. This trait also correlates with the willingness to remember occasions when we were wrong in the past despite an intense conviction that we were right, and with the ability to imagine our being similarly deceived in a case-at-hand.

4. **Intellectual Autonomy**: Having rational control of one's beliefs, values, and inferences. The ideal of critical thinking is to learn to think for oneself, to gain command over one's thought processes. It entails a commitment to analyzing and evaluating beliefs on the basis of reason and evidence, to question when it is rational to question, to believe when it is rational to believe, and to conform when it is rational to conform.

5. **Intellectual integrity**: Recognition of the need to be true to one's own thinking; to be consistent in the intellectual standards one applies; to hold one's self to the same rigorous standards of evidence and proof to which one holds one's antagonists; to practice what one advocates for others; and to honestly admit discrepancies and inconsistencies in one's own thought and action.

6. **Intellectual Perseverance**: Having a consciousness of the need to use intellectual insights and truths in spite of difficulties, obstacles, and frustrations; firm adherence to rational principles despite the irrational opposition of others; a sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.

7. **Confidence in Reason**: Confidence that, in the long run, one's own higher interests and those of humankind at large will be best served by giving the freest play to reason, by encouraging people to come to their own conclusions by developing their own rational faculties; faith that, with proper encouragement and cultivation, people can learn to think for themselves, to form rational viewpoints, draw reasonable conclusions, think coherently and logically, persuade each other by reason and become reasonable persons, despite the deep-seated obstacles in the native character of the human mind and in society as we know it.

8. **Fairmindedness**: Having a consciousness of the need to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community or nation; implies adherence to intellectual standards without reference to one's own advantage or the advantage of one's group.

## V. Paul's Contribution to First Principles in Critical Thinking

From Paul's seminal contributions to the field of critical thinking studies, we can deduce what may be termed *logical first principles in critical thinking.* Though Paul's theory of critical thinking can be detailed

according to its complexities, by narrowing in on three conceptual sets of understandings in his theory--*the elements of reasoning, universal intellectual standards,* and *intellectual virtues*--as Paul conceptualized, articulated, and expanded them, we find these first principles. Some of the most essential may be briefly articulated as follows:

1. **All reasoning has a purpose, objective, goal or function.** *Related Critical Thinking Principle:* If we are clear about our purpose, about what we are trying to accomplish or achieve, we are far more likely to achieve it than when we are not. Moreover, the pursuit of any specific purpose is justified only when the purpose is fair to all relevant persons, other sentient creatures, and/or groups. Be clear about your purpose, and be certain it is fair and justifiable in context.

2. **All reasoning is an attempt to figure something out, settle some question, or solve some problem.** *Related Critical Thinking Principle:* To settle a question, we must know what it is asking and how to go about answering it. In other words, for every question one might ask, there are conditions that must be met before the question can be settled. Clearly delineate these conditions as you reason through questions and problems.

3. **All reasoning is based on some data, information, evidence, experience, or research.** *Related Critical Thinking Principle:* Thinking can only be as sound as the information upon which it is based. Make sure the information you use when reasoning through a question is relevant to the question and is accurate.

4. **All reasoning contains inferences from which we draw conclusions and give meaning to information, experiences, and situations.** *Related Critical Thinking Principle:* Thinking can only be as sound as the inferences it makes (or the conclusions it comes to). Infer only what is implied by the evidence.

5. **All reasoning is based on assumptions—beliefs we take for granted**. *Related Critical Thinking Principle:* Thinking can only be as sound as the assumptions (beliefs) upon which it is based. Assess assumptions for soundness and justifiability before accepting them or acting upon them.

6. **All reasoning is expressed through, and shaped by, concepts, ideas, theories, principles and definitions.** *Related Critical Thinking Principle:* Thinking can only be as clear, relevant, realistic, and deep as the concepts that shape it. Be aware of how your concepts shape how you interpret life's events and situations. Control the concepts that guide your thinking and your actions.

7. **All reasoning leads somewhere, entails implications, and, when acted upon, has consequences.** Implications may emanate in many directions from a given thought. Every human thought entails implications--ideas that may radiate in many directions and that may originate from many potential sources. Implications of our thinking and behavior exist whether we perceive them or not. *Related Critical Thinking Principle:* It is essential to identify and think through the major implications that follow from, or are connected with, the thinking you are focused on. Follow out the implications of reasoning in many potential directions when dealing with complex issues. Think through the significant consequences likely to follow from your decisions before you make them.

8. **All thinking occurs within some point of view, perspective, or frame of reference, situated within a worldview**. *Related Critical Thinking Principle:* To reason justifiably through an issue, you must identify significant points of view relevant to the issue and enter them empathically. Enter opposing viewpoints

to be moved by superior reasoning, rather than to defend a position you already hold. Always bank on the best reasoning in a given circumstance, rather than following a given person - including yourself.

9. **All thinking has potential intellectual strengths and weaknesses and hence should be routinely and systematically assessed according to objective criteria for thought.** These criteria have been documented and developed throughout human history, and are found in all ordinary, or natural, languages, and hence in all primary dictionaries within natural languages. Intellectuals reasoning at the highest levels within all *bona fide* disciplines and fields of study faithfully attempt to adhere to these criteria. *Related Critical Thinking Principle:* To reason well on a consistent basis, across the domains of your life, you must monitor your thinking to ensure that it is adheres to universal intellectual standards. Here are a few essential intellectual standards: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

10. **Human thinking is not necessarily fair, since humans, frequently driven by selfish and narrow group-centered goals, are given to ignoring or downplaying the rights and needs of others.** *Related Critical Thinking Principle:* Fairmindedness requires that people consider all viewpoints with an open mind, without reference to their own feelings or vested interests, or the feelings or vested interests of their friends, community, nation, or species. It implies adherence to intellectual standards, again, without reference to one's own advantage or the advantage of one's group. To reason critically in the fullest sense of the term, you must strive to be fairminded in all domains of your life entailing an ethical dimension.

11. **The mind does not naturally distinguish between what it knows and what it does not know and therefore is not intrinsically predisposed toward intellectual humility**. Rather the natural state of humans at any given moment is to believe themselves to be in possession of the truth, or to think they know more than they know. The human mind is naturally intellectually arrogant, which entails intrinsic self-validation and protection of one's belief systems. People do not tend to intrinsically seek to discover their misunderstandings, distortions, and ignorance. *Related Critical Thinking Principle:* To embody intellectual humility you must actively work against the natural human tendency to be intellectually arrogant; this necessitates regularly distinguishing what you know from what you do not know. To a large degree, you must build your knowledge base through the knowledge of your own ignorance.

12. **The mind does not naturally develop intellectual courage—the willingness to examine beliefs one holds dear and which one may have protected for many long years.** Most people are not naturally comfortable standing up for beliefs that, though reasonable, are unpopular. Instead the intrinsic inclination of the human mind is to protect its beliefs and to conform to group standards of acceptability. The mind innately avoids, and even fears, discovering its false beliefs. And people are often, by nature, afraid of ridicule or exclusion from a social group. *Related Critical Thinking Principle:* To embody intellectual courage, you must be willing to challenge a given belief, whether the belief is your own or another's. You must work past your natural egocentric and sociocentric tendencies to determine what makes most sense to believe – without regard to whether you have believed it in the past, how long you may have held the belief, or whether it is popular to hold the belief.

13. **The mind does not naturally develop intellectual empathy.** Rather it is predisposed toward its opposite—narrowness of vision, or reasoning within its own constricted and

often self-serving viewpoint. Intellectual empathy entails understanding the need to imaginatively put oneself in the place of others to genuinely understand them; it requires practice in thinking within the viewpoints of others, especially those with whom one disagrees. *Related Critical Thinking Principle:* To embody intellectual empathy, you must sympathetically enter into points of view that differ from your own and articulate those views faithfully and insightfully.

14. **The mind does not naturally develop intellectual integrity which is manifested in the commitment to hold oneself to the same standards of evidence and proof one expects others to meet--especially one's antagonists**. Humans do not naturally embody intellectual integrity. Instead, they tend to hold others to higher standards than the standards they impose on themselves. They often say they believe one thing, while their behavior implies that they in fact believe something else. *Related Critical Thinking Principle*: To exemplify intellectual integrity, consistently and systematically hold yourself to the same standards you expect others to meet. Say what you mean and mean what you say.

15. **The mind does not naturally develop intellectual perseverance--the disposition to work one's way through intellectual complexities despite frustrations inherent in a given intellectual task**. Intellectual perseverance is not natural to the mind, as it requires the mind to be flexible rather than adhering to old patterns, the latter of which is more comfortable. The mind does not easily and naturally tolerate, much less invite, confusions, difficulties, and frustrations when working through problems and issues. *Related Critical Thinking Principle:* Developing your mind to a high degree requires the cultivation of intellectual perseverance, which inherently entails working through, and even inviting, complexities and frustrations without giving up.

16. **The mind does not naturally develop confidence in reason or, in other words, the disposition to recognize that consistently engaging in high-quality reasoning is essential to living a rational life and to creating a more fair and just world**. Confidence in reason is based on the belief that, in the long run, one's own higher interests and those of humankind at large are best served by giving the freest play to reason, by encouraging people to come to their own conclusions, by developing, as far as possible, the rational faculties of everyone in a society. Those who embody confidence in reason are keenly aware of the fact that the mind does not naturally use intellectual standards to determine what to believe and what to reject. They therefore attempt at all times to adhere to intellectual standards in determining what to accept and what to reject in human thought. *Related Critical Thinking Principle*: To develop confidence in reason, you must always seek to discern, and then follow, the best reasoning in a given context and situation. This means, among other things, understanding the irrational propensities of the human mind that stand in the way of your ability to open your mind to reasoning you would rather not have to consider, and actively working to minimize these irrational tendencies. It entails strict adherence to intellectual standards when determining what to believe.

