

A Brief History of Thinking about Thinking

Thomas Lombardo

*"Education is nothing more nor less than learning to think."
Peter Facione*

In this article I review the historical evolution of principles and practices of good thinking—the purposeful evolution that has transpired in the development of thinking skills and standards. One of the key virtues of heightened future consciousness (and consequently wisdom) is the love and skill of thinking, and this article describes the history behind the pursuit of this virtue—a key dimension of excellence in human character and the distinctive capacities of the human mind.

In my website article, “Knowledge, Consciousness, and the External World,” there is a section reviewing the historical evolution of theories of knowledge (epistemologies). This article on the historical evolution of thinking about good thinking dovetails with that article, for questions of how to think well connect with questions of how best to gain knowledge. Good thinking has been seen as a means toward the acquisition of knowledge (Lombardo, 2006a, Chapters Three and Four).

Efforts to understand the nature of thinking and develop standards and principles of good thinking go back at least as far as the ancient Greek philosophers, Socrates, Plato, and Aristotle. Plato, in his *Dialogues*, wrote of Socrates questioning and cross examining the ideas and views of reputed authorities in ancient Greece. The “Socratic Method” in discussion and interrogation involved asking individuals to clarify what they meant by their statements, identifying the assumptions behind their beliefs, asking for evidence and reasons for their beliefs, and examining the implications of their views. One of the central messages of the Platonic *Dialogues*, illustrated repeatedly through Socrates’ critical examination of the beliefs of others, was that ideas and theories, no matter how authoritative or popular they may be, may not stand up to close critical scrutiny. Just because an idea is accepted as true does not mean that the idea is either clear or logically sound. Ideas, theories, and beliefs need to be assessed and critically evaluated. One key function of good thinking is its critical function.

Plato distinguished between “opinion” and “knowledge”. For Plato, real knowledge comes through reason or rationality—opinion is belief based on limited and transitory sensory observations and appearances. An opinion is a belief based on only one point of view. Truth is not the same as appearance—appearances can be misleading. Plato wished to find a method for arriving at truth and he believed that the logical, abstract, and precise qualities of mathematical reasoning should serve as a model for sound thinking. Because Plato emphasized the role of reason in gaining knowledge he is usually seen as a “rationalist”.

Aristotle, Plato’s most illustrious student, first described the various forms of logical reasoning. He identified the fundamental syllogisms of logic, e.g., Socrates is a man; all

men are mortal; therefore Socrates is mortal. In this example of logical reasoning, the conclusion logically follows from the premises. It is an example of logical deduction, where given the truth of the premises, the conclusion is necessarily true. Aristotle also identified various types of logical fallacies, where the conclusion does not logically follow from the premises, e.g., Socrates is a beast; Socrates is a man; therefore all men are beasts. In Aristotle's study of logic, he identified the general ways to think logically and the general ways to think illogically. Thinking logically, identified as good thinking, involved a set of standards of valid logical inference. The meaning of the conclusion is embodied in the premises.

Although St. Thomas Aquinas accepted the authority of both the Church and the Bible, he did contribute to the development of the philosophy of good thinking by always attempting to consider and answer whatever criticisms could be raised against any idea he proposed. A key feature of good thinking is to play one's own devil's advocate—to ask of any idea that we support what would be the counter-view or objections to our belief and attempt to address these opposing beliefs—to be open to alternative points of view, especially those in disagreement to our own, and conscientiously consider them.

Aquinas though did accept the authority and validity of the Christian theology. As we move into the Renaissance and the beginnings of modern times this general attitude of acceptance of authority and tradition changed. To go back to one of the lessons of Socrates, authority does not equal truth or good thinking. The modern era begins with the opening up of critical examination to all traditions and forms of authority. The world began to change because the beliefs of the past, often based on religious authority, were questioned and new beliefs and ways of thinking emerged. One key value associated with good thinking is freedom of thought. Just because something is believed in, it does not follow that there is no other way to think, or no other belief that might be credible. Good thinking empowers us to transcend the dogmatic or closed-minded constraints of authority.

*“A great many people think they are thinking
when they are merely rearranging their prejudices.”
William James*

Francis Bacon was one of the leading figures in the rise of modernity. In opposition to what he referred to as the “Idols of Knowledge” (beliefs based on human desire, social and personal prejudice, common folk wisdom, and authority), Bacon argued that rational and scientific thinking must be based upon a systematic investigation of nature. There are many ways in which thinking and belief can be led astray and Bacon attempted to identify them. Bacon believed that humanity could immensely improve its social and physical conditions through the application of reason and science. He saw the practical benefits and possibilities of the rational and empirical pursuit of knowledge.

Bacon is credited with formulating the principle of scientific or empirical induction. Philosophical treatments of logic usually distinguish between two basic forms of logic: deduction and induction. As described above, deduction involves drawing logical

conclusions that necessarily follow from identified premises. All A's are B's, all B's are C's; therefore all A's are C's. In induction, conclusions are drawn from the repeated observations of similar facts. For example, every individual fish that I have ever observed has fins, therefore I can draw the general conclusion that all fish have fins. Based on the evidence observed so far, this seems to be a reasonable conclusion.

