Academic Piracy

Rebranding Social Criticism as Critical Thinking

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A public function for the Liberal Arts? Is it the rise of an ideology of "critical thinking" that passes itself off as the core of the liberal activity, but, sadly, spends more of its time in being critical than being thoughtful?

—John Agresto, *Do the Liberal Arts Serve Any Useful Public Function?*

Everyone Loves Critical Thinking, but Social Criticism Not so Much

In both K–12 and higher education, parents, employers, and the general public consider critical thinking an essential education objective.[1] It is a common theme in K–12 education and college marketing literature. Unfortunately, advocates of the humanities rarely define what they mean by the term *critical thinking*. This is not an accident. A clear definition of the social criticism practiced in much

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1. Critical thinking does not appear to mean exactly the same thing to parents, employers, and the general public, either. Surveys reveal that the labor-market definition of critical thinking includes analytical and information-processing skills learned from mastering scientific methods and the acquisition of people skills that enable one to listen well and be empathetic to others. These skills are marketable (Hart Research 2010). Most parents would include in the definition marketable skills and things that improve quality of life. Few members of society would agree that teaching critical thinking should include indoctrination in a particular political ideology. The purpose of critical thinking is to learn *how* to think, definitely not *what* to think. A public capable of thinking for itself is democracy's first line of defense.

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of the liberal arts reveals that it rejects what most people mean by "critical thinking"—traditional Western critical thinking (Gross and Levitt 1994; Sokal 1996a; Sokal and Bricmont 1998; Boghossian 2000, 2006; Koertge 2000a; Hanson and Heath 2001). This rebranding allows social criticism advocates to sail, like pirates, under a false flag. By rebranding their social criticism as "critical thinking," they expect to draw the public support that would most likely not otherwise be there for social criticism.[2]

Derek Bok, former president of Harvard University, marveled that "[w]ith all the controversy over college curriculum, it is impressive to find faculty members agreeing almost unanimously that teaching students to think critically is the principal aim of undergraduate education" (2006, 109). Given the cantankerous nature of most faculty members, Bok is right to be surprised by such a consensus. A closer look reveals that "consensus" exists only as long as one does not define critical thinking.[3]

The most common defense for programs in the humanities and some social sciences despite low enrollment is that they teach "indispensable critical thinking skills" (Cohen 2009; Jaschik 2010; Nussbaum 2010). In a *Newsweek* article titled "The Death of Liberal Arts," Nancy Cook reports, "Among liberal-arts proponents, the concern is that students who specialize in specific careers will lack critical thinking skills and the ability to write, analyze, and synthesize information. While business education tends to prepare students to work well in teams or give presentations, it often *falls short* in teaching students to do in-depth research or to write critically outside of the traditional business communiqués of memos or Power Points" (2010, emphasis added). Martha Nussbaum is more forceful in her book *Not for Profit: Why Democracy Needs the Humanities* (2010). She claims that the preservation of democracy is at stake if her version of critical thinking is not taught to students.[4]

If critical thinking will disappear when humanities programs disappear, then one must conclude that other academic disciplines are not teaching critical thinking; that is, economists, physicists, chemists, mathematicians, psychologists, and so on are not teaching critical thinking. That can only be true if the scientific method is not part

2. This tactic is part of a progressive tradition exemplified by Richard Cloward and Frances Piven (1966), who sought to create a crisis in the welfare system in order to trick voters into passing a federal guaranteed annual income, as well as by Saul Alinsky (1971), who argued that progressive goals are so meritorious that any means necessary to achieve those goals are justified.

3. As Sharon Bailin and Harvey Siegel confirm in their definition of critical thinking, "[A]greement about teaching critical thinking persists only so long as theorists remain at the level of abstract discussion and permit their use of the term to remain vague. As soon as they begin to spell out in more concrete terms what critical thinking consists in, what educational attainments are required if one is to be a critical thinker, and what means are likely to be efficacious in teaching persons to think critically, that is to say, as soon as they *interpret* the term in such a way as to provide a clear *conception* of critical thinking, agreement evaporates" (2007, 285).

