On Philosophical Heuristics

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Abstract—Philosophy can be regarded as a type of conceptual research subjected to the usual standards of rationality. However, there seems to be no objective and accepted criteria for evaluating and comparing philosophical theories. From a heuristic- and erotetic-based approach, philosophy is here considered a set of second-order reflections that are presupposed by more specific theories; and evaluated by their informativeness, adequateness, cogency, generality, novelty, and presuppositional nature. As a practice, one can proceed upwards (from problems to presuppositions) or downwards (from presuppositions as meaning conditions for assertions under question). But as a product, a philosophical theory is to be assessed as how it helps foster knowledge and assists in learning, posing, and solving new queries.

Résumé — La philosophie peut être considérée comme un type de recherche conceptuelle soumis aux normes habituelles de rationalité. Cependant, il ne semble pas y avoir un ensemble de critères qui fait consensus pour évaluer et comparer les théories philosophiques. D'un point de vu heuristique et érotétique, la philosophie est ici considérée comme un ensemble de réflexions de second ordre à propos des présupposées de théories plus spécifiques. Ces présupposés sont évalués en fonction de leur caractère informatif, de leur adéquation, de leur pertinence, de leur généralité et de leur originalité. En tant que pratique, on peut procéder vers le haut (des problèmes aux présupposés) ou vers le bas (des présupposés comme conditions de signification des affirmations en question). Mais en tant que produit, une théorie philosophique doit être évaluée en fonction de la manière dont elle contribue à favoriser la connaissance et qu'elle aide à apprendre, poser et résoudre de nouvelles questions.

Keywords—Philosophical practice, Heuristics, Presupposition, Entailments, General and special concepts.

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No distinctive feature seems to fit the process of philosophical inquiry other than the act of deliberation common to any other rational enterprise. It is also usual to assert that everyone knows what philosophy is except for philosophers who are not sure of being able to give a proper definition of it (Salazar Bondy, 1964). As Sellars (1963) points out, philosophy does not have a special theme on its own that could not be delegated to specialists in other fields. Its agenda is barely defined by the range of problems shared by the same community.

Nonetheless, there are various conceptions of philosophy sharing resemblances:

- [The value of philosophy is to] enlarge our conception of what is possible, enrich our intellectual imagination and diminish the dogmatic assurance which closes the mind against speculation (Russell, 1912).
- The aim of philosophy (…) is to understand how things (…) hang together in the broadest possible sense of the term (Sellars, 1963).
- The discipline that studies the most general concepts (…) and the most general hypotheses (…) (Bunge, 2003.)
- Philosophy is the most global and reflexive part of the continuum [between science and philosophy] (Mosterín, 2013).

In most cases, philosophy is distinguished by an emphasis on logical rigor, conceptual analysis, and critical inquiry at the expense of empirical considerations (Russell, 1912). It can be regarded as a type of *conceptual research subjected to the usual standards of rationality and capable of raising questions considering the best available knowledge with the help of formal tools such as mathematics and logic* (Bunge, 2018; Romero, 2018; Rescher, 2006). To the extent that we pose and debate problems that cross disciplinary divisions, the use of philosophical concepts is inevitable and their difference with the rest of ordinary, empirical, or theoretical concepts is a matter of degree, not of class.

1] Criteria for Philosophical Practice

Philosophy has sometimes been regarded as something entirely distinct from other disciplines. Although this is popular among amateurs, media, and scholarly publications, it is not clear whether it has a subject matter on its own. What ensures us that we are before

Being, the Soul, God, the Absolute, or Possible Worlds? It is knowledge sanctioned by evidence and reflexive judgment that give substance to philosophy, not the other way around.

An "intersection" has been thus proposed to establish communicating vessels between philosophy and science. This path is promising as the philosophy "of" mathematics, physics, biology, or psychology does suppose an intersection between fields. A set operation such as $A \backslash B = \varnothing$ can be made to prevent inflationary concepts. After all, we have no doubts about scientific facts but are less confident about "philosophical entities", whatever they are.

