Critical Thinking:
What It Is and Why It Counts

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Have you heard business executives, civic leaders, and educators talking about critical thinking and found yourself asking such reasonable questions as, "What is critical thinking?" and "Why is it so important?" So have we. This essay looks at these questions.

Before we begin, though, give this little thought experiment a try. Imagine you have been invited to a movie by a friend. But it's not a movie you want to see. So, your friend asks you why. You give your honest reason — the movie offends your sense of decency, not because of the language used or the sexuality portrayed, but because of the violence it depicts so graphically. Sure, that should be a good enough answer. But suppose your friend pursues the matter by asking you to define "offensive violence." Well, take a minute and give it a try. How would you define "offensive violence" as it applies to movies? Can you write a characterization which captures what this commonly used concept contains? Take care, though, we would not want to make the

definition so broad that all movie violence would be automatically "offensive." And check to be sure your way of defining "offensive violence" fits with how the rest of the people who know and use English would understand the term. Otherwise they will not be able to understand what you mean when you use that expression.

Did you come up with a definition that works? How do you know?

What you just did with the expression "offensive violence" is very much the same as what had to be done with the expression "critical thinking." At one level we all know what "critical thinking" means — it means good thinking, almost the opposite of illogical, irrational, thinking. But when we test our understanding further, we run into questions. For example, is critical thinking the same as creative thinking, are they different, or is one part of the other? How do critical thinking and native intelligence or scholastic aptitude relate? Does critical thinking focus on the subject matter or

content that you know or on the process you use when you reason about that content?

It might not hurt at all if you formed some preliminary ideas about the questions we just raised. We humans learn better when we stop frequently to reflect, rather than just plowing along from the top of the page to the bottom without coming up for air.

Fine. So how would you propose we go about defining "critical thinking." You don't really want a definition plopped on the page for you to memorize, do you? That would be silly, almost counterproductive. The goal here is to help you sharpen your critical thinking skills and cultivate your critical thinking spirit. While memorization definitely has many valuable uses, fostering critical thinking is not among them. So, let's look back at what you might have done to define "offensive violence" and see if we can learn from you. Did you think of some examples of scenes in movies that were offensively violent, and did you contrast them with other scenes that were either not violent or not offensively violent? If you did, good. That is one (but not the only) way to approach the problem. Technically it's called finding paradigm cases. But, like many things in life, you do not have to know its name to do it well.

Back to critical thinking. What might be some paradigm cases? How about the patient questioning of Socrates? Or, what about trial lawyers, as portrayed in TV dramas and movies? What about people working together to solve a problem? How about someone who is good at listening to all sides of a dispute, considering all the facts, and then deciding what is relevant and what is not, and ten rendering a thoughtful judgment? And maybe too, someone who is able to summarize complex ideas clearly with fairness to all sides, or a person who can come up with the most coherent and justifiable explanation of what a passage of written material means? Or the person who can readily devise sensible alternatives to explore, but who does not become defensive about abandoning them if they don't work? And also the person who can explain exactly how a particular conclusion was reached, or why certain criteria apply?

A group of international experts was asked to try to form a consensus about the meaning of critical thinking. One of the first things they did was to ask themselves the question: Who are the best critical thinkers we know and what is it about them that leads us to consider them the best? So, who are

the best critical thinkers you know? Why do you think they are good critical thinkers? Can you draw from those examples a description that is more abstract?   For example, consider effective trial lawyers, apart from how they conduct their personal lives or whether their client is really guilty or innocent, just look at how the lawyers develop their cases in court.   They use reasons to try to convince the judge and jury of their client's claim to guilt or innocence. They offer evidence and evaluate the significance of the evidence and presented by the opposition lawyers.   They interpret testimony.   They analyze and evaluate the arguments advanced by the other side. Now, consider the example of the team of people trying to solve a problem.   The team members, unlike the courtroom's adversarial situation, try to collaborate.   The members of an effective team do not compete against each other, they work in concert, like colleagues, for the common goal.   Unless they solve the problem, none of them has won.   When they find the way to solve the problem, they all have won.   So, from analyzing just two examples we can generalize something very important: critical thinking is thinking that has a purpose (proving a point, interpreting what something means, solving a problem), but critical thinking can be a collaborative, noncompetitive endeavor. And, by the way, even lawyers collaborate.   They can work together on a common defense or a joint prosecution, and they can also cooperate with each other to get at the truth so that justice is done.