17. **The mind does not naturally develop intellectual autonomy or, in other words, the disposition to take responsibility for one's own thinking, beliefs, values, and actions.** Intellectual autonomy is acquired as one increasingly takes responsibility for one's own thinking and the quality of one's life. It is the opposite of being dependent on others for the direction and control of one's decisions. Intellectual autonomy is rare in human life. Most people, rather than thinking autonomously, conform to group beliefs and actions. The groups they join and within which

they are born often control their thoughts. *Related Critical Thinking Principle:* To develop intellectual autonomy entails taking full responsibility for your own thinking as well as your own actions. It means having the courage to stand alone in your beliefs, against even large crowds, when your views are those best justified given the evidence.

These seventeen first principles in critical thinking are *some* of the principles central to any substantive conception of critical thinking, or in other words, of critical reasoning. All of them entail interrelationships, and many overlap with one another. Again, all of these particular first principles arise from three conceptual sets in the Paulian approach to critical thinking: *the elements of reasoning, intellectual standards,* and *intellectual virtues*. Importantly, these principles intimately connect with other best thinking and best theory in the field of critical thinking, originating from the time of Socrates. For an expansion of these principles, see *The Thinker's Guide to Critical Thinking Competency Standards* (Elder & Paul, 2007).

However, if these first principles are not yet intuitive to you, the reader, as first principles in critical thinking, consider this: taking together the elements of reasoning and intellectual standards, as a set of interconnected concepts at the heart of critical thinking, one must assume the theory of both in order to negate either, should one be so inclined. For instance, if one were to argue that "neither the elements of reasoning nor the intellectual standards are central to analyzing and assessing reasoning," one would, by necessity, be *using* the elements and intellectual standards in the very act of attempting to negate them. This is true because, in making such a statement, one would be saying something one considers to be both *clear* and *accurate*, and one would have some *purpose* in making the statement. By perceiving oneself to be both *clear* and *accurate*, one proves the importance of intellectual standards in reasoning. Further, since the speaker will naturally have some purpose in making the statement, the element of purpose is proven as a theoretical construct. And where one element of reasoning can be identified, the other seven are implied.

Further, if we presuppose the importance of the ethical dimension in human life, as well as the intrinsic pathologies of the human mind such as egocentric and sociocentric thinking that work against ethical reasoning, we demonstrate the essential importance of intellectual virtues as guiding theory for first principles in critical thinking, as outlined in numbers 10-17 above. Those who reason at the highest levels of human thought and understanding will embody these and other related intellectual virtues to a significant degree.

Many additional first principles in critical thinking can be identified from the seminal work of Richard Paul, but again, those introduced here are the most intuitive and form a central web of foundational concepts at the heart of a future field of critical thinking studies.

## VII. Paul's Additional Seminal Contributions to a Substantive Conception of Critical Thinking

Beyond these first principles, and the fundamental theory that gives rise to them, the depth and breadth of Paul's primary contributions to the field of critical thinking cannot of course be captured in a brief article. However, it is feasible to mention a few of the significant contributions made by Paul that are often either misunderstood, ignored, or given little consideration by those studying critical thinking, either as students or as scholars of critical thinking. These contributions include:

1. Paul's focus on the importance of deeply understanding and emphasizing

the logic of natural languages in a robust conception of critical thinking (Paul, 1985).

2. Paul's insistence that the human mind is best understood fundamentally from a conceptual perspective, rather than a scientific or mathematical point of view.

3. Paul's view that ethics must be distinguished from other modes of thought, such as theology, social conventions, and the law. As he says:

> We Must Learn to Distinguish among Questions of Ethics, Social Conventions, Religion, and the Law
>
> If we are ever to reach a point in human development where skilled ethical reasoning is the norm, each of us must cultivate in ourselves the ability to determine whether any belief system, practice, rule, or law is ethical. To be skilled at ethical reasoning means to develop a conscience not subservient to fluctuating social conventions, theological systems, or unethical laws. Consistently sound reasoning in any domain of thought presupposes practice in reasoning through cases and issues in that domain. As we face problems in our lives, we must distinguish the ethical from the non-ethical and the pseudo-ethical, and apply appropriate ethical principles to those problems that are genuinely ethical problems. The more often we do so, the better we become at ethical reasoning.

