Economics and Philosophy, **23** (2007) 349–357
doi:10.1017/S0266267107001538

THE LOGICAL STRUCTURE OF PHILOSOPHICAL ERRORS*

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Philosophical errors are errors of a very peculiar nature.

Obviously, errors occur in the different areas of science, as well as in everyday life. But these errors are sooner or later recognized and exposed, and – most importantly – once they are recognized and exposed, they are essentially rendered harmless, at least for those versed in the respective discipline. A false historical datum, an experimental error or a calculation mistake becomes indefensible as soon as it is noticed.

This is not so in philosophy. We rarely hear examples of one philosopher convincing another with rational arguments. It is easy to see that the vast majority of opposing philosophical theories must be false, since among a set of opposing conceptions at most one can be true.[1]

Nevertheless, we still observe that for millennia (since most philosophical positions are essentially thousands of years old), no philosophical conception has been able to defeat its opposing positions durably.

In philosophy, we are faced with the odd phenomenon that the argument one group of people accepts as unconditionally convincing is called an easily refutable sophism by others. This is achieved not by reference to some irrational source of knowledge (we will disregard here

* Editorial note: this paper was originally published in 1947 as 'A filozófiai tévedések logikai alkata,' *Athenaeum* XXXIII: 33–39, under the name of Janos Harsanyi. It has been translated from the Hungarian by Lorinc Redei.

[1] In fact, if it is later discovered that the argument in question is actually a *pseudo-problem*, then *all* conceptions that take a stance in the debate must be considered false. The only position that can be considered true in this instance is one that refuses the very grounds for the problem's existence.

those philosophical systems that do rely upon such unverifiable, irrational cognition), but uniquely in the name of commonly accepted human reason.

How can this be?

Historians of philosophical thought in the German 'Geisteswissenschaft' stream claim that the explanation lies in the strong emotional prejudices and ideological appreciations that are inherent in every philosophical problem. Opposing philosophical positions therefore differ in their 'ideological a priori', their ultimate value-judgments. (From our perspective it is irrelevant whether different strands of this approach account for this 'ideological a priori' through the philosopher's social situation, individual character and development, or his personal freedom of choice.)

Yet we do not consider this a satisfactory explanation. It may be true psychologically that a philosopher accepts a theorem because he 'likes' it, or because he 'judges it favourably'. But why is it that the positions of the great philosophers of the past and present, whom we – despite their occasional philosophical errors – consider men and women of sharp minds and disciplined judgment, were swayed by subjective emotions and value judgments to such an extent? A philosopher's claim is not that he would 'prefer' a metaphysical world with such and such structure – that type of statement would, after all, be poetry, not philosophy; instead, he says that the world is *actually* so. How could the greatest philosophers confuse their subjective 'preferences' with logical evidence?

We must therefore look for the solution to our problem on a logical plane, not a psychological one. We must investigate the objective difficulties that stand in the way of an objective settlement of philosophical debates, so much so that even great philosophers – not managing to settle questions unequivocally on a rational-logical plane – fall prey to their own emotional prejudices.[2]

After a scientific debate, the positions of ideologically opposed researchers differ mostly in emotional emphasis (and perhaps terminology). One states: 'A exists, (although I admit that B exists, too)', whereas the other claims: 'B exists (although I do not deny A's existence)'.

Human reason is therefore capable of transcending its ideological biases, provided that it is supported by enough evidence from the object studied (and assuming, of course, a serious quest for objective truth).

[2] It is significant that in areas where such difficulties in establishing a rational position do not exist, even the problems most laden with value judgments are easily soluble: for instance, the non-philosophical questions of the humanities, and the historical and social sciences. Of course, even in those cases, every researcher attempts to uncover facts and connections which fit his ideology. Nevertheless, he is eventually forced to accept – grudgingly or not – the facts and connections proven by his colleagues of different persuasions.

So which logical step in philosophical arguments (proofs) is responsible for the uncertainty in our judging them? What logical step is the source of philosophical error?