We will come to a more precise definition of critical thinking soon enough. But first, there is something else we can learn from paradigm examples. When you were thinking about "offensive violence" did you come up with any examples that were tough to classify?   Borderline cases, as it were — an example that one person might consider offensive but another might

reasonably assess as non-offensive.   Yes, well, so did we. This is going to happen with all abstract concepts.   It happens with the concept of critical thinking as well. There are people of whom we would say, on certain occasions this person is a good thinker, clear, logical, thoughtful, attentive to the facts, open to alternatives, but, wow, at other times, look out! When you get this person on such-and-such a topic, well it's all over then. You've pushed some kind of button and the person does not want to hear what anybody else has to say. The person's mind is made up ahead of time. New facts are pushed aside. No other point of view is tolerated.

Do you know any people that might fit that general description?

Good.   What can we learn about critical thinking from such a case? Maybe more than we can learn from just looking at the easy cases. For when a case is on the borderline, it forces us to make important distinctions. It confronts us and demands a decision: In or Out! And not just that, but why! So, our friend who is fair-minded about some things, but close-minded about others, what to do? Let's take the parts we approve of because they seem to us to contribute to acting rationally and logically and include those in the concept of critical thinking, and let's take the parts that work against reason, that close the mind to the possibility of new and relevant information, that blindly deny even the possibility that the other side might have merit, and call those poor, counterproductive, or uncritical thinking.

> **"Very few really seek knowledge in this world. Mortal or immortal, few really ask. On the contrary, they try to wring from the unknown the answers they have already shaped in their own minds – justification, explanations, forms of consolation without which they can't go on. To really ask is to open the door to the whirlwind. The answer may annihilate the question and the questioner."**
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> **The Vampire Marius, Ann Rice, <u>The Vampire Lestat</u>**

Now, formulate a list of cases — people that are clearly good critical thinkers and clearly poor critical thinkers and some who are on the borderline. Considering all those cases, what is it about them that led you to decide which were which? Suggestion: What can the good critical thinkers do (what mental abilities do they have), that the poor critical thinkers have trouble doing? What attitudes or approaches do the good critical thinkers habitually seem to exhibit which the poor critical thinkers seem not to possess?

Above we suggested you look for a list of mental abilities and attitudes or habits, the experts, when faced with the same problem you are working on, refer to their lists as including *cognitive skills* and *affective dispositions*. As to the cognitive skills here's what the experts include as being at the very core of critical thinking: interpretation, analysis, evaluation, inference, explanation, and self-regulation. (We'll get to the affective dispositions in just a second.) Did any of these words or ideas come up when you tried to characterize the cognitive skills — mental abilities — involved in critical thinking?

Quoting from the consensus statement of the national panel of experts: **interpretation** is "to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria."[1] Interpretation includes the sub-skills of categorization, decoding significance, and clarifying meaning. Can you think of examples of interpretation? How about recognizing a problem and describing it without bias? How about reading a person's intentions in the expression on her face; distinguishing a main idea from subordinate ideas in a text; constructing a tentative categorization or way of organizing something you are studying; paraphrasing someone's ideas in your own words; or, clarifying what a sign, chart or graph means? What about identifying an author's purpose, theme, or point of view? How about what you did above when you clarified what "offensive violence" meant?

Again from the experts: **analysis** is "to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions." The experts include examining ideas, detecting arguments, and analyzing arguments as sub-skills of analysis. Again, can you come up with some examples of analysis? What about identifying the similarities and differences between two approaches to the solution of a given problem? What about picking out the main claim made in a newspaper editorial and tracing back the various reasons the editor offers in support of that claim? Or, what about identifying unstated assumptions; constructing a way to represent a main conclusion and the various reasons given to support or criticize it; sketching the relationship of sentences or paragraphs to each other and to the main purpose of the passage. What about graphically organizing

this chapter, in your own way, knowing that its purpose is to give a preliminary idea about what critical thinking means?

Core Critical Thinking Skills
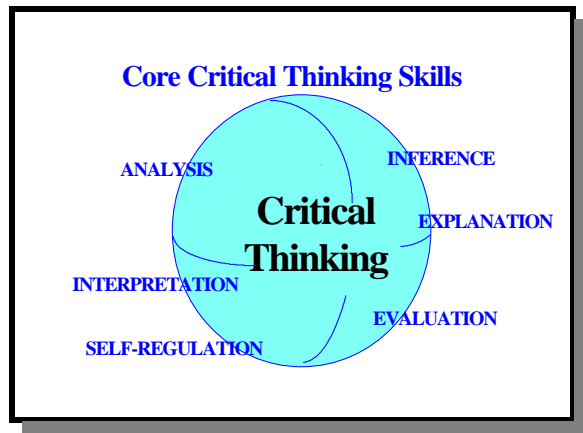
The experts define **evaluation** as meaning "to assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation." Your examples? How about judging an author's credibility of an author or speaker, comparing the strengths and weaknesses of alternative interpretations, determining the credibility of a source of information, judging if two statements contradict each other, or judging if the evidence at hand supports the conclusion being drawn? Among the examples the experts propose are these: "recognizing the factors which make a person a credible witness regarding a given event or a credible authority with regard to a given topic," "judging if an argument's conclusion follows either with certainty or with a high level of confidence from its premises," "judging the logical strength of arguments based on hypothetical situations," "judging if a given argument is relevant or applicable or has implications for the situation at hand."

Do the people you regard as good critical thinkers have the three cognitive skills described so far? Are they good at interpretation, analysis, and evaluation? What about the next three? And your examples of poor critical thinkers, are they lacking in these cognitive skills? All, or just some?

To the experts **inference** means "to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to educe the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation." As sub-skills of inference the experts list querying evidence, conjecturing alternatives, and drawing conclusions. Can you think of some examples of inference? You might suggest things like seeing the implications of a position someone is advocating, drawing out or constructing meaning from the elements in a reading, or identifying and securing the information needed to formulate a synthesis from multiple sources. How about this: after judging that it would be useful to resolving a given uncertainty if you knew certain facts, deciding on a plan which would yield clear knowledge regarding those facts? Or, when faced with a problem, developing a set of options for addressing it. What about, conducting a controlled experiment scientifically and applying the proper statistical methods to attempt to confirm or disconfirm an empirical hypothesis?

Beyond being able to interpret, analyze, evaluate and infer, good critical thinkers can do two more things. They can explain what they think and how they arrived at that judgment. And, they can apply their powers of critical thinking to themselves and improve on their previous opinions. These two skills are called "explanation" and "self-regulation."

The experts define **explanation** as being able "to state the results of one's reasoning; to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which one's results were based; and to present one's reasoning in the form of cogent arguments." The sub-skills under explanation are stating results, justifying procedures, and presenting arguments. Your examples first, please... Here are some more: to construct a chart which organizes one's findings, to write down for future reference your current thinking on some important and complex matter, to site the standards and contextual factors used to judge the quality of an interpretation of a text, to state research results and describe the methods and criteria used to achieve those results, to appeal to established criteria as a way of showing the reasonableness of a given judgment, to design a graphic display which accurately represents the subordinate and super-ordinate relationship among concepts or ideas, to site the evidence that led you to accept or reject an author's position on an issue, to list the factors that were considered in assigning a final course grade.

Maybe the most remarkable cognitive skill of all, however, is this next one. This one is remarkable because it allows good critical thinkers to improve their own thinking. In a sense this is critical thinking applied to itself. Because of that some people want to call this "meta-cognition," meaning it raises thinking to another level. But "another level" really does not fully capture it, because at that next level up what self-regulation does is look back at all the dimensions of critical thinking and double check itself. Self-regulation is like a recursive function in mathematical term, which means it can apply to everything, including itself. You can monitor and correct an interpretation you offered. You can examine and correct an inference you have drawn. You can review and reformulate one of your own explanations. You can even examine and correct your ability to examine and correct yourself! How? It's as simple as stepping back and saying to yourself, "How am I doing? Have I missed anything important? Let me double check before I go further."