4. "We are in the midst of a crisis of massive proportions and grave global significance . . . a crisis that goes largely unnoticed, like a cancer; a crisis that is likely to be, in the long run, far more damaging to the future of democratic self-government: a worldwide crisis in education. . . . Thirsty for national profit, nations, and their systems of education, are heedlessly discarding skills that are needed to keep democracies alive . . . producing generations of useful machines rather than complete citizens who can think for themselves, criticize tradition, and understand the significance of another person's suffering and achievements. The future of the world's democracies hangs in the balance" (Nussbaum 2010, 1–2).

of "critical thinking." Further, the proposition that "critical thinking will disappear without humanities programs" does not pass the market test because preferences are revealed by actions. Low enrollment and low public support for the humanities and some social sciences relative to the support for other majors reflects those preferences. Hence, the humanities must be worried about an alternative "critical thinking" model when they make this claim, a model other than traditional Western critical thinking.

The humanities and some social sciences are rebranding social criticism as Western critical thinking. In fact, they believe Western critical thinking is deeply flawed (Kaplan 1991; Portelli 1994; Fried 1995; Horn 2000; Kincheloe 2000; Cuypers 2004; Bailin and Siegel 2007; Mason 2007; Vandenberg 2009; Nussbaum 2010). Avoiding definitions, rebranding terms, and complex rhetoric are characteristic features of sophistry and essential postmodern strategies.[5]

What Is Critical Thinking?

Derek Bok's definition of critical thinking is "to ask pertinent questions, recognize and define problems, identify the arguments on all sides of an issue, search for and use relevant data, and arrive in the end at carefully reasoned judgments . . . the indispensable means of making effective use of information and knowledge, whether for practical or purely speculative purposes" (2006, 109–10). This definition is consistent with the dictionary definition: "the mental process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information to reach an answer or conclusion" (Dictionary.com).[6]

Similarly, a textbook definition of critical thinking in psychology says that it is "*reflective thinking* involving the evaluation of evidence relevant to a claim so that a sound conclusion can be drawn from the evidence" (Bensley 1998, 5, emphasis in original). The common themes in these definitions are objectivity, the application of reason, and the evaluation of data, evidence, or information in solving a problem or reaching a conclusion. The definitions emphasize the need to be disciplined in the analytical and data steps.

The scientific method is a rationally derived hypothesis, claim, or argument that is subjected to an evidentiary test that is shown to be either consistent or not consistent with the hypothesis, claim, or argument. The scientific model assumes the issue addressed is not a supernatural claim that is incapable of being tested in this manner. Traditional Western critical thinking derives its emphasis on data, evidence, and information from the scientific method.

5. Sophistry is the purposeful use of ambiguity, complex rhetoric, and rebranding of terms to confuse one's audience to induce them to accept a dubious proposition that cannot be argued in a clear, precise, and logical format (Hicks 2011, 174–201).

6. Dictionary definitions provide the common, in-use meaning of terms; hence, they represent popular interpretations of terms.

Western critical thinking has a long cultural history, but the modern scientific method evolved more recently. For our purposes, let modern Western critical thinking consist of the foregoing definitions plus the scientific method's emphasis on the responsible use of data when drawing conclusions. Specifically, this combination means that Western critical thinkers have strong analytical skills, professional objectivity, and training in the proper employment of supporting data.

The types of thinking that are *not* Western critical thinking include *habitual thinking,* which is "following past practices without considering new data"; *prejudicial thinking,* which is "gathering evidence to support a particular position without questioning the position itself"; and *emotive thinking,* which is "responding to the emotion of a message rather than the content" (Huitt 1998). Note that habitual thinking ignores new data, prejudicial thinking misuses data, and emotive thinking ignores data. A major component of the scientific method, in contrast, is robust data-acquisition and processing technologies. The scientific method is data driven.

Unfortunately, the scientific method is not perfect; it cannot settle what is right and wrong in moral terms, and individual researchers may falsify their results. The moral problem has not been resolved, and we may not be able to resolve it. However, the falsification problem is dealt with by the fact that the process requires reproduction of results by other researchers before a hypothesis becomes generally accepted, which tends to reveal fraudulent claims. Extensive replication also defines the limits within which a hypothesis can be considered correct.

Peer review and replication of results may also fail if a political agenda is introduced into the research. The "climategate scandal"[7] and postmodernism[8] are examples. In economics in the 1980s, political overtones drove the strong-form "efficient-markets hypothesis,"[9] which may have fueled the dotcom bubble in the late 1990s and the housing bubble in 2007. Hence, the science paradigm can be undermined when systematic political bias is introduced into the review and reproduction process.