All proofs are made up of two components: premises (praemissae) and the structure of the argument (forma ratiocinandi). The premises can themselves be theorems requiring proof, but (ἀνάγκη στηνάι) at some point we must stop and reach some self-evident axioms which require no proof. A complete proof also contains the steps of inference, which, starting from these axioms, prove premises. Such a complete proof thus consists of the axioms used and the forms of reasoning applied. (The applied forms of reasoning determine the *formal* correctness of any given proof: namely whether the theorem can truly be derived from the axioms used – irrespective of the veracity or falsity of these premises. On the other hand, the theorem's *factual* exactness requires both the validity of the form of reasoning applied and the soundness of the axioms used.)

Do philosophical errors stem from errors concerning axioms, or from flaws in the form of reasoning? Let us call the first approach an *axiomatic* theory of philosophical errors, and the second a *syllogistic* theory. We must choose between these two approaches.

A layman is likely to favour the syllogistic theory. He is ready to treat those philosophical systems that he considers false as simple sophisms, or formally false reasoning. He believes that philosophical errors can be attributed to the fact that some philosophers misjudge the formal value of some philosophical arguments, by seeing sophisms in formally perfect arguments (which prove the correct philosophical position) while failing to notice the logical errors in truly sophistic reasoning (with which they attempt to support their own fallacious system).

The fact that different philosophical systems – however opposed their final conclusions may be – appear to start from the same principles seems to support this theory. All thinkers are forced to admit the principles of contradiction and causality, the facts of everyday interior and exterior perceptions, and the objective results of the scientific disciplines. If philosophical systems can draw false conclusions from such obviously true (because commonly accepted) axioms, that can only mean that these systems are committing formal errors in their conclusions.

Nevertheless, the syllogistic theory is unable to provide satisfactory answers to many questions. It is difficult to imagine that the errors of great philosophers are simply the result of elementary logical mistakes. How could so many great thinkers falsely judge the formal-logical value of the most important philosophical arguments, when any expert can correctly judge the value of much more complex mathematical inferences in such a way that there is unanimous agreement among researchers about the value

of a mathematical inference?[3] Those who are familiar with the complex derivation forms used by mathematics[4] (several of which only modern logistics has been able to formalize coherently) may be surprised – if they take the time to look into the matter – at how simple the logical structures of proofs used by the great philosophers to decide the most difficult philosophical problems really are. Two categorical inferential forms ('the Barbara' and 'Celarent'), a few simple modes of hypothetical and disjunctive syllogism, a few simple forms of the so called *reductio ad absurdum* – this practically exhausts the entire logical arsenal of even the most difficult philosophical works. Who would believe that the greatest philosophers repeatedly made mistakes while using these simple logical forms?

According to traditional rules of scientific formal logic – and even more so with the tools of modern logic – the formal accuracy or fallacy of a scientific argument must be established beyond any doubt. If the syllogistic theory were correct, then one would simply need to strictly formalize philosophical proofs, in order to establish – easily and without the possibility of error – which philosopher is right. How is it that no one has ever managed to apply this method and resolve all philosophical debates once and for all?

The most vivid proof of the untenable nature of the syllogistic theory is provided by attempts to apply it through the logical analysis of those philosophical arguments which are held to be sophisms by their opponents.

Let us take St. Anselm and Descartes' so-called ontological proof of God's existence as an example.

'God is the absolutely perfect being'. (This is the definition of God.)

'The absolutely perfect being must exist'. (Because not to exist is a type of imperfection.)

'Therefore God exists'.

It is said that this argument is unconvincing because it arbitrarily moves from the order of ideas to the order of reality. 'God is the absolutely perfect being': this is a definition. It means that God must be thought of *conceptually* as a perfect being. But it does not mean that this abstract notion must have its counterpart in reality. (Just as we must imagine fairies to be immortal by definition, but this does not mean that there are truly existing

[3] Even the debates of the last few decades around set-theory were more of a philosophical quality than of a true mathematical nature. (And the majority of mathematicians showed surprisingly little interest in them.)

[4] Mathematics seeks to uncover the formal relations between things: in some instances, it must analyse rather complicated networks of relationships. The complex structure of mathematical inferences only mirrors the complexity of their mathