

REVISITING THE ART OF CRITICAL THINKING: A CRITIQUE ON THE ARGUMENTATIVE APPROACH IN COLLEGE PHILOSOPHY



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In terms of logic and good sense, it is our responsibility to develop the art of critical thinking, a forgotten discipline that is used only in college courses such as *Philosophy and rationality*, or advanced studies in philosophy and mathematics. How is it that such an invaluable art is used by only a handful of people despite the current level of interest in the highly touted transversal competencies? My studies and teaching practice in this discipline led me to identify a set of assumptions that will hopefully provide some answers. Initially, I will introduce you to the logic currently taught and practiced in CEGEPs. It consists in a set of techniques primarily descendant from Greek antiquity that have not yet integrated the major insights of the 20th century. This age old concept of the role, nature and teaching of logic could be referred to as the *argumentative approach* in order to differentiate it from *theoretical logic*, which offers a much different approach that will be reviewed more thoroughly later. After a few sessions of practicing logic with my students, I noticed that the theoretical approach contributed more than the argumentative approach to cultivating the art of critical thinking.

WHAT IS THE ARGUMENTATIVE APPROACH?

The argumentative approach¹, as we shall see, focuses on the concept of *argumentation*. What exactly do we mean by argumentation? Let us clarify the concept by asking ourselves what precisely is the art of thinking or rather the art of reflecting. Logic does not concern itself with thinking in the strict sense of imagination, perception, or cognition per se, but rather with reflection and reasoning; means by which thought explores the logical consequences of ideas postulated as being true. Therefore, a student who states that deforestation threatens the extinction of certain animal species may draw the conclusion that tighter forest regulations are needed. The student will support his claim by balancing the importance of the biodiversity against his belief that deforestation will have a negative effect. When asked why he wants to see a change in regulations, he will provide the same justification: "I believe it is necessary to defend endangered species, and we will only succeed if we have stricter rules targeting the forest industry. *Therefore* let's tighten up regulations." This kind of reasoning is generally formulated as follows, with premises on separate lines followed by the conclusion:

It is necessary to protect endangered species.
If strict rules are not adopted, these species will not be protected.
Thus it is necessary to adopt strict rules.

What is the essence of this typical example? An argument is a succession of assertions that end in a conclusion. The assertions (called premises) are reasons that support

¹ The majority of philosophy books designed for CEGEPs use this approach. For example: BLACKBURN, Pierre, *Logique de l'argumentation*, Montréal, Éditions du Renouveau Pédagogique inc., 1989 and LARAMÉE, Hélène, *Introduction à la philosophie*, Montréal, Chenelière Éducation, 2007.

the conclusion. In other words, to argue consists in showing that a thesis is accurate because it is based on premises that have already been accepted as true.

However, in reality, only good arguments manage to demonstrate the truth of their conclusion: They are considered *valid* arguments. *Invalid* arguments on the other hand, are called bad arguments. The globally accepted formula is that an argument is considered valid when *given that the truth of its premises, the truth of its conclusion cannot be doubted under any circumstances*. Here is a sample paradigm of a valid argument:

Socrates is a man.
All men are mortal.
Thus Socrates is mortal.

When an argument is valid, all we need do is base it on true premises in order to reason in complete security, because our reasoning "upholds the truth" while moving from premises to conclusion. Under the argumentative approach, the principal mission of logic is to determine which arguments are valid.

This age old concept of the role, nature and teaching of logic could be referred to as the argumentative approach in order to differentiate it from theoretical logic, which offers a much different approach [...].

As a result, we teach Aristotle's syllogisms, a collection of valid logical arguments. Sophisms also occupy a role in the college course on Logic because they are the key examples of invalid reasoning,



albeit convincing. Also, Tree diagrams (presenting arguments in the form of a “tree”) are often employed to illustrate the logical connections between the premises and the conclusion (see table).

In tandem with these elements of competency, ministerial specifications require that the student produce a structured argument for his final exam that follows Aristotelian logic while avoiding the principal sophisms. Within the framework of a critical essay, the student must validate the argument of a philosopher and also try to oppose it. This specification is called “creating a rational argument on a philosophical question”.

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All things considered, logic “preserves the information” in the reasoning process. If the premises are true, the logical conclusions that result will also be true. But what happens if the premises used in the reasoning are wrong? Unfortunately, logic will maintain this error. Thus when considered on its own, the study of logic may appear devoid of meaning.

In addition, *Philosophy and rationality* courses require that students recognize the difference between rational discourse and scientific or religious discourses.

According to a general consensus, science proceeds rationally but requires experimental validation of the premises on which reasoning is built, whereas religion bases its reasoning on divine authority or spiritual experience.

Examples of a Tree Diagram		
<p>Here, a single premise is used to support the conclusion. We are dealing with a <i>simple argument</i>.</p>	<p>This is a <i>convergent argument</i>. Two premises are independently offered in support of the conclusion. In other words, each premise provides, by itself, a reason to believe in the conclusion.</p>	<p>This is a <i>convergent argument</i>. Two premises are independently offered in support of the conclusion. In other words, each premise provides, by itself, a reason to believe in the conclusion.</p>
EXAMPLES		
<p>② Pollution in Montréal seems to be getting worse since ① I can't stop coughing.</p>	<p>③ Religion allows man to grow ① because it gives him a goal to reach and ② a starting point in relation to which he can position oneself.</p>	<p>① Since he has an access code ② as well as a terminal ③ Marc can connect from his office.</p>

Philosophy for its part focuses only on the form that reasoning takes and uses premises that are really definitions masquerading as declaratory statements. This has led to the well known maxim that what counts in philosophy is more the way a thesis is defended than the thesis itself. When correcting essays, the professor will carefully filter out premises that are obviously false, but the student is never required to justify anything more than premises that seem plausible at first glance.

CRITIQUE

At this point, I would like to raise a delicate issue for any reader teaching a scientific discipline. In spite of the undeniable importance of argument validity, how can we explain—and justify—that philosophy fails to base reasoning on experience but rather limits itself in great measure to “conceptual analysis” as it is called in philosophical jargon? There is a philosophical movement called “rationalism” according to which reasoning by itself can show the irrefutable truth of a thesis. Interestingly, Plato and René Descartes, the most read authors in CEGEPs, adhere to this startling doctrine. Indeed, according to Platon and his teacher Socrates, practicing critical reflection leads to fundamental principles that withstand all rational attacks and, that consequently, we can adopt in a reasonable manner. According to Descartes, the correct use of reason reveals principles that are so obvious they could be used to create all manner of unshakeable sciences, with no need for experience.

I therefore formulate the following hypothesis: Current college philosophy is fundamentally rationalist which is due in part to the philosophers in the program, despite the fact that the originator of syllogisms considered experience to be very important in the acquisition of knowledge.



Secondly: Faced with the phenomenal progress achieved in empirical sciences, philosophy needs to redefine itself. Unable to confront science on an equal footing, it seems to have quite simply left the battlefield and become content with abstract thinking in which experience and experimentation have no role to play. The fact is however, that for the great philosophers who preceded postmodern times, philosophy encompassed all the spheres of research. For example, Aristotle classified biology as a philosophy, whereas Descartes said the same about optics. The philosopher has always been a seeker of knowledge in any and all fields. In other words, philosophy has never been interested in reasoning alone; first and foremost, it seeks the truth.

Whatever the reasons for the predominance of the argumentative approach in college philosophy, it should raise a number of questions. To begin, the *ability to argue* is not identical with the *ability to use critical thinking*. For example, a researcher who raises problems without answers, who omits to get appropriate information or ignores experience is irrational, based on today's meaning of the term. Nor should thinking in purely abstract terms like a mathematician become the symbol of *critical thinking*. That art consists in applying our ability for abstraction to the solving of concrete problems. Imagine the perplexity of a student asked to give an opinion without being able or allowed to base it on verifiable sources and concrete considerations. Naturally, the message he deduces is that in order to succeed in the philosophy course, he must think like the teacher or merely parrot the thinking of philosophers included in the program.