7. A very large number of emails between leading global-warming researchers were made public in 2009. Those emails revealed a brutal plan to subvert the peer-review process and to systematically suppress evidence that the anthropogenic global-warming hypothesis could not be confirmed (*Wall Street Journal* 2009). These researchers discussed methods for punishing journal editors who did not comply with their agenda.

8. Postmodernists have no paradigm for how to process information, evidence, or data; hence, they do not test hypotheses. They hold this position because they believe all "facts" are social constructions. Reproduction of results is achieved by citing other postmodernists. Because postmodernists are collectivists, they have no trouble confirming each other's bias.

9. The strong-form efficient-market hypothesis holds that asset markets are efficient over all time, space, and states of nature. If true, then asset-price bubbles are impossible—"the price is always right." The weak-form hypothesis says markets are efficient in the long run. Hence, bubbles do appear in the short run—as the evidence suggests. The hyperefficiency implied by the strong form led both traders and regulators to be less diligent in defending against bubbles than was prudent. The bubbles themselves were driven by the usual players: government policy, greed, and unintended consequences.

Humanities definitions of critical thinking are difficult to find, although one can construct a definition from texts (Kincheloe 2000; Nussbaum 2010). The texts, however, suggest that humanities critical thinking is really social criticism[10] and "social justice." Social criticism holds that cultures are based on power and on oppression of the Other by powerful elites who control politics and the means of production. The oppression is motivated by self-interest and bigotry based on class, race, gender, or sexual orientation. The elites hold "power"[11] because they are "privileged." Privileged positions lead to social injustice in the skewed distribution of wealth, opportunity, and privileges. Hence, the humanities critical thinker identifies oppression by the not-Other and acts to achieve social justice through redistribution. Humanities critical thinking means searching for bigotry and then taking political action to create social justice, which is defined as "justice in terms of the distribution of wealth, opportunities, and privileges within a society" (*New Oxford American Dictionary*) and thus follows the Marxist tradition. "Justice" per se is assumed to be reflected by extreme progressive values. In contrast, Western critical thinking admits it does not resolve moral issues. The hypothesis that individuals or groups may achieve a "privileged" status because they are productive or competent is unexamined; privilege is unearned "power."

The descriptions of critical thinking in the humanities are sometimes metaphysical. It is argued that defining critical thinking in terms of Western critical thinking leads to an aberrant form known as "noncritical critical thinking," and a model based on "other ways of knowing" leads to a superior "critical critical thinking" model (Kincheloe 2000). For example, Martha Nussbaum hypothesizes that a global conspiracy exists among capitalists to eliminate the humanities because they fear social criticism and social justice (2010, 23–25). One wonders how different things might be in the humanities if the postmodernists had not "killed Homer" (Hanson and Heath 2001).

The rest of the academy does not teach social criticism, so it is social criticism that may disappear if the humanities programs are not preserved. Advocates of the humanities are rebranding social criticism as critical thinking. A plea for public support to preserve clearly defined social criticism would find few sympathetic ears.

For the purpose of this paper, let humanities "critical thinking" be defined as social criticism, which also includes social justice. These are postmodern concepts, and postmodernism is an anti-Enlightenment reaction (Boghossian 2006; Hicks 2011).[12]

10. Social criticism is sometimes referred to as "critical theory."

11. The use of the term *power* is another intentional misdirection. It would be more accurate to say "influence" rather than "power" because the term *power* conveys the image of the relationship between serfs and feudal lords. In truth, science has influence rather than power in the modern world.

12. The original anti-Enlightenment reaction was antireason because reason was a threat to the social order of the time (the divine right of kings). The postmodern anti-Enlightenment reaction is based on the same fear of reason.

The "Science Wars"

Postmodernists claim that science is just one among many "ways of knowing" and should not be granted any special "privilege" in resolving disagreements. This claim led to the "science wars" and the "Sokal hoax" (Gross and Levitt 1994; Sokal 1996a, 1996b; Sokal and Bricmont 1998; Boghossian 2000, 2006; Koertge 2000a).[13] These conflicts between scientists and humanities faculty make clear the contrast between Western critical thinking and social criticism.

"Social construction"[14] is the heart of the conflict, and it is another example of "strategic ambiguity."[15] Postmodernists argue that facts and reality are social constructions; hence, different cultures have their own "facts" and "reality." Because techniques for discovering facts and reality are also social constructions, all knowledge is relative, and so one culture's "narrative" should be no more privileged than any other. Therefore, Western culture's tradition of giving science a "privileged" position is illegitimate and oppressive.

Taken literally, social construction suggests there is no objective reality. Paul Boghossian (2006) considers three types of social construction: the strong form, the semistrong form, and the weak form. Further, he defines two types of "facts": mind-independent and mind-dependent facts. Objective reality consists of mind-independent facts, whereas subjective reality is composed of mind-dependent facts.

Under strong-form social construction, there are no mind-independent facts and no objective reality. The universe existed before humans and their minds arrived, however, so the strong form is a dubious proposition at best. Under semi-strong-form social construction, there are both types of facts, but no mind-independent facts are known because the scientific method is hopelessly compromised by social construction. Postmodernists cite as evidence for the semistrong form the fact that scientific "knowledge" is revised periodically. Under weak-form social construction, both mind-independent and mind-dependent facts are known; the scientific method occasionally gets it right and discovers mind-independent facts. Boghossian examines

13. In 1996, Alan Sokal, a physicist, wrote a nonsense article titled "Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity" for the postmodern journal *Social Text* (1996b). Sokal's purpose was to test postmodern academic standards by presenting the editors with an article on physics that any competent undergraduate physics major would recognize as absurd, while employing as many postmodern terms as possible. As expected, the postmodern reviewers recommended publication. Upon its publication, Sokal wrote an article for *Lingua Franca* explaining the hoax, "Revelation: A Physicist Experiments with Cultural Studies" (1996a)—after all, he had his reputation as a physicist to protect. It is worth noting that the *Social Text* editors could easily have avoided the embarrassment by asking just one physicist to review the article; instead, they chose only postmodernists as reviewers.

14. According to social constructivism, our understanding of facts and reality is "constructed" by our sociocultural context. People in different social contexts or cultural backgrounds will perceive facts and reality differently. If that is true, then all knowledge is relative, and there is no way to differentiate between good and bad ideas.

15. Strategic ambiguity is purposefully avoiding clarity of communication to confuse the reader or listener into believing one's argument has more validity than it actually has. Avoiding clear definitions of the terms employed, rebranding terms, and grandiose language are clear indications of strategic ambiguity.

each type of social construction and finds multiple and serious conceptual problems with each. Thus, in the end he rejects knowledge relativism and concludes that independent testing methods can sometimes differentiate between alternative hypotheses about reality (2006, 110).

The postmodern deception here misdirects students away from "perceptions about facts and reality" to "facts and reality" per se. The claim that "facts and reality are subjective" has considerable shock value, whereas the claim that "perceptions about facts and reality are subjective" would draw only an impolite yawn. Some perceptions are accurate, and other perceptions are inaccurate, but facts and reality are objective truths. The truly interesting questions are: (1) What accounts for the wedge between objective facts/reality and perceptions? (2) What practices would minimize the wedge? (3) Does the introduction of bias increase or reduce the wedge? And (4) what are the social consequences of an expanding wedge? The Western tradition's answers to these questions are: (1) the wedge is an increasing function of ignorance; (2) the wedge can be minimized by universal science education; (3) bias increases the wedge; and (4) a rising wedge undermines civilization itself.

If objective facts and reality do not exist, or if we are incapable of discovering objective facts and reality because of our "socially constructed" scientific methods, then "facts" and "reality" are social constructions. If this is true, every culture has its own reality, and there is no way to discriminate between those diverse "realities"; hence, every culture's reality is equally valid and privileged. Within postmodernism, these diverse realities are frequently referred to as "narratives." Notice that the argument collapses immediately if you substitute "perceptions of facts and reality" for "facts and reality."[16] In essence, postmodernists argue that everyone is entitled to his or her own facts, which guarantees that no disagreement can ever be resolved and no one can ever discriminate between good and bad arguments.

If knowledge relativism holds, then dominant cultures oppress the Other, and critical thinkers should question the not-Other's privilege, power, and hegemony over the Other. The objective of social criticism is to dismantle a corrupt dominant culture and apply social justice solutions. If knowledge is not relative, then perceptions are not knowledge, and the scientific method can discriminate between accurate and inaccurate perceptions.