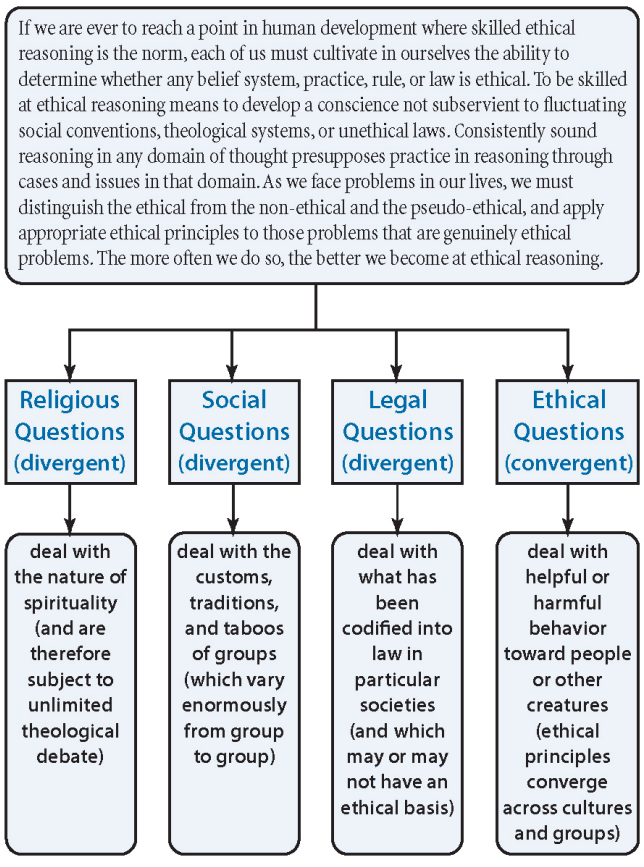


*Figure 2 (Paul & Elder, 2003)*

4. Paul's emphasis on the logic of questions as central to a developed approach to critical thinking. See *The Thinker's Guide to Asking Essential Questions* (Elder & Paul, 2009) and *The Thinker's Guide to the Art of Socratic Questioning* (Paul & Elder, 2007).

5. Paul's delineation of three question types: 1) questions entailing one system or procedure for finding the appropriate or correct answer, 2) questions of preference which entail no system for finding the answer except one's subjective taste, 3) questions requiring reasoned judgment for which there is no agreed-upon correct answer but rather better or worse answers. See figure 4.

*Three Kinds of Questions*

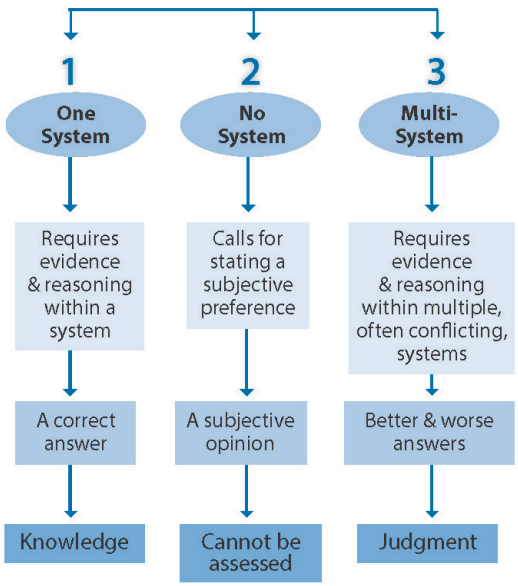


*Figure 3 (Paul & Elder, 2014)*

Also see *The Thinker's Guide to Asking Essential Questions* (Elder & Paul, 2009).

6. Paul's insistence on the importance of encouraging dialogical and dialectical reasoning in the classroom, and in human societies more generally, in

order to advance critical thinking.. See Paul's article on this subject entitled "Dialogical and Dialectical Thinking" which appears in an anthology of his work (Paul, 2012a).

7. Paul's creation and development of a glossary of critical thinking terms and concepts which provides a constellation of concepts central to understanding rich ideas of *critical thinking, the critical person,* and *fairminded critical societies*. See *A Glossary of Critical Thinking Terms and Concepts (Elder and Paul, 2013).*

8. Paul's development of *Critical Thinking Polarities*. (See figure 4). For definitions of these polarities, see *A Glossary of Critical Thinking Terms and Concepts* (Elder and Paul, 2013*).*

Assessing Frameworks for Thinking Using Six Polarities

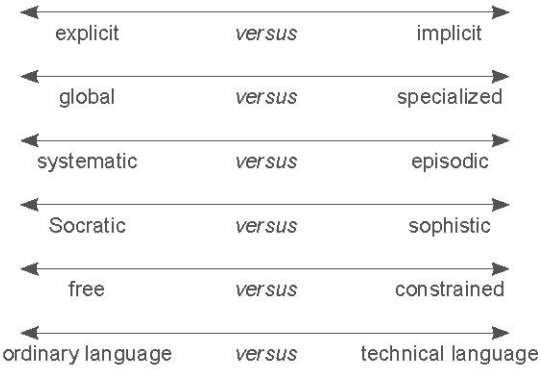


*Figure 4 (Paul, 2011)*

9. Paul's application of critical thinking to a substantive theory of education and to the practice of education at all levels. See the many curriculum materials at criticalthinking.org developed by Richard Paul, Gerald Nosich, and this author.