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What is there to say about Aristotelian logic except that it offers only a fraction of the capacity of modern systems of logic but all of their complexity. The argumentative approach is accompanied by a procession of ancient concepts on the role of definitions, forms of argument, types of proposals and the nature of truth.

Last but not least, its practical application is almost always impossible. Philosophy texts rarely contain one single thesis supported by convergent arguments, as is the case with school essays. The texts usually expose a whole set of theses and definitions linked to each other not as branches of a tree but as a neural network.

Unfortunately the most perverse effect of this approach is that the bottom-line objective is *not truth but the defence of a thesis*. As such, it contributes to the creation of sophists (or false reasoners) and not philosophers². This playful yet regrettable passion frequently appears in philosophy courses where it seeks to destroy acknowledged certainties and admitted truths using logico-sophistic means or attempts to demonstrate the indemonstrable. When one is not particularly interested in the truth of premises that support a thesis, one can effectively defend any cause without violating a single rule of logic *but rather thanks to it*. We can therefore “turn the best cause into the worst”.

All these problems make argumentative logic a daunting discipline, difficult to use and one in fact that falls short of its objective. Therefore, our approach must be revised.

THE THEORETICAL APPROACH

As a replacement, I would like to suggest what I call *theoretical logic*³. The realistic researcher does not seek to validate rationally each one of his opinions. His concern is rather to construct and *test* an explanatory system that allows him to understand a part of the world in which he lives—a *theory*. This consists in a network of theses connected to each other in a manner that bears a striking resemblance to a living organism. When theory faces failure, it must adapt. A thesis must be specified, limited or simply withdrawn or, on the contrary, developed. Given the logical bonds that unite elements of the theory, it must proceed to an internal reorganization so it can regain a sense of balance, since modifying one part of the theory can have repercussions elsewhere. If it fails to adapt, a theory simply disappears from the intellectual ecosystem of the community where it was born.

Take for instance the conceptions we have about human beings. To produce a theory on human beings consists in seeking out assertions that are true as regards humans. The student can begin

² Western philosophical tradition paints sophists as eternal rivals of philosophy. The itinerant teachers were the young aristocrats of ancient Greece with rhetoric and political arts in exchange for sums of money, sometimes quite considerable. They linked “virtue” to the power of *persuasion* necessary to win over similar work within public institutions. Socrates, Plato and Aristotle reacted by bringing virtue closer to knowledge, according to them much more of a guarantee of a happy and well managed city.

³ The theoretical logic that is introduced here is taken from the last section of a famous article (QUINE, W.V.O., «Two Dogmas of Empiricism» (1951), in Feigl, Sellars, Lehrer, *New Readings in Philosophical Analysis*, NY, Appleton-Century-Crofts, 1972, p. 81-94), where Quine introduces the “holistic” concept of knowledge. Other concepts, such as consistency, completeness, development and reliability are adapted freely from works and formal logic.



by formulating several hypotheses: the human being is free; he is created by an omniscient God; he has a physical body and a soul. Therefore, is born the outline of a theory.

Instead of focusing on a definition of valid argumentation, the theoretical approach wishes to guarantee the validity of the theories.

But in order for the theory to survive, its “organs” must work smoothly together. If the human being is free, this means that several options are offered when it comes to action. But if God is omniscient, do these options not dwindle down to one? And would God not know that option in advance? If the human being is composed of a material body subject to the laws of nature, does this not give us reason to believe that only one course of action is possible? In the final analysis, is man really free? This theory does not possess the minimum criteria to survive. Rather, it seems more like a logically incoherent theory. Instead of focusing on a definition of valid argumentation, the *theoretical approach* wishes to guarantee the validity of the theories. (see categories in table at right)

The reader may notice that the theoretical approach is not completely opposed to the argumentative approach, since it makes use of the latter when verifying the coherence of a theory and developing it. It is important to proceed logically. Pure reasoning can thus be used to test a theory by bringing out inherent contradictions. However this is not sufficient in itself. The two approaches are totally incompatible when it comes to the role of experience. Theory is a like guide and we test a guide by trusting him. We can reflect for years on the quality of this guide, but in order to truly

test him, we have to allow him to lead us and then observe with our own eyes if we have reached or not the desired success.