Yet there are no philosophical facts other than worldly facts. Our best theories attempt to represent all kinds of phenomena and lead us to act upon them, so the difference lies in the dependence relation between general and special concepts, so a "deflationary" conception of philosophy fits better in its relation to science:
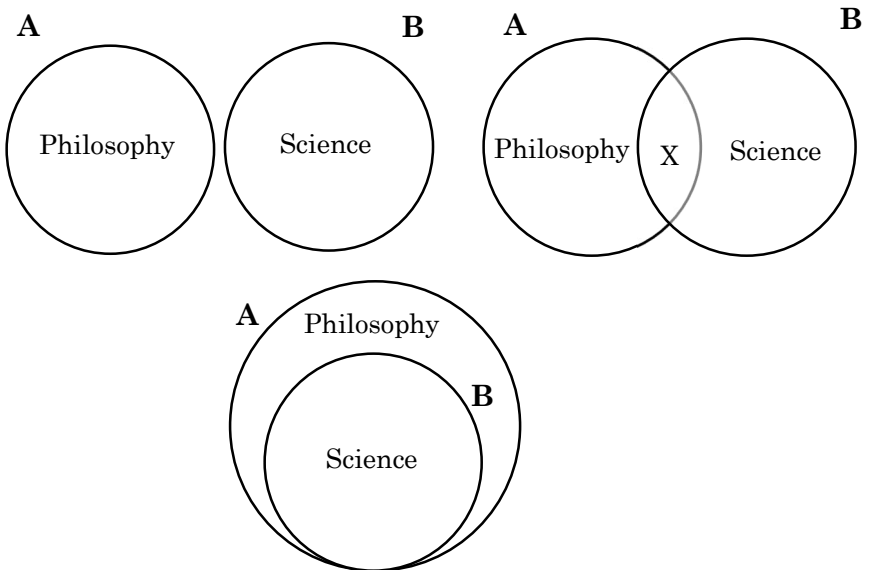

Figure 1: Three kinds of relationship between philosophy (A) and science (B). The first one illustrates an inflationary concept (i.e., two distinct disciplines). The second one exemplifies the intersection between fields while the third one stresses the continuum among a single domain, namely, the system of human knowledge.

To the extent that every intellectual endeavor begins with cognitive dissonance, we look for the most appropriate ways to solve it,

not to dissolve it. Although a particular enterprise can be abandoned, its abandonment cannot be advocated through rational argumentation (Rescher, 2014). But doubting everything is unreasonable as well for all argumentation begins with some knowledge that disputants share (Russell, 1912). Neither an "absolute foundation" of scientific rationality is required since reasoning can be seen as a resolutive pursuit in the face of indeterminacy, conceptual inconsistency, or practical immediacy.

But whereas scientific research has evaluation criteria such as clarity, coherence, empirical adequacy, external consistency, or predictive capacity, philosophical hypotheses are not weighed for their conceptual, empirical, or moral merits but are chosen mainly based on intuition, utility, or ideological affinity. As there seems to be no objective and accepted criteria for evaluating philosophical theories, Rescher (2006) underlines the need for methodological maxims to specify a good practices for philosophical inquiry such as the following:

- *Principle of information adequacy*: Demands providing adequate information on a topic; or facilitating a better understanding of it. It points out the relevance of identifying and specifying what is going to be addressed (*Px*) distinguishing it from another (*Px*≠ *Qx*). Therefore, it is an informative or clarifying principle.

- *Principle of rational cogency*: The principle of rational cogency is of probative type and demands convincing reasons regarding the evidence, instantiation, or justification for each substantive statement formulated under the principle of sufficient reason $\forall x \exists x (Rxy)$. It states that no contention can be rationally supported except by others, that is, that conclusions are weak enough to be entailed by their premises.

- *Principle of rational economy*: This principle seeks to ensure efficient philosophical practice. It demands interrupting argumentation if it is impossible to solve an issue in the given terms or if the problem is undecidable.

As a corollary, Rescher (2002) mentions that something should not be explained by further obscuring or complicating its subject matter (*non explicari obscurus per obscuriour*) which orders not to increase the terms without an improvement of its probative capacity.

Henceforth two additional maxims can be here proposed:

- *Principle of generality*: To tackle philosophical problems, seek out transdisciplinary concepts, general hypotheses, or underlying issues within intellectual endeavors.

- *Principle of novelty*: Philosophical discussions should provide relevant supplies to pose novel problems or address older ones related to empirical, theoretical, or logical issues[2].