10. Paul's inclusion of and emphasis on egocentric and sociocentric thinking as profound barriers to the cultivation and advancement of critical thinking. See *The Thinker's Guide to the Human Mind* (Elder & Paul, 2015).

## VIII. The Importance of Establishing an Independent Field of Critical Thinking Studies and Why the Emergence of Such a Field Has Little Chance in Today's Political, Social and Academic Climates

It is essential for a *valid* field of critical thinking studies to emerge if we are to properly advance a robust conception of critical thinking that can be actively employed across cultures, persons, subjects, disciplines, and professions. This we can hope for at some point in the distant future, if ever, since far too many substantial and pervasive variables work against it to expect its realization in the present or near future. To put this another way, the development of a field of critical thinking studies and the cultivation of further rich theory of critical thinking are severely hampered by a number of complex variables and influences. To a considerable degree Richard Paul himself dealt with these barriers in his *INQUIRY* article entitled "Reflections on the Nature of Critical Thinking, Its History, Politics, and Barriers, and on Its Status across the College/University Curriculum Part I" (2011). Though there are indeed many important variables obstructing the cultivation of critical thinking as a field of studies, I will focus in this section on four primary barriers:

1. the perspective and worldview through which philosophers tend to view and treat critical thinking as a conceptual construct,

2. the fact that most teachers and faculty

at all levels tend to see themselves as fostering critical thinking in their courses when little evidence supports this notion,

3. the fact that even teachers dedicated to learning a substantial conception of critical thinking tend to have great difficulty internalizing such a conception given its inherent complexities and the fact that they often not taught the requisite intellectual skills for comprehending complexities within a rich theory of mind and of critical reasoning, and

4. the fact that freedom of thought and the cultivation of the liberally educated mind, both of which are intimately connected with a rich conception of critical thinking, tend to be little discussed or valued in human cultures or educational systems today.

To begin, then, one highly significant and perhaps insurmountable barrier to the establishment of a field of critical thinking studies is the way in which philosophers tend to view critical thinking, or in other words, the world view of professional philosophy today. The field of philosophy has failed to recognize critical thinking as a field of studies or even as a theoretical construct worth taking seriously, yet, ironically, departments of philosophy in colleges and universities in the U.S. have not hesitated to teach "critical thinking" for the purpose of increasing student enrollment in their programs. Indeed critical thinking courses are often the bread and butter of philosophy departments thus justifying their existence as a viable academic field in which students should be required to take courses.

Further, philosophers frequently control who teaches critical thinking on their campuses, often requiring critical thinking instructors to hold a philosophy degree. These "critical thinking" courses tend not to be critical thinking courses at all, but rather courses focused strictly on, or taught in combination with, metaphysics, Kantian philosophy, Aristotelian logic, informal logic, argumentation theory, or some other (not infrequently esoteric) philosophical subject. Where genuine critical thinking concepts and principles *are* included in these courses, they tend to be presented as a smorgasbord--with students expected to pick and choose among the items and plunk them altogether in the sandwich of their minds for a palatable taste. *But what theory are they to choose from this smorgasbord by which they will live their lives?* Is it Kant's theory of ethics, or the best fallacy theory written by the most well known authors today, or Russell and Whitehead's early work on formal logic? Or should they go with Hume's or Locke's theory of mind? Or should they figure out a way to meld together Aristotelian logic with Plato's view on metaphysics? Or so on and so forth?

By what standards will students appropriate the most sound and meaningful ideas they are learning in these courses? To what degree and in what ways are students learning to integrate powerful ideas into their thinking and to understand the interrelationships between and among them? What tools of criticality are students in these courses learning which will help them think through the best ideas offered by the best theoreticians of mind throughout history? How do the ideas students are expected to learn help them reason critically through the real problems of their lives? Or are departments of philosophy not responsible for helping students come to understand what it would mean, truly, *to live the examined life*?

As long as critical thinking is equated, at the will of philosophy departments, with other philosophical theoretical constructs, it can never be established in its own right as a field of study, either within philosophy or

another academic division. Further, as long as philosophy instructors are allowed to teach their traditional subjects *as* critical thinking, these instructors will continue to impede the cultivation of critical thinking as a rich, living, essential, and developing set of theoretical understandings.