The way science discriminates between accurate and inaccurate perceptions is through objective testing methods. For example, a type-one error is accepting a hypothesis that is false, and a type-two error is rejecting a hypothesis when it is true. Minimizing the probability of making a type-one error maximizes the probability of a type-two error, and the reverse is also true. It is a direct trade-off. Hence, sound

16. The original argument goes: "If facts and reality are social constructions, then every culture has its own reality, and there is no way to discriminate between those diverse 'realities.'" If we insert the term *perceptions* in front of "facts and reality," the argument is, "If perceptions of facts and reality are social constructions, then every culture has its own reality, and there is no way to discriminate between those diverse 'realities,'" so that the statement is immediately revealed to be preposterous.

empirical testing involves making the result you expect to be true the null hypothesis, which minimizes the probability of a type-one error, although you are more likely to reject your hypothesis when it is true. This is the *opposite* of bias confirmation.

Postmodernists assume that the methods we use to test scientific propositions are also socially constructed, so they also believe that one can never discover objective facts or reality; therefore, arguments and information (data) that others provide come from their own vested interests for or against the existing power structure. As a result, the key to unpacking these claims is the proponent's motivation for making that claim—your opponent's motivation and character explain every disagreement because "facts" (data) are irrelevant.

If you accept the curious notion that diverse realities are equally valid, then the historical success of one culture relative to others must represent oppression. Hence, Western culture's success is due to oppression. The notion that cultures compete in the marketplace for ideas and that the best ideas succeed is unexamined. Further, if you believe facts (data) are socially constructed, then hypothesis testing is a waste of time. Postmodern critical thinking has no place for hypothesis testing. However, postmodern critical thinkers live their lives as if scientific methods are correct, specifically when they get on airplanes, go to the doctor, turn on the lights, and so on.

An inherent double standard is welded into postmodern critical thinking: knowledge relativism means the Other's narrative cannot be criticized (political correctness rules), but it does not mean you cannot criticize the not-Other's narrative. Indeed, in postmodern practice any vile accusation imaginable is fair practice when leveled against Western culture. "Microaggressions" against minorities, women, and homosexuals in Western culture are soundly condemned, whereas truly brutal treatment of these groups in non-Western cultures is typically ignored.

The foregoing discussion reveals that Western critical thinking and social criticism are in deep conflict. An individual asked to hold both models simultaneously would experience considerable cognitive dissonance. Western critical thinking values clear, concise, and compact logical thinking supported by thoroughly vetted evidence. Further, objectivity is valued in Western critical thinking. Alternatively, social criticism starts with unexamined assumptions about culture and the denial that objective facts can be discovered, and it promotes a specific political agenda.

Stephen Hicks notes that if the central issue between modernism and postmodernism is a scholarly disagreement about reason, one should expect a wide distribution of postmodern scholars with different political perspectives (2011, 186). In fact, however, you will find that they all inhabit the same corner of the extreme left. Hence, postmodernism is a political movement, not scholarship.

Competing Models in Education

In the mid-1990s, The California Commission on Teacher Credentialing commissioned a survey of teacher preparation at California's private and public colleges and

universities by the Foundation for Critical Thinking. The three researchers who conducted the survey, Richard Paul, Linda Elder, and Ted Bartell, interviewed faculty members in the school of education at thirty-eight public and twenty-eight private institutions in California. They also interviewed faculty members in relevant arts and sciences programs at these institutions. The purpose of the interviews was to assess the state of knowledge about critical thinking among faculty members who prepare teachers to teach critical thinking in K–12.

The survey revealed that 89 percent of those interviewed believed that teaching critical thinking is important and that they teach critical thinking to their students, but only 19 percent of them could give a coherent definition of critical thinking (Paul, Elder, and Bartell 1997, 3). "When asked how they conceptualized truth, a surprising 41 percent of those who responded to the question said that knowledge, truth and sound judgment are fundamentally a matter of personal preference or subjective taste" (4). Also, a "substantial proportion" of the respondents "do not consider reasoning as a significant focus of critical thinking" (5). Further, "present instruction is likely to produce teachers who, on the one hand, are confident that they not only understand critical thinking but also know how to teach for it, but who, in point of fact, understand neither" (21).

The Foundation for Critical Thinking report concludes: "The end result is that California classrooms are places in which both teachers and students lack explicit knowledge of how to reason in a disciplined way about serious subjects and questions" (Paul, Elder, and Bartell 1997, 22). In addition, the report suggests that this lack of knowledge of how to reason causes "a drifting toward intellectual relativism," acceptance of all strongly held beliefs as equally valid, confusing open-mindedness, and a "willingness to accept everyone's answer" as right (22).

In *Academically Adrift: Limited Learning on College Campuses* (2011), Richard Arum and Josipa Roksa reveal that colleges and universities do not deliver on their promise to teach critical thinking skills. Using a sample of 2,322 students who took the College Learning Assessment (CLA) exam at the beginning of their freshman year in 2005 and at the end of their sophomore year in 2007, the authors conclude,

> The end result is that many students are only minimally improving their skills in critical thinking, complex reasoning, and writing during their journeys through higher education. From their freshman entrance to the end of their sophomore year, students in our sample on average have improved these skills, as measured by the CLA, by only 0.18 standard deviation. This translates into a seven percentile point gain, meaning that an average-scoring student in the fall of 2005 would score seven percentile points higher in the spring of 2007. Stated differently, freshmen who enter higher education at the 50th percentile would reach a level equivalent to the 57th percentile of an incoming freshman class by the end of their sophomore year. Three semesters of college education thus have a

> barely noticeable impact on students' skills in critical thinking, complex reasoning, and writing. (2011, 35)

These results also imply that 45 percent of the freshmen in the sample ended the two-year period with no measurable improvement in their critical thinking skills (2011, 36).[17]

For their subsequent book, *Aspiring Adults Adrift* (2014), Arum and Roksa analyzed the value added between the students' sophomore and senior years in terms of CLA scores (2007 to 2009) and then surveyed the students' job-market results two years after graduation. The data cover more than 1,600 students. The authors' value-added conclusions are that the average student increased his or her CLA score from the freshman year to the senior year by only 18 percent and that the percentage of change in the last two years was approximately the same as in the first two years (2014, 37–38). Taking advanced classes in the last two years makes some difference in critical thinking skills, but not as much as one would expect.

Arum and Roksa's labor-market survey reveals that "53 percent of the college graduates who were not re-enrolled full-time in graduate school were unemployed, employed part-time, or employed in full-time jobs that paid less than $30,000 annually" two years after graduation (2014, 57). The students who had higher CLA scores had lower probabilities of being unemployed and higher probabilities of being enrolled in graduate school full-time. Twenty-five percent of the students were living with their parents, and 95 percent said their lives would be the same or better than their parents (2014, 3).

Despite disappointing labor-market experiences, these recent graduates remain optimistic about their prospects, although they often have few plans for how to turn their current experience into success. Further, when asked what regrets they had about their college experience, the most common answer was they wished they had spent more time in social activities (Arum and Roksa 2014, 29–33). They gave that response despite the fact that the representative student's academic engagement was not high (33–37). The prevailing impression given by these graduates is that the most important benefit they derived from college was the social contact they made and not the personal progress they made as an educated person.

Why are so many students not learning to think critically in college? Barry Latzer's study *The Hollow Core: Failure of the General Education Curriculum* (2004) reveals that higher-education institutions allow students to avoid rigorous STEM-style courses—that is, courses in science, technology, engineering, and math. Latzer

17. Humanities faculty members are quick to point out that some humanities majors did better than some science majors in Arum and Roksa's analysis. Two things should be kept in mind, however. First, Arum and Roksa consider gains in critical thinking from entry to the end of the sophomore year. If a student enters with low critical thinking skills, the gain in critical thinking after two years is likely to be larger than for someone who enters with highly developed critical thinking skills. Second, students take very few major classes in the first two years, so it is improbable that majors can have a statistically significant impact during that period. In other words, the different results for majors is very likely to be due to prior selection bias.

examined the core curriculums at fifty top institutions, "the Ivy League, the Seven Sisters, and some of the leading state universities," where he found they "are no longer requiring those subjects that every educated man and woman ought to be studying: composition, U.S. government or American history, economics, foreign language, literature, mathematics and natural or physical science" (foreword).