The sole act of questioning does not constitute a philosophical attitude *per se* but insofar as there are contentions to discuss, reasons to provide, or answers for big questions to reject, the above principles will be justified by their procedural competence although others can be considered iff: 1) they are not inconsistent with each other; 2) from their acceptance, the suitability of any philosophical practice is followed.

2] Two Orders of Understanding

Kekes (2014) distinguishes a "practical approach" where one uses available resources to cope, solve, or manage a problem; from a "reflective approach" where one compares, contrasts, and gives reasons for or against that solution. Any mode of understanding is bound to a specific point of view of relevant facts which are unimportant from another perspective, although there may be gray areas between them. But for figuring out conflicting views, one usually adopts a "second-order" reflection[3]. It is one thing to research something and another one to raise foundational questions about method and scientific rationale. One can certainly stay out of such affairs by advocating the utility of science, but this already implies adopting a philosophical perspective, be it utilitarian or pragmatist.

However, not everyone would agree that philosophical theses are to be found among clashing ideas for there would be countless reflections considered philosophical. Popper (1952) held that "pure" philosophical problems do not exist, for they are liable to degenerate

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[2] Similar as the *Principle of Creativity* formulated by Miró-Quesada (2012), which argues that every rational proof of a theorem leads to the establishment of something not evident before (*quod erat demonstrandum*). Certainly, without creativity there is no possibility of forging a new theory and no hypothesis emerges from nowhere.

[3] The expression of philosophy as a second-order reflection is proposed by Bueno (1995) concerning its role in education, politics, and religion.

into empty verbalism. Genuine philosophical problems are rooted in sources outside itself, which can even turn out to have factual components. Mosterín (2013) exemplifies this stance by claiming that philosophical problems may not form part of our standard models of science but are still considered in the long run as sources of speculation and rational criticism.

Therefore, philosophy is a second-order reflection for clarifying and systematizing the basic assumptions of our ideas, although it may be brought to bear *after* conflicting ideas are put forward. Even the pragmatist and skeptical approaches are reflexive in this sense. I will argue from now on for a heuristic- and erotetic-based approach to posing these kinds of reflections.

3] Problems and Philosophical Presuppositions

Scientific queries are concerned with factual matters and are characterized as open problems such as tracing viral origins in their proteome or including framing effects in standard economic models. Improving sustainability without generating considerable losses is not a scientific problem but rather a technical or political problem such as lifting a bridge or improving our health services.

Problems precede a search for a solution in a context where no answer is yet provided and can be listed according to the logical, factual, technical, practical, social, or moral questions they face. According to Bunge (2017), the logical form of any problem is as follows:

$?xPx$ (Problem) $\rightarrow \exists xPx$ (Generator)

$\therefore Pa$ (Solution)

Where "?" is not an operator but designates the type of answer under question (i.e. *which*-, *what*-, *how*-, and *why*-questions). The solution is the member x of a class with the property P that satisfies the generator. Since most real-life problems have multiple solutions, given the output of a system, one must find its input, mechanism, or both proceeding from the observable behavior of the system toward its causes or initial conditions.

Empirical and logical questions are closed in principle (i.e., answerable by meeting adequate conditions), whereas philosophical questions are open and remain so even after an answer has been formulated (i.e., they are not empirically or mathematically answerable) (Floridi, 2013). To answer how many "*x*" are in a finite

numerable set one just needs to rely on counting. However, to ask why there is being instead of nothing does not seem to be answerable in the same fashion.

The concept of closure of a set appeals to the idea of some inability to get out of the set by means of an operation (Mosterín and Torreti, 2002). A set is closed under an operation if carrying out that operation on members of the set always produces a member of that set (e.g., natural numbers under addition). Formal arguments are closed under deduction as every member of the set of statements is either an assumption or a logical consequence of an assumption. If philosophical arguments are open (not answerable), they can be considered undecidable at best. Yet scientific queries can also be opened under the operation of *questioning* where they end up outside their original set becoming philosophical in nature (Floridi, 2013). But since philosophical propositions are not subjected to measurement and empirical control, the Vienna Circle considered them as no more than vicarious statements for clarifying the logical and semantic aspects of our ideas.

The generation of philosophical propositions is still viewed with suspicion since these, it is argued, have not a truth-content we can all agree on. But while the aim of science is reaching an objective representation of the world, the task of philosophy seems to be attaining systemic consistency. Philosophical queries can be considered main nodes, cornerstones, or attractors of a set of questions (Floridi, 2013). If philosophical statements F are embedded in a network of concepts presupposed by theories Q, they become devices for a better understanding of these.

Based on Gödel's incompleteness theorem, Celluci (2015) asserts that for any consistent theory $T \in Q$, there are sentences of T that are true but indemonstrable in T. And as a sentence expressing the consistency of T is not demonstrable by absolutely reliable means (i.e., there cannot be a theory T capable of expressing the concept of being a true sentence of T), then science cannot rely upon mathematical logic alone. Hypotheses are instead obtained by means of non-deductive rules which are not truth-preserving but ampliative (i.e., their consequences possess novelty with respect to their premises) thus relying on abductive reasoning:

$$\Theta, T \rightarrow \phi$$

where "Θ" and "ϕ" refer to a scientific field and an unexplained phenomenon respectively. Hence, theory T best explains ϕ in light of Θ (Iranzo, 2007). This has been regarded as an inference to the best explanation (IBE) and has been used to describe not only the inferential steps taken in scientific activity but as the basis of all philosophical argumentation. It is possible to pick a hypothesis based on which provides the best explanation of the data proceeding by searching through our background for guiding our research (Dawes, 2012; Day and Kincaid, 1994). But what sustains Θ? Faced with the conventional challenges to inductivism and apriorism, one can rather say that philosophical hypotheses Φ specify the presuppositions that best account for a specific field Θ.

IBE should be then understood more as a heuristic procedure for potential explanations than as an epistemic rule for favoring either true, partially true, confirmed, or highly probable statements when comparing rival hypotheses (Iranzo, 2007). If no scientific theory *includes* philosophical concepts but *presupposes* them, these are to be characterized by their generality and presuppositional nature. Borrowing the account of Belnap (1966) of interrogative sentences, one can state that a sentence is a presupposition of a statement if the truth of the sentence is a necessary condition of the statement having some true answer, or if every interpretation which makes the question truly answerable is an interpretation which makes the presupposed sentence true.

Entailments and suppositions are common in everyday speech. But philosophical statements are almost always presuppositions as truth conditions for a set of specific assertions. For instance, to state that thermodynamics governs any system that works presupposes (among many other things):

- Properties are bound to things, not otherwise.
- Energy is a universal property of things that work.
- There are laws governing things that work.

The assertion of evolutionary processes as responsible for population speciation presupposes:

- Processes occurring at lower levels are the basis of further complexity.
- Selection leads to novelty changes.
- There are emergent properties.

The various accounts of mental activity in neuroscience, cognitive sciences, and psychology presuppose any of the following:

- There are only organs, no minds (substance monism)
- The mind interacts with the organ (substance dualism)
- The mind is a function of the organ (property pluralism$_1$)
- The mind is a function of the organism (property pluralism$_2$)

One might say that philosophical hypotheses are trivial because asserting that *Px* presupposes that *x* exists is blatantly obvious. But by enhancing our premises we considerably increase their presuppositions. Even the modest theory makes assumptions about the composition of the world, the way it is arranged, and the way we can (or cannot) know and act upon it, which are rendered necessary for scientific knowledge without belonging to a particular science such as:

- Objective patterns (e.g., laws) exist independently.
- Theories represent objective patterns of the world.
- It is possible to know the world through our theories.

And unless we see philosophy as a purely formal enterprise, these assumptions may acquire the status of a theory by going from being aggregate conjectures to well-formed systems shedding light on other fields.

4] The Nature of Philosophical Propositions

One can proceed upwards (from problems to presuppositions) or downwards (from presuppositions as truth or meaning conditions of the assertions under question) in philosophical inquiry. In any case, the difference between a scientific and philosophical statement remains open. Without denying that this is only a conceptual distinction, Bunge (2018) proposes the following classification:

- *Ordinary empirical generalization*: Inductive assertions based mainly on ordinary experience (e.g., All swans are white).
- *Scientific empirical generalization*: Involves no theoretical concepts but is subjected to measurement and empirical control (e.g.: Galileo's law of free fall, cinematic theory, learning theory).
- *Scientific statement*: Involves theoretical concepts that are directly or indirectly subjected to measurement and empirical

control (e.g.: theory of relativity, evolutionary theory, Keynes-
ian theory).

- *Philosophical statement*: Involves theoretical concepts that are
not subjected to measurement nor empirical control, but indi-
rectly to specific statements. (e.g., All things are material, or
Ex nihilo nihil fit).

- *Wild speculation*[4]: Involves theoretical concepts that are not
subjected to measurement, empirical control, or specific state-
ments (e.g., creationism, accounts of parallel Worlds, or ram-
blings about *Dasein*).

Even when theoretical physics contains extremely general state-
ments, philosophical hypotheses are too astray from measurements
to be directly testable. They, however, entail other statements, so
the main way to test a philosophical theory is through its interac-
tions with more specific theories of science (Romero, 2018). Proceed-
ing upwards the relation is one of a presupposed background; but
proceeding downwards, the relation is one of entailment (through a
set of auxiliary assumptions). The former leads us to one last maxim
of philosophical practice:

- *Principle of presuppositional condition*: Philosophical presup-
positions must entail the truth or meaning of empirical, theo-
retical, logical, or moral issues.

Although philosophical concepts are presupposed, there are fac-
tual constraints (except perhaps in the philosophy of mathematics)
so no wild speculation is allowed. One can risk entering "empty ver-
balism" or "vagueness" as Popper (1952) warned if no real problems
are tackled. The current proposal stresses the task of the philoso-
pher as a generalist for imparting systemic order into the domain
of relevant data.

Without undermining the psychological aspect of awe that origi-
nates a philosophical mode of understanding (see *Addenda*), a set-
theoretic view of philosophical inquiry asserts that general state-
ments are truth conditions for the specific concepts they entail (i.e.,
for these to be "meaningful") which remain presupposed until a sec-
ond-order reflection occurs. These propositions constitute a

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[4] "Nonsense speculation" can be included as a pseudoproposition not subjected to
anything (nor grammatical rules) but the author's imagination akin to Peirce's te-
nacity method.

continuum with its subject matter, not a distinct sphere. Moreover, these statements are to be evaluated by their informativeness, adequateness, cogency, generality, novelty, and presuppositional condition.

But even considering these heuristics, there is one problem, namely, theoretical overdetermination. There can be many philosophies that count as presuppositions for an open problem or question. However, not all proposals have the same heuristic scope. One must narrow the search space and see which is the best account while keeping the general and presuppositional aspects of philosophy as much as possible. A comprehensive *synopticon* continues to be the lofty aspiration of philosophers.

5] Addenda

Metaphilosophy addresses general conditions of philosophical practice and knowledge. It is usually divided into descriptive and normative metaphilosophy. The former belongs to the field of historiographic, psychological, or sociological research, whereas the latter discusses topics such as those presented here. As philosophical theories must be supported in some way, they are not arbitrary speculations nor are they all on an equal footing. It would not be possible to deliberate, promote rational debates, or reach agreements as a means of learning, questioning, or clarifying problems without resorting to the aforementioned principles of philosophical inquiry. Philosophy is here defined as a second-order systematization of pervasive concepts on issues regarding knowledge, truth, and value. This position has historical support as various philosophical schools have upheld the need for a comprehensive view of the world (*Weltauffasung*), an interest in lived experience (*Lebenswelt*), and a depiction of mankind in society (*Sozialstruktur*) (Vidal, 2012).

But once a theory is developed, rules for evaluation can also be formulated. The following rules are offered by Bunge: (2012):

- *Fertility Criterion*: Compare philosophical theories by how they help foster knowledge.
- *Deliberation Criterion*: Compare philosophical theories by how they help to learn, pose, and solve problems.

Philosophy as *conceptual research* must adjust to good practices of argumentation. But as a *product* (i.e., a philosophical theory) it wouldn't hurt to consider these additional rules to assert its value.

Plant (2007) further argues that metaphilosophy must also address the social and institutional factors where philosophical practices are performed such as academic communities, psychological factors, cultural heritages, conceptual methods, distinguished authors, or communicative norms. This emphasizes that no human practice occurs in a social or institutional vacuum. In that sense, Rescher (1985) is right to dismiss consensus as a *sine qua non* criterion. The lesson is not to neglect or undermine the external factors of philosophical practices, but to locate them without detriment of the internal factors that illustrate the effort for a rational and systemic foundation of our bulk of knowledge.

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