A second highly significant barrier to the advancement of critical thinking in education and society is the fact that teachers at all levels tend to believe that they themselves are already fostering critical thinking by virtue of the fact that they are teachers. Fifty years ago, the term "critical thinking" was almost never used in academia. Before 1970 the term was rarely discussed or mentioned in educational communities at any level. Today, largely because the use of the term "critical thinking" has become almost commonplace in educational propaganda, research shows that the majority of most teachers and instructors *fundamentally* see themselves as advancing critical thinking in their instruction. More generally, people in human societies increasingly invoke the use of the term "critical thinking" in political and social discussions and in business settings. Still, studies repeatedly illuminate the fact that very few instructors can articulate a rich conception of critical thinking or exemplify how they foster critical thinking in their courses (Arum & Roksa, 2011; Paul et al., 1997).

A third significant barrier to advancing critical thinking across the curriculum is that, on the whole, teachers and instructors studying Richard Paul's approach tend to have considerable difficulty understanding its depths and fully appreciating the value of his theories. This is largely influenced by the unintellectual nature of educational programs at all levels of learning. For example, many faculty utilize Paul's *elements of reasoning* while ignoring *intellectual standards* as essential criteria for *assessing reasoning*. So, in other words, teachers may "pick" the elements of reasoning out of the Richard Paul's work, thereby perceiving themselves to be advancing critical thinking, when in fact their students are given no explicit criteria or standards for assessing reasoning. Teachers often want to choose from among the rich theory of critical thinking, rather than appreciating critical thinking as a constellation of intellectual constructs that must be taken together for a rich understanding of critical reasoning. This is highly misleading and diverts us from the most direct path to realizing critical societies – which was always the path Paul was seeking.

Indeed, to effectively employ the complex sets of constructs embedded in a rich conception of critical thinking in working through everyday problems requires a level of disciplined reasoning little appreciated or understood in human societies today. As far as history can tell, appreciation for disciplined thought has rarely been realized by any human cultures on a broad scale.

A fourth barrier to advancing Paul's rich theory of critical thinking in education and in society is that human cultures today tend not to value freedom of thought nor to place importance on cultivating liberality of mind, both of which are central to Paul's conception. People across the world tend to lack understanding of the implicit and intimate relationships between critical reasoning, freedom of thought, freedom of speech, and the evolution of the human species. Most people seem either largely uninterested in the ideas of freedom of thought and speech in connection with the advancement of the human species, or they live in countries where they are at risk when openly discussing many issues that would significantly advance their own criticality and deepen their insights into the human mind. But any robust critical thinking will necessarily emphasize the power of opening the mind to every possible idea in order to examine it for reasonability and

usefulness in living everyday. Many teachers fear ideas; they fear opening their minds to new ways of perceiving reality. They fear letting go of ideas they have long held. Such teachers are unfit for the classroom, for they lack the fundamentals for fostering disciplined freedom of thought and helping students reach their potential as emancipated, intellectually free persons.

Still, there is growing recognition globally that critical thinking is largely missing in schools, colleges, universities, and in the professional world. This has led to the pursuit of "critical thinking" or "thinking skills," at least to some degree, among consultants and presenters.. However, since we currently lack a *legitimate* field of critical thinking studies, charlatans of every stripe, variation, and variety have effortlessly entered the critical thinking arena with their platitudes and naive "solutions" replete with "easy steps" and "best tips" for bringing critical thinking "tools" into the workplace and into daily life. This problem is likely only to worsen as the term "critical thinking" gains even more prominence in the future, but when there is no legitimate academic home to support genuine approaches to critical thinking. Until such a time when there is a legitimate academic home, quick-fix approaches that can never work to bring about long term change in human thought will be advanced *as* critical thinking, and misguided and/or sophistic thinkers looking to advance their own personal interests will continue to employ any number of psychological means to capture the attention of naïve persons and make money on the gullible.

A field of critical thinking studies, a field guided by first principles in critical thinking, could begin to address these problems. Such a field would entail a core constellation of critical thinking terms and concepts which were already well established and which could be further studied and explored by serious scholars of critical thinking. The work of Richard Paul stands squarely at the center of these principles, and hence at the center of any genuine field of critical thinking studies--should it ever be realized.

## IX. Where Richard Paul May Have Been Wrong

It is a popular practice when offering a critique of a theoretician's work to seek problems in her or his theoretical approach or the ways in which the approach has been applied within a given context by that theoretician. Given the richness of Richard Paul's conception of critical thinking, along with its soundness and internal integrity, it is very difficult to find problems in Paul's conceptual approach to critical thinking.

However, we may fault Paul in one major area: his confidence in the notion that people are, on the whole, fundamentally capable of transforming themselves into critical thinkers, even if to a limited degree, no matter where they begin as reasoners. In other words, Paul *placed considerable confidence in the power of learning in human thought*. He greatly advocated the importance of creating the best learning situations for students to thrive in, if they were to be given the chance to cultivate their minds. In the theoretical battle between nature and nurture, Paul squarely placed himself in the nurture camp, giving little consideration to individual streaks of nature that may be so potent as to prevent nurture from effectively transforming the individual.