The experts define **self-regulation** to mean "self-consciously to monitor one's cognitive activities, the elements used in those activities, and the results educed, particularly by applying skills in analysis, and evaluation to one's own inferential judgments with a view toward questioning, confirming, validation, or correcting either one's reasoning or one's results." The two sub-skills here are self-examination and self-correction. Examples? Easy — to examine your views on a controversial issue with sensitivity to the possible influences on your personal biases or self-interest, to monitor how well you seem to be understanding or comprehending something, to separate your personal opinions and assumptions from those of the author of a passage or text, to double check yourself by recalculating the figures, to vary your reading speed and method according to the type of material and one's purpose for reading, to reconsider your interpretation or judgment in view of further analysis of the facts of the case, to revise your answers in view of the errors you discovered in your work, to change your conclusion in view of the realization that you had misjudged the importance of certain factors when coming to your earlier decision.

But, you might say, I know of plenty of people who have skills but don't use them. We can't call someone a good critical thinker just because she or he has these six cognitive skills, however important they might be, because what if they just don't bother to use them.

One response is to say that it is hard to imagine an accomplished dancer who never dances. After working to develop those skills it seems such a shame to let them grow weak with lack of practice. But dancers get tired. And they surrender to the stiffness of age or the fear of injury. In the case of critical thinking skills, we might argue that not using them once you have them is hard to imagine. It's hard to imagine a person deciding not to think. In a very real sense critical thinking is **pervasive**. There is hardly a time or a place where it would not seem to be of use. As long as people have purposes in mind and wish to judge how to accomplish them, as long as people wonder what's true and what's not, what to believe and what to reject, good critical thinking is going to be necessary.

But weird things happen, so it's probably true that some people can decide to let their thinking skills grow dull. It's easier to imagine times when people are just too tired or too frightened. But imagine it we can, so there has to be more to critical thinking that just the list of cognitive skills. Human beings are more than thinking machines. And this brings us back to those all-important attitudes which the experts called "affective dispositions."

What kind of a person would be apt to use their critical thinking skills? The experts poetically describe such a person as having "a critical spirit." Having a critical spirit does not mean that the person is always negative and hypercritical of everyone and everything. The experts use the metaphorical phrase **critical spirit** in a positive sense. By it they mean "a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information." Almost sounds like Sherlock Holmes. The kind of person being described here is the kind that always wants to ask "Why?" or "How?" or "What happens if?". The one key difference, however, is that in

fiction Sherlock always solves the mystery, while in the real world there is no guarantee. Critical thinking is about how you approach problems, questions, issues. It is the best way we know of to get to the truth. But! There still are no guarantees — no answers in the back of the book of real life. Does this characterization, that good critical thinkers possess a "critical spirit, a probing inquisitiveness, a keenness of mind..." fit with your examples of people you would call good critical thinkers?

Easing the Penalty for Critical and Original Thought

"In classrooms and in companies people fear 'looking stupid' or asking something that is 'dumb.' So teachers and employers must start removing conformity and the fear of dumbness from the classroom and workplace."
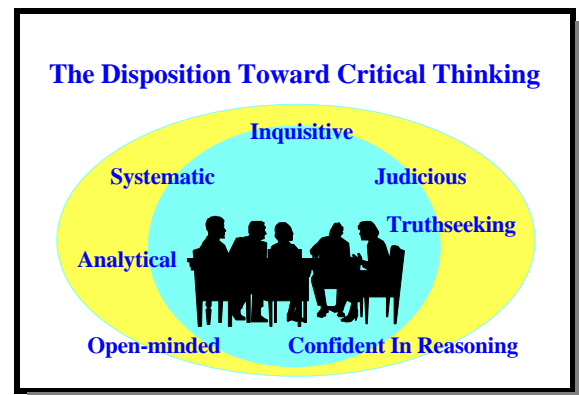
Carol Travis, co-author of Psychology

The panel of experts we keep referring to included forty-six men and women from throughout the United States and Canada. They represented many different scholarly disciplines in the humanities, sciences, social sciences, and education. They participated in a research project that lasted two years and was conducted on behalf of the American Philosophical Association. Their work was published under the title *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*. (The California Academic Press, Millbrae, CA, 1990).