It though might turn out that I later find a fish that does not have fins. Induction means to draw a general conclusion from some set of similar facts or observations, but there can be no guarantee that there might not be a counter-example, as of yet unobserved. Therefore, whereas deductive reasoning, if carried out correctly, leads to logically necessary conclusions, inductive reasoning only leads to probable or plausible conclusions.

Still it is better to base our conclusions on sets of observed similar facts than to base our conclusions on wishes, prejudices, or a single observation. To conclude that all fish are orange, because the first fish I see is a goldfish, is poor inductive reasoning; after observing hundreds of fish in different environments, my inductive conclusions (generalizations) would seem much more probable. The goal in inductive reasoning is to actively explore and collect as many observations of a phenomenon before drawing any general conclusions. One common form of poor inductive thinking is to draw general conclusions from single or very limited experiences.

The great rationalist philosopher René Descartes furthered the attack on authority and tradition. Descartes decided, as a sound starting point for the development of knowledge, to systematically doubt everything he had been told or believed. He took nothing for granted. As an ideal, the good thinker takes nothing as given, but subjects all beliefs to examination. The modern philosopher William Bartley summarized this approach succinctly and self-reflectively in the statement, "Every principle is open to question, including this principle" (Bartley, 1962).

Descartes believed that after doubting everything as a starting point, ideas could then be thoroughly examined for clarity and logic, only accepting those "clear and distinct ideas" that it was impossible to doubt, or that followed logically (deductively) from such clear ideas. Descartes famous argument, "I think therefore I am" is the paradigm example of this approach. For Descartes it was impossible to doubt his own thinking, for in doubting it, he was in fact thinking, and given this indubitable fact of "I am thinking" it deductively follows that "I exist". I cannot not exist and yet be thinking.

The great skeptical empiricist philosopher, David Hume, brought up numerous critical points regarding types of conclusions we draw from experience that, although we may feel certain regarding their validity, are not logically or empirically justifiable in some absolute sense. Hume raised our consciousness regarding the limits of logical induction and our beliefs in cause-effect relationships in nature, highlighting the contingent nature of beliefs pertaining to the world of observation. What may seem like a justifiable conclusion of thought is, in actuality, an unwarranted conclusion based on habit or feeling.

The rise of modernity produced the Scientific Revolution and the Age of Western Enlightenment. Science in its ideal form was based on careful and repeated observations (inductive logic) and logical and mathematical reasoning (deductive logic). Science, reflecting the modern spirit, questioned both authority and tradition. Science only accepted ideas that had been subjected to the inductive and deductive methods of investigation. Further, science did not accept the views of any one individual but attempted to subject all hypotheses to the collective scrutiny and re-testing of many scientists. Science attempted to reduce individual bias and subjectivity and strive for objectivity. The ideals of rationalism and empiricism were combined with the skeptical attitude, as defended in Descartes and other modern thinkers. All these ideals and goals of the Scientific Revolution and Western Enlightenment would become part of the modern critical thinking movement.

The philosophy of Western Enlightenment argued that, through reason and science, humankind could be liberated from the dogmas and oppressive authorities of the past. For Enlightenment philosophers, poor thinking or lack of thinking in the name of authority and tradition is the enemy of human freedom—it suffocates the human spirit and interferes with progress and the improvement of the human condition. These values and ideals would also become central themes in modern critical thinking philosophy. These ideals and standards of the Western Enlightenment contributed into the ongoing development of cognitive capacities and skills for purposeful self-evolution.

Beginning in the nineteenth century and continuing into the twentieth century, one of the most significant and pervasive observations has been how both society and culture, as well as the desires and prejudices of the human mind, influence how people think and what they believe. The human mind is both socio-centric and egocentric. We see through the eyes of our culture and through the eyes of our personal mindsets. A good thinker needs to be aware of their own cultural and personal biases and how these biases influence and color their beliefs and thinking. Toward the later part of the twentieth century, Postmodernism emerged, which argued that all truths, values, and customs are relative to time and place. The pretense of pure objectivity is humanly impossible. Postmodernism has itself been criticized for taking relativism to an irrational and irresponsible extreme position; still, Postmodernism is yet another chapter in the saga of intellectual liberation and self-reflection (Watson, 2001).

If we were to draw some general conclusions from this brief history of the normative philosophy of thinking, the first one would be that it is important to think about thinking itself. The good thinker is self-conscious—ways of thinking and the content and validity beliefs and assumptions need to be examined and scrutinized. Throughout history, each individual philosopher described above, considered the thoughts of previous thinkers and added new considerations and perspectives to what had gone before. The history of the philosophy of thinking is a story of thinking about thinking. It is a history of the purposeful and self-reflective evolution of principles of good thinking.

Also, as revealed through this history, standards and principles of good thinking have been articulated and continually refined and re-conceptualized. A body of knowledge has accumulated regarding the ideals and practices of good thinking. All this knowledge is contingent, for good thinking needs to be applied to itself—recall William Bartley’s principle. Still, there is an evolving body of knowledge that serves as a foundation for becoming a better thinker.

References

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