It is plausible that Paul may have been caught in a paradox. On the one hand, after decades of teaching and designing workshops in critical thinking, Paul could clearly see the intrinsic difficulties in teaching students, teachers, administrators, business persons, indeed anyone, the important complexities in a rich conception of critical thinking. On the

other hand, again, he believed that potentially everyone could learn critical thinking to a significant degree if only they had the *will* to do so. And he thought it was fairly easy to muster up the will to do so, I believe largely because he himself possessed such a high degree of intellectual willpower. He was ever reaching for higher and higher levels of thinking and living throughout his lifetime. He experienced deep satisfaction in his own life from persistently applying critical thinking concepts and principles--as he worked through daily issues and problems. Few people seem oriented to critical thinking in this deep way, even those who study critical thinking for many years. But Paul lived his life in such a way as to increasingly embody the intellectual virtues he thought essential to the genuinely critical person. And he could see no good reason why the majority of people couldn't do the same. Paul did not see himself as exceptional in this regard although he may have indeed been a rare exception.

In any case, though I believe learning to be essential to developing intellectual virtues and becoming a fairminded critical thinker, I am not sure most people are capable of changing at the level and to the degree that Paul envisioned. Like Richard Paul, I take a fundamentally conceptual orientation to the mind (as against a scientific orientation); however, I believe that Richard Paul may have been wrong in his view that people, on the whole, can fundamentally change through critical thinking. We know that some people seem to possess intrinsic egocentric and/or sociocentric drives and orientations so powerful that, although these people may be theoretically capable of changing, it may be, practically speaking, something like impossible for them to change in certain fundamental ways. This may explain why, for instance, *weak sense critical thinkers*, who are powerful and privileged, though highly intelligent according to psychological standards and traditional IQ measures, are unable to properly analyze, assess, and, in essence, take command of their own unethical, selfish nature. And it explains, to some degree, why they are often simply unwilling to consider fundamental change in their worldview. Practically speaking, they cannot learn to change because they lack the commitment needed to transform how they think and how they live; in essence they do not value self-development or self-fulfillment.

My experience has shown me that learning can be effective only to the degree that the learner is committed to the process of learning. This commitment may simply be too difficult for many people to maintain, or even to understand, so narrow-minded and self-centered is their thinking. And if I am correct, then it may be far more difficult than Richard Paul may have imagined for humans to ever realize fairminded critical societies.

Further, Paul believed it possible to transform human societies fundamentally through educational systems. But the work of critics such as Ivan Illich, reminds us of the "hidden curriculum in schooling, with its emphasis on sculpting the student mind to fit into a highly pathological, consumer engrossed, world society" Illich (1978). In his book entitled *Toward a History of Needs*, Illich says:

> *the hidden curriculum is always the same regardless of school or place. It requires all children of a certain age to assemble in groups of about 30, under the authority of a certified teacher, for some 500 or 1000 or more hours per year. It does not matter whether the curriculum is designed to teach the principles of fascism, liberalism, Catholicism, socialism, or liberation, so long as the institution claims the authority to define which activities are legitimate "education."... What is important in the hidden curriculum*

> *is that students learn that education is valuable when it is required in the school through a graded process of consumption; that the degree of success the individual will enjoy in society depends on the amount of learning he consumes; and that learning about the world is more valuable than learning from the world.… hidden curriculum translates learning from an activity into a commodity for which the school monopolizes the market.… The more education an individual consumes, the more "knowledge stock" he acquires and the higher he rises in the hierarchy of knowledge capitalist. Education thus defines a new class structure within which the larger consumers of knowledge – those who have acquired greater quantities of knowledge stock – can claim to be of superior value to society* (pp. 70-71).

Richard Paul believed that deep change would most likely occur in human societies through reforming educational systems, for it is education that is tasked with cultivating the minds of the people living within a society. But if Ivan Illich and others are correct, it may be, practically speaking, virtually impossible to rid our classrooms of the poisons seeping into them from the consumerism and provincial ways of thinking that now seek to overwhelm the intellects of our teachers, administrators, and students. It was not as if Richard Paul could not see these poisons, but rather he believed that, despite these pernicious realities in our schools, the best path to cultivating critical societies must lie firmly within educational systems, for it is these systems that purport to educate and free the mind.