The American Council of Trustees and Alumni (ACTA) recently released its survey of core curriculum requirements among 1,098 four-year and more public and private colleges and universities. The core curriculum that ACTA expects to see in these institutions includes composition, literature, foreign language, U.S. history or government, economics, mathematics, and natural science. Of the 1,098 institutions, 37 percent require one class in literature, 13 percent require a foreign language, 18 percent require at least one course in U.S. history or government, 60 percent require at least one mathematics class, and only 3 percent require at least one course in economics (ACTA 2014, 13). Almost all of the institutions require at least one science course.

As documented by ACTA, the devil is in the "distributional requirement" details, which is the courses students can choose to satisfy a core course requirement. Here is how it works: the core requires courses in the topic areas, but it often allows students to choose soft substitutes for the actual courses a major would have to take. It is also common practice for K–12 education majors planning to teach STEM classes to take special science and mathematics classes for nonmajors rather than the classes that majors would have to take. The ACTA study lists a variety of soft substitutes that includes histories of particular film genres, popular music, television comedies, horror movies, and so on. My favorites: "Decoding Disney: Race, Gender, and Sexuality in the Animated Blockbuster" and "The Economics of *Star Trek*."

Noretta Koertge describes a mathematics course designed to satisfy the general education requirements:

After taking this course the student will be able to:

1. Describe the political nature of mathematics and mathematics education;
2. Describe gender and race differences in mathematics and their sociological consequences;
3. Examine the factors influencing gender and race differences in mathematics;
4. Critically evaluate eurocentrism and androcentrism in mathematics. (2000b, 262)

The faculty member who teaches this course describes it as "a first step toward changing students' perceptions of mathematics, and making them aware of the sexism, racism, and elitism in mathematics" (Koertge 2000b, 262). So not only are the students not being taught mathematics in a general-education course, but they are also being propagandized to be suspicious of mathematics. Clearly, this is an extreme example, but it illustrates how postmodern social criticism shows up in places where one would least expect it. These political advocacy courses represent themselves

as history, government, mathematics, and economics. Because courses drawn from the core curriculum are what students take in the first two years of college, it is no mystery why they acquire little additional Western critical thinking skills during that period; they are not taking STEM classes.

Despite the marketing that says institutions of higher education teach critical thinking, some college students do not learn Western critical thinking and may graduate believing one cannot discriminate between good and bad ideas. These students may erroneously conclude that people are intolerant if they try to distinguish between good and bad ideas, which can discourage independent thinking. In addition, Arum and Roksa's research suggests the critical thinking value added from four years of college for the representative student is not high relative to the cost of that experience.

The Loss of Culture and the Opportunity Foregone

The dominance of social criticism in the liberal arts curriculum came at the expense of a rich cultural tradition, and it led to the rejection of an opportunity to be relevant. John Agresto, former president of St. John's College in Santa Fe, cogently illustrates what was lost: "We all know how the liberal arts have marginalized themselves out of existence. . . . Gone today in too many places are all the stories that showed us the world with its joys and sorrows, gone all our marveling over the varieties of human types or stories of honor and treachery, of hopes ascendant and hopes dashed. All replaced by more ideologically-driven studies; all replaced with our contemporary infatuation with race and class and politics" (2014, 1). In *Who Killed Homer? The Demise of Classical Education and the Recovery of Greek Wisdom* (2001), Victor Davis Hanson and John Heath provide a more detailed description of what has been lost.

Agresto also hints at the opportunity cost of a road not taken: scientific methods are poorly suited to the arbitration of moral questions because those methods require quantification, and moral issues are rarely quantifiable. As noted earlier, this is also a problem for social criticism. Hence, there is a deficit in Western critical thinking that needs to be filled, and liberal arts faculty are uniquely positioned to help with that project.

What do Agresto's great stories and Hanson and Heath's Greek wisdom tell us about decisions taken and consequences endured? Are there regularities or patterns in the stories that should inform our daily decision making? Can we group, categorize, or organize the lessons to be learned? For example, there was no definitive morally "right" answer when President Truman made the decision to use nuclear weapons to end World War II. In essence, Truman made the decision based on estimates of the dead if he used the weapons versus the number of dead if he did not use the weapons. Was there more to be considered, and how might those considerations have altered or not altered the decision?

Moral issues are present in every policy decision, whether in medicine, economics, science, business, the military, or politics. State-of-the-art critical thinking can quantify the cost of each option in terms of, say, dollars or lives, but it has no metric for arbitrating morals. This dilemma is well understood in economics, where it has spawned a robust literature called "social choice theory." Social choice theory has not resolved the problem, but it has gone a long way toward explaining the nature of the problem. Here we have an opportunity for interdisciplinary research between liberal arts and science faculties. However, resolving the problem will require hard work, patience, and preparation by both groups.

Why has this opportunity been missed so frequently? For a long time, liberal arts faculty have not had a seat at the table when important policy decisions are made. The cooperative response to this exclusion is to demonstrate (not assert) specifically how the liberal arts improves Western critical thinking and leads to better policy decisions. However, that response requires acknowledging the leading role science must play in making decisions. Before Truman could decide whether to use nuclear weapons or not, he needed to know the cost in lives associated with each option; quantification must precede deliberation about right or wrong.

In addition, the cooperative response means working with faculty who understand the demonstrated success of the market mechanism in raising global welfare, such as economists, business school faculty, political scientists, public-policy faculty, medical faculty, and scientists. For someone who is a dedicated collectivist, cooperating with these groups of critical thinkers may be too much.

The revolutionary response is to turn the table over and demand a new table, which may explain why the postmodernists launched the war to "unprivilege" science and install "alternative ways of knowing" and knowledge relativism as the new norms. Once the ideological choice was made, the rest followed in due course.

Stephen Hicks (2011) argues that the attack on universal knowledge (science) comes from the need to create political space for another collectivist experiment following the failure of the collectivist economic model wherever it has been tried and the murderous results in National Socialist Germany, the Soviet Union, China, North Korea, Cambodia, and elsewhere. If history is evidence, then humans would be insane to experiment with collectivism again. Yet some (postmodernists) might still argue that if history is socially constructed by an oppressive Western culture and alternative ways of knowing are equally privileged, maybe we should give it another try.

Conclusions

There is no consensus on critical thinking in education. Surveys suggest that the public expects rigorous, unbiased, and professional reasoning supported by careful empirical analysis. This is the Western model of critical thinking. Most humanities and some social science advocates, in contrast, think critical thinking is anti-Western social

criticism, where the unexamined assumption is that Western culture's success is based on oppression of individuals by class, race, gender, and sexual orientation. Further, they seek restitution through redistributive social justice. This interpretation of critical thinking is the social criticism model.

A careful analysis of Western critical thinking and social criticism reveals they are opposites. Western critical thinking emphasizes reasoned analysis, objectivity, and the prudent use of data or information in the pursuit of universal truths. Social criticism asserts that objectivity is impossible, reason is a trap, and all data are socially constructed; therefore, there are no universal truths, everyone is entitled to his or her own truth, and the dominance of any group or culture must be due to oppression. The consequence is all "privilege" is unearned and due to oppression.

As evidenced by the California study (Paul, Elder, and Bartell 1997), social criticism rather than critical thinking is taught in many K–12 public schools. Social criticism teaches students that everyone has a right to his or her own reality and that it is not possible to discriminate between good and bad ideas or between false and accurate perceptions of reality. As a consequence, some students believe that people who discriminate between good and bad ideas or between false and accurate perceptions are intolerant. If students major in the STEM disciplines or economics, they are introduced to the Western critical thinking model. If they major in the humanities and some social sciences, they may complete college believing Western culture and capitalism are evil.

Faculty who teach the social criticism model teach habitual, prejudicial, and emotive thinking, while undermining Western critical thinking. They are engaged in the ethically dubious task of confusing habitual, prejudicial, and emotive thinking with critical thinking.

Employers hire people to solve problems, not create problems. An uneducated person has a natural proclivity toward habitual, prejudicial, and emotive thinking; employers expect educators to teach students how to avoid those traps and how to engage in Western critical thinking. Therefore, if postmodernists insist on teaching students that habitual, prejudicial, and emotive thinking are valid models and how to write deliberately obscure prose, they are reducing students' marketable skills, even though they have an obligation at least to do no harm.

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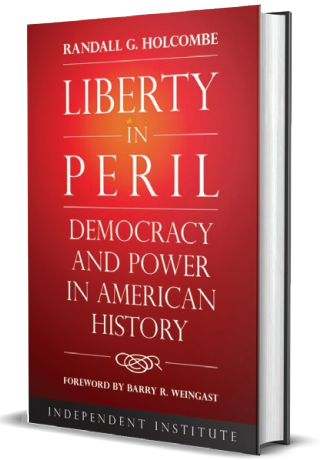

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