You might be wondering how such a large group of people could collaborate on this project over that long a period of time and at those distances and still come to consensus. Good question. They used a method of interaction known as the Delphi Method. A central investigator organizes the group and feeds them an initial question. [In this case it had to do with how college level critical thinking should be defined so that people teaching at that level would know which skills and dispositions to cultivate in their students.] The central investigator receives all responses, summarizes them, and transmits them back to all the panelists for reactions, replies, and additional questions. But these are all experts, so what do you do if people disagree? And what about the possible influence of a big name person? Good points. First, the central investigator takes precautions to remove names so that the panelists are not told who said what. They know who is on the panel, of course. But that's as far as it goes. After that each expert's argument has to stand on its own merits. Second, an expert is only as good as the arguments she or he gives. So, the central investigator summarizes the arguments and lets the panelists decide if they accept them or not. When consensus appears to be at hand, the central investigator proposes this and asks if people agree. If not, then points of disagreement among the experts are registered. We want to share with you one important example of each of these. First we will describe the expert consensus view of the dispositions which are absolutely vital to good critical thinking. Then we will note a point of separation among the experts.

The experts are persuaded that critical thinking is a pervasive and purposeful human phenomenon. The ideal critical thinker can be characterized not merely by her or his cognitive skills but also by how she or he approaches life and living in general. This is a bold claim. Critical thinking goes way beyond the classroom. In fact, many of the experts fear that some of the things people experience in school are actually harmful to the development and cultivation of good critical thinking. Critical thinking came before schooling was ever invented, it lies at the very roots of civilization. It is a corner stone in the journey human kind is taking from beastly savagery to global sensitivity. Consider what life would be like without the things on this list and we think you will understand.

The Disposition Toward Critical Thinking

Inquisitive
Systematic
Judicious
Truthseeking
Analytical
Open-minded
Confident In Reasoning

The approaches to life and living in general which characterize critical thinking include:

* inquisitiveness with regard to a wide range of issues,
* concern to become and remain well-informed,
* alertness to opportunities to use critical thinking,
* trust in the processes of reasoned inquiry,
* self-confidence in one's own abilities to reason,
* open-mindedness regarding divergent world views,
* flexibility in considering alternatives and opinions
* understanding of the opinions of other people,
* fair-mindedness in appraising reasoning,
* honesty in facing one's own biases, prejudices, stereotypes, or egocentric tendencies,
* prudence in suspending, making or altering judgments,
* willingness to reconsider and revise views where honest reflection suggests that change is warranted.

What would someone be like who lacked those dispositions?

It might be someone who does not care about much of anything, is not interested in the facts, prefers not to think, mistrusts reasoning as a way of finding things out or solving problems, holds his or her own reasoning abilities in low esteem, is close-minded, inflexible, insensitive, can't understand what others think, is unfair when it comes to judging the quality of arguments, denies his or her own biases, jumps to conclusions or delays too long in making judgments, and never is willing to reconsider an opinion. Not someone we're looking to meet on a blind date!

The experts went beyond approaches to life and living in general to emphasize that good critical thinkers can also be described in terms of how they approach specific issues, questions, or problems. The experts said you would find these sorts of characteristics:

* clarity in stating the question or concern,
* orderliness in working with complexity,
* diligence in seeking relevant information,
* reasonableness in selecting and applying criteria,
* care in focusing attention on the concern at hand,
* persistence through difficulties are encountered,
* precision to the degree permitted by the subject and the circumstances.

So, how would a poor critical thinker approach specific problems or issues? Obviously, by being muddy headed about what he or she is doing, disorganized and overly simplistic, spotty about getting the facts, apt to apply unreasonable criteria, easily distracted, ready to give up at the least hint of difficulty, and intent on a solution that is more detailed than is possible or being satisfied with an overly generalized and uselessly vague response. Remind you of anyone you knew in high school?

Someone **strongly** disposed toward critical thinking would probably agree with statements like these:
"I hate talk shows where people just state their opinions but never give any reasons at all."
"Figuring out what people really mean by what they say is important to me."
"I always do better in jobs where I'm expected to think things out for myself."
"I hold off making decisions until I've thought through my options."
"Rather than relying on someone else's notes, I prefer to read the material myself."
"I try to see the merit in another's opinion, even if I reject it later."
"Even if a problem is tougher than I expected, I'll keep working on it."
"Making intelligent decisions is more important than winning arguments."