## X. Conclusion: Paul as a Revolutionary

Richard Paul was both an original philosophical thinker and a staunch advocate for the evolution of the human species toward *homo sapiens criticus*. He often quoted William Graham Sumner's (1906) conception of critical thinking:

> *The critical habit of thought, if usual in society, will pervade all its mores, because it is a way of taking up the problems of life. Men educated in it cannot be stampeded by stump orators ... 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 or 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. (*p. 633)

Paul had an insatiable curiosity for understanding the human mind--for understanding how it works through issues and problems using reasoning and how to improve human thought once problems are revealed within it. His emphasis on understanding reasoning and its many conundrums and complexities never waned throughout his life. As briefly detailed in this article, early in his academic career, Paul closely examined and critiqued existing theory of logic and reasoning–in the process significantly reconstructing and enriching the theory of both–by asking basic questions and following out foundational implications. He took a very narrow conception of reasoning (still used widely among philosophers today) and broadened it to more accurately represent what in fact happens in human thinking when people reason. He captured the idea of *universal intellectual standards* by exploring standards typically used by skilled reasoners and then assembling these standards or criteria into a

constellation of ideas easily understandable by everyday persons. Recognizing the importance of placing ethics at the heart of a substantive conception of critical thinking, he cultivated what little theory then existed on intellectual traits, dispositions, or virtues. Paul also realized that, without intervention in egocentric and sociocentric tendencies, the mind was likely to miss mistakes and pathologies in thinking; hence as early as the 1980s Paul stressed the importance of teaching critical thinking in the strong (ethical) sense, rather than in the weak (selfish) sense.

Though Paul was, in the main, a theoretician who found deep satisfaction in the exploration of ideas for their own sake, he was fundamentally a *practical theoretician*. He believed in bringing theory down to the level of mundane reality ("to the level of nits and fleas," he once said); he himself routinely, and on a daily basis, tested theory in working through real life problems. He systematically moved back and forth between the development of theory and assessing its actual use in working through problems in his own life–both personal and professional. He was largely uninterested in traditional philosophical arguments, discussion, and theory because he perceived them as a virtual waste of time, when the reality of suffering by humans and other sentient creatures is palpably before us.

It is my judgment that no thinker in human history has contributed more to the fundamental theory of critical thinking than Richard Paul. Not only did Paul revolutionize our conceptions of *reasoning*, of *critical reasoning,* and of *logic*, he also called into question both historical and contemporary conceptions of philosophy itself. He linked the cultivation of the mind to the philosophical tradition, not of Plato after Plato turned to metaphysics and science, but of Plato as defined through his earlier Socratic dialogues. Paul continually emphasized the importance of developing deep conceptual understandings, based in foundational ideas and principles of analysis and critique. Like Socrates, Paul continually sought the most basic and explicit ideas for entering, understanding, deconstructing and correcting thought.

To bring a rich yet highly accessible conception of critical thinking to everyday teachers and everyday persons, Paul established first the Center for Critical Thinking and Moral Critique in 1980 and then the Foundation for Critical Thinking in 1991. Working over 35 years with colleagues, scholars, and staff through these organizations, Paul did more to spread understanding of the idea and importance of fairminded critical thinking than any other person or institution in the world. Through his guidance, the Foundation for Critical Thinking has developed outreach efforts that span the globe, and it now stands as one of the oldest autonomous intellectual think tanks in the world. Richard Paul worked indefatigably and with steady determination throughout his life to bring basic principles of critical thinking to his students and to educators and educational leaders at all levels and within all academic subjects.

Again, Paul believed in the power of the human will to embrace critical thinking principles, and he consistently reminded us that, if critical thinking ever is to prevail, it will prevail only in the long run. When we look at the world as it is today with its many weighty, complex, difficult, and pressing problems, it is clear that Paul's insistence in the 1980s on the importance of critical thinking for a rapidly changing world, a world replete with accelerating change, intensifying complexity and increasing interdependence. should have been heeded.

But Paul's voice, along with others advancing the pressing need for critical thinking, has been largely ignored in educational communities, in the field of

philosophy, in the world of business, and in the world more generally, whatever the propaganda may otherwise imply.

As the world becomes frighteningly more complex, reasonable persons can see the importance of finding a higher, more enlightened path. That path, as Richard Paul well understood, can only be found through changing *the ways in which people fundamentally reason through the problems of their lives*. We need students learning the best theory of mind, gleaned from the best ideas throughout history, applied at the highest levels possible. For this we need teachers with the ability to reason through ideas at a high-level of skill and understanding as well as the ability to foster these understandings by their teaching. For this we need academic programs that foster these skills and understandings, so that teachers themselves can learn these skills. For this we need an academic field of study that cultivates our understanding of critical thinking as its primary purpose, rather than academic fields that inadvertently thwart its development.

We need, in short, to establish critical thinking as a field of studies in its own right - a field that will properly illuminate, develop, and advance first principles in critical thinking. A sober and intense study of Richard Paul's writings on critical thinking offers a tangible, reliable, and distinguished beginning place. Let us hope, with the threat of nuclear destruction omnipresent and with the already devastating realities of climate change before us, that we learn to embrace, before it is too late, the ideas Richard Paul, the ideas to which he dedicated his life and which he offered us *homo sapiens* so that we can turn back the oncoming deep problems we have created for the planet. .

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