Building a “good theory” is based on at least four main principles. Applying a logical approach consists in appreciating a theory through each of the four categories below, which are complementary in function:

Reliability	A theory is good when it contains <i>only</i> truths, both in its principles as well as their logical consequences. Imagine a calculator that adds incorrectly or a road map that leads you in the wrong direction! Similarly, a perfectly reliable theory will never lead you astray. It will not fail when put to the test of experience.
Completeness	Though it is impossible to achieve in practice, a good theory not only contains some truths but <i>all</i> the truths on a given subject. A low end calculator is frustrating because it can only “deal with” a small number of mathematical results. So the more a theory is able to explain, the stronger it is. Just like the atlas is a step above a map in terms of completeness.
Consistency	When a theory contains two incompatible assertions (for example, “the human being is free” and “the human being is predestined”), one of these two assertions is necessarily false. The theory is not reliable. This is the criterion of consistency.
Development	When adopting a belief or undertaking a project, we seldom think of all the possible consequences. This is why it is crucial to develop a theory, i.e. extricate all the consequences that derive from the principles. Development is related to completeness, since it is through development that a theory increases its explanatory capacity.

▶ ANTICIPATED ADVANTAGES AND ANSWERS TO OBJECTIONS

Allow me to underline the many additional benefits for a philosophy teacher and his students that can result from a change in approach.

FIRST

The theoretical approach is simpler to understand and to teach. With only four principles to apply (and a few others that are not discussed here, such as clarity, rigour and simplicity), we can avoid the endless study of sophisms and of syllogisms—although a professor, who nonetheless wishes to devote himself to it, can still do so in the theoretical approach. This simplicity enables the student, among others, to focus more significantly on theoretical creation and critical thinking: without a doubt the two most significant activities offered in philosophy courses. It also implies replacing the Tree diagrams with “nervous systems”, that is, diagrams providing high visual significance that allow for easy detection of sources of inconsistency and the testing of proposed corrective measures, in addition to offering an overall vision that argumentation never reveals.



SECONDLY

Proceeding theoretically is much more natural and in agreement with the actual unfolding of thought. Whereas argumentation never defends more than one thesis, theory can parallel a potentially unlimited number of theses, which is what we effectively do throughout our life. Instead of obsessing over showing the truth of each thesis, which is impossible, the theoretical approach tolerates and even encourages the presence of *assumptions* that are adopted not because they have been proven but simply because they have never misled us, or if we were misled on occasion, there are no valid substitutes available. This approach also allows for the comparison of systems of thought, by showing how they contradict or flow from each other, which the argumentative approach only manages to achieve very awkwardly. For this purpose, the illustration method using Tree diagrams does not allow for effective presentation of objections and counter-objections, which explains our suggestion for a neural network. Lastly, as regards the four principles mentioned here, it should be pointed out that we use them naturally albeit unconsciously throughout our life. However, we tend to apply them with insufficient rigour when situations become more complex.

THIRDLY

The theoretical approach prevents the proliferation of hasty opinions that several professors have complained about. It is not enough for the student to justify his proposals or to object blindly as a result of initial concepts that pop up in his intellect. The rational exercise now consists in finding contradictions. The student will have to understand the author's theory and examine its internal consistency. And this is only the first step. He will then have to determine if other theories (whether his, or those of others) contain an assertion incompatible with those put forth by the author. This is known as external consistency. The student must then make a choice: Which of the two incompatible proposals is most credible? This kind of exercise focuses the attention of the classroom on the logical and therefore objective properties of philosophers' ideas. In doing so, we stop encouraging naive justifications and objections, without however, removing the right to intellectual creativity.