A person with **weak** critical thinking dispositions would probably disagree with the statements above but be likely to agree with these:
"I prefer jobs where the supervisor says exactly what to do and exactly how to do it."
"No matter how complex the problem, you can bet there will be a simple solution."
"I don't waste time looking things up."
"I hate when teachers discuss problems instead of just giving the answers."
"If my belief is truly sincere, evidence to the contrary is irrelevant."
"Selling an idea is like selling cars, you say whatever works."

We used the expression "good critical thinker" to contrast with the expression "poor critical thinker." But you will find people who drop the adjective "good" and just say that someone is a "critical thinker" or not. It's jst like saying that a baseball player can hit, or can't hit, instead of saying the player is a good hitter or a poor hitter. Using the phrase "hitter" in place of "good hitter" (or "critical thinker" in place of "good critical thinker") is a helpful shortcut. It suggests that "hitter" has

a **laudatory** sense. The word can be used to praise someone at the same time that it identifies the person, as in "Look, now there's what I call a hitter!"

We said the experts did not come to full agreement on something. That thing has to do with the concept of a "good critical thinker." This time the emphasis is on the word "good" because of a crucial ambiguity it contains. A person can be good at critical thinking, meaning that the person can have the appropriate dispositions and be adept at the cognitive processes, while still not being a good (in the moral sense) critical thinker. For example, a person can be adept at developing arguments and then, unethically, use this skill to mislead and exploit a gullible person, perpetrate a fraud, or deliberately confuse and confound, and frustrate a project.

The experts were faced with an interesting problem. Some, a minority, would prefer to think that critical thinking, by its very nature, is inconsistent with the kinds of unethical and deliberately counterproductive examples given. They find it hard to imagine a person who was good at critical thinking not also being good in the broader personal and social sense. In other words, if a person were "really" a "good critical thinker" in the procedural sense and if the person had all the appropriate dispositions, then the person simply would not do those kinds of exploitive and aggravating things.

The large majority, however, hold the opposite judgment. They are firm in the view that good critical thinking has nothing to do with political correctness, or any given set of ethical values or social mores. The majority of experts maintain that critical thinking conceived of as we have described it above, is, regrettably, not inconsistent with its unethical use. A tool, an approach to situations, these can go either way, ethically speaking, depending on the character,

integrity, and principles of the persons who possess them. So, in the final analysis the majority of experts maintained that "it is an inappropriate use of the term to deny that someone is engaged in critical thinking on the grounds that one disapproves ethically of what the person is doing. What critical thinking means, why it is of value, and the ethics of its use are best regarded as three distinct concerns."

We've said so many good things about critical thinking that you might have the impression that "critical thinking" and "good thinking" mean the same thing. But that is not what the experts said. They see critical thinking as making up part of what we mean by good thinking, but not as being the only kind of good thinking. For example, they would have included creative thinking as part of good thinking.

Creative or *innovative thinking* is the kind of thinking that leads to new insights, novel approaches, fresh perspectives, whole new ways of understanding and conceiving of things. The products of creative thought include some obvious things like music, poetry, dance, dramatic literature, inventions, and technical innovations. But there are some not so obvious examples as well, such as ways of putting a question that expand the horizons of possible solutions, or ways of conceiving of relationships challenge presuppositions and lead one to see the world in imaginative and different ways.

In working on how to understand critical thinking the experts wisely left open the entire question of what the other forms good thinking might take. Creative thinking is only one example. There is a kind of *purposive, kinetic thinking* that instantly coordinates movement and intention as, for

example, when an athlete dribbles a soccer ball down the field during a match. There is a kind of *meditative thinking* which may lead to a sense of inner peace or to profound insights about human existence. In contrast, there is a kind of *hyper-alert, instinctive thinking* needed by soldiers in battle. There are probably other kinds of good thinking as well. Different kinds of good thinking are optimal in different circumstances or for different purposes.

Which brings us to the final question, "Why is critical thinking of value?"

Let's start with you first. Why would it be of value to you to have the cognitive skills of interpretation, analysis, evaluation, inference, explanation, and self-regulation? Why would it be of value to you to learn to approach life and to approach specific concerns with the affective dispositions listed above. Would you have greater success in your work? Would you get better grades?

> "If we were compelled to make a choice between these personal attributes and knowledge about the principles of logical reasoning together with some degree of technical skill in manipulating special logical processes, we should decide for the former."
>
> John Dewey, 1909

Actually the answer to the grades question, scientifically speaking, is very possibly, Yes! A study of over 1100 college students shows that scores on a college level critical thinking skills test significantly correlated with college GPA.[2] It has also been shown that critical thinking skills can be learned, which suggests that as one learns them one's GPA might well improve. In

further support of this hypothesis is the significant correlation between critical thinking and reading comprehension. Improvements in the one are paralleled by improvements in the other. Now if you can read better and think better, might you not do better in your classes, learn more, and get better grades. It is, to say the least, very plausible.

But what a limited benefit — better grades. Who really cares in the long run? Two years after college, five years out, what does GPA really mean? Right now college level technical and professional programs have a half-life of about four years, which means that the technical content is expanding so fast and changing so much that in about four years after graduation your professional training will be in serious need of renewal. So, if the only thing college is good for is to get the professional training and credential you want for some job, then you should know that what you are getting has a very time limited value.

Is that what a college education is all about, getting started in a good job? Maybe some cannot see its further value, but many do. A main purpose, if not *the* main purpose, of the collegiate experience, at either the two-year or the four-year level, is to achieve what people have called a "liberal education." Not liberal in the sense of a smattering of this and that for no particular purpose except to fulfill the unit requirement. But liberal in the sense of "liberating." And who is being liberated? You! Liberated from a kind of slavery. But from whom?

From professors. Actually from dependence on professors so that they no longer stand as infallible authorities delivering opinions beyond our capacity to challenge, question, and dissent. In fact, this is exactly what the professors want. They want their students to excel on their own, to

go beyond what is currently known, to make their own contributions to knowledge and to society. [Being a professor is a curious job — the better you are, the less your are needed.]

Liberal education is about learning to learn, to think for yourself, on your own and in collaboration with others. Liberal education leads us away from naive acceptance of authority, above self-defeating relativism, and beyond ambiguous contextualism. It culminates in principled reflective judgment. Learning critical thinking, cultivating the critical spirit, is not just a means to this end, it is part of the goal itself. People who are poor critical thinkers, who lack the dispositions and skills described, cannot be said to be liberally educated, regardless of the academic degrees they may hold.

> "Critical thinking is the process of purposeful, self-regulatory judgment. This process reasoned consideration to evidence, context, conceptualizations, methods, and criteria."
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> The APA Delphi Report,
> Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction
> 1990 ERIC Doc. NO.: ED 315 423

Yes, there is much more to a liberal education, than critical thinking. There is an understanding of the methods, principles, theories and ways of achieving knowledge which are proper to the different intellectual realms. There is an encounter with the cultural, artistic and spiritual dimensions of life. There is the evolution of one's decision making to the level of principled integrity. There is the realization of the ways all our lives are shaped by global as well as local political, social, psychological, economic, environmental, and physical forces. There is

the growth that comes from the interaction with cultures, languages, ethnic groups, religions, nationalities, and social classes other than one's own. There is the refinement of one's humane sensibilities through reflection on the recurring questions of human existence, meaning, love, life and death. There is the sensitivity, appreciation and critical appraisal of all that is good and to all that is bad in the human condition. As the mind awakens and matures, and the proper nurturing and educational nourishment is provided, these others central parts of a liberal education develop as well. Critical thinking plays an essential role in achieving these purposes.

Any thing else? What about going beyond the individual to the community?

The experts say critical thinking is fundamental to, if not essential for, "a rational and democratic society." What might the experts mean by this?

> **Learning, Critical Thinking, and Our Nation's Future**
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> "The future now belongs to societies that organize themselves for learning... nations that want high incomes and full employment must develop policies that emphasize the acquisition of knowledge and skills by everyone, not just a select few."
>
> Ray Marshall & Marc Tucker, Thinking For A Living: Education And The Wealth of Nations,1992.