FINALLY

One clear advantage that results from the natural simplicity of the theoretical approach is its genuine usefulness for the student. It allows him to combine the joy of reflection with perseverance in confronting intellectual problems that have solutions; without losing sight of the overall philosophical exercise. This brings about increased motivation to discuss and undertake more advanced research; whereas argumentation pushes the student towards scepticism and cynicism, all too often reaching the conclusion that to be right in philosophy courses "all you need to do is learn to argue successfully".

I foresee legitimate objections from my colleagues. To begin with, how does the theoretical approach relate to ethics, whose tenets are not validated by experience? I would like to mention here that although ethics is a system which does not describe the real world, but rather a "proposed" world, it is perfectly relevant to question the coherence of this world and think about the implications. It is also justified to ask whether a system of standards is reliable and complete, for example, if ethics are expected to lead us to happiness, peace and human dignity.

Others may counter that I am missing the whole point of philosophy; that I am trying to replace it with science and technique. I believe the philosophers of old were thinking of philosophy as a science, above all else. Even if it does not offer absolute certainty, it is nevertheless more reliable than anything that pure reason can produce (excluding mathematics). It is modern "philosophers" who transgress the values of ancient philosophy. As we indicated earlier, rare are the great thinkers who were satisfied with good reasons and the infamous "analysis of concepts", which for some defines the very essence of philosophy. As if scientists and believers were exempted from having to provide good reasons or analyze concepts!

One final point: This text is obviously an essay—a very standard argumentative text. Am I not therefore contradicting my very position? Since argumentation continues to occur within the theoretical approach? The answer, of course, is that texts need to be written to outline the theories we wish to study along with their properties! I reiterate that the theoretical approach takes nothing away from the argumentative approach—it merely adds components that are essential for a fully functional rationality.

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Whatever other objections may come into the reader's mind, I suggest that he put the theoretical approach to the test in the actual teaching arena. My subjective experience can only confirm a small part of the overall picture. For this reason I hope to launch a scientific study in the next few years to measure the benefit of this educational approach.



CONCLUSION

To conclude, I would like to share a vision of philosophy adapted to the needs of students so the reader may better understand the relevance of a theoretical approach in philosophy. The student devotes a good part of his learning process to assimilating answers prepared by his predecessors and transmitted to him, from one generation to the next. But, there are immense gaps in our collective human knowledge, and an entire field where these gaps can never be filled. Ethics, politics and the concepts of human beings are evolving disciplines that continue to require the contributions of stable scientific disciplines. Then, there are questions that appear at specific intervals only, or that relate to one group of individuals only, or one individual. Authentic philosophy will therefore have enough work to last an eternity, assuming it asks the right questions. Among these novel questions is a most important one, a question that each generation must ask. It relates to the mission of producing a *global vision of the world*—real and ideal—reliable, complete, coherent and developed, and therefore capable of guiding the individual and society in their actions. This is what distinguishes philosophy from science.

However, current society has no room for philosophers because they have knowingly decided to withdraw from it to busy themselves with their conceptual analyses that call “rational and critical

reflection” into play. While trying to save face vis-à-vis science, they have actually attacked the very roots of their own discipline. Modern-day science is the true heir of ancient philosophies.

Consequently, there is at present a significant field of investigation that remains untouched by human thought and which, following the weakening of religions, remains almost universally neglected, save for dangerous charlatans. I am talking about the need to develop and implement our vision of the world, our understanding of real and ideal existences—of wisdom—and to manage it all with the vigour of science and the urgency associated with religion. In a democratic Quebec where the church is less influential, we have become brutally aware of an encroaching fundamentalism. Is it not high time we publicly reopened the debate on the finality of human existence? Why not revise our concept of philosophy so that it can focus on global questions by means of a modern rationality? Then no one would dare question the relevance of philosophy in CEGEPs.

It is my belief that the study and practice of theoretical rather than argumentative logic can contribute immensely to the rise of this kind of philosophy. ◀

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