Well, how wise would democracy be if people abandoned critical thinking? Imagine an electorate that cared not for the facts, that did not wish to consider the pros and cons of the issues, or if they did, had not the brain power to do so. Imagine your life and the lives of your friends and family placed in the hands of juries and judges who let their biases and stereotypes govern their

decisions, who do not attend to the evidence, who are not interested in reasoned inquiry, who do not know how to draw an inference or evaluate one. Without critical thinking people would be more easily exploited not only politically but economically. The impact of abandoning critical thinking would not be confined to the micro-economics of the household checking account. Suppose the people involved in international commerce were lacking in critical thinking skills, they would be unable to analyze and interpret the market trends, evaluate the implications of interest fluctuations, or explain the potential impact of those the factors which influence large scale production and distribution of goods and materials. Suppose these people were unable to draw the proper inferences from the economic facts, or unable to properly evaluate the claims made by the unscrupulous and misinformed. In such a situation serious economic mistakes would be made. Whole sectors of the economy would become unpredictable, and large scale economic disaster would become extremely likely. So, given a society that does not value and cultivate critical thinking we might reasonable expect that in time the judicial system and the economic system would collapse. And, in such a society, one that does not liberate its citizens by teaching them to think critically for themselves, it would be madness to advocate democratic forms of government.

Is it any wonder that business and civic leaders are maybe even more interested in critical thinking than educators? Critical thinking, an informed and thoughtful citizenry, is a necessary condition for the success of democratic institutions and free market economic systems. This value is, in fact, so important that it could be argued that it is in the national interest that we should try to educate all citizens so that they can learn to think critically. Not just for their good, but for the good of the rest of us.

Being a free, responsible person means being able to make rational, unconstrained choices. A person who cannot think critically, cannot make rational choices. And, those without the ability to make rational choices should not be allowed to run free, for being irresponsible, they could easily be a danger to themselves and to the rest of us.

Generalizing, imagine a society, say, for example the 12 million people living in the Los Angeles basin, entirely dependent upon one another, as well as external supplies of food and water, for survival. Now imagine that these 12 million persons permitted their schools and colleges to stop teaching critical thinking. Imagine that parents neglected to teach their children how to think critically. Imagine a media that cultivated, instead, all the opposite dispositions, or simply reinforced uncritical, impulsive decision making and action. Imagine governmental structures, administrators, and community leaders who, instead of encouraging critical thinking, were content to permit the young to make irrational, illogical, and unreasonable decisions. How long might it take for the people in this society which does not value critical thinking to be at serious risk of foolishly harming themselves and each other?

How long would it be before such a society destroyed itself?

Does this mean that society should place a very high value on critical thinking?

Absolutely.

Does this mean society has the right to force someone to learn to think critically?

Maybe.

But, really, should we have to?

EXPERT CONSENSUS STATEMENT REGARDING CRITICAL THINKING AND THE IDEAL CRITICAL THINKER

"We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic

ENDNOTES

1 The findings of expert consensus reported in this essay are published in *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction.* Peter A. Facione, principle investigator, The California Academic Press, Millbrae, CA, 1990. (ERIC ED 315 423). In 1993/94 the Center for the Study of Higher Education at The Pennsylvania State University undertook a study of 200 policy-makers, employers, and faculty members from two-year and four-year colleges to determine what this group took to be the core critical thinking skills and habits of mind. The Pennsylvania State University Study, under the direction of Dr. Elizabeth Jones, was funded by the US Department of Education Office of Educational Research and Instruction. Its findings, published in 1994, confirmed the expert consensus described in this paper.

2 Findings regarding the effectiveness of critical thinking instruction, and correlations with GPA and reading ability are reported in "Technical Report #1, Experimental Validation and Content Validity" (ERIC ED 327 549), "Technical Report #2, Factors Predictive of CT Skills" (ERIC ED 327 550), and "Gender, Ethnicity, Major, CT Self-Esteem, and the California Critical Thinking Skills Test" (ERIC ED 326 584). All by Peter A. Facione and published by the California Academic Press, Millbrae, CA, 1990.

CITATIONS

The quotations from John Chaffee on page 2 and Carol Tavris on page 7 are from *Conversations with Critical Thinkers* , John Esterle and Dan Clurman (Eds.). Whitman Institute. San Francisco, CA. 1993.

The quotation attributed to Marius the Vampire on page 3 is from *The Vampire Lestat*, Ann Rice. Ballantine Books. New York, NY. 1985.

The citation from John Dewey on page 10 is from his monograph *How We Think*, first published in 1909. It was republished as *How We Think: A Restatement of the Relation of Reflective Thinking to the Educational Process.* D. C. Heath Publishing. Lexington, MA. 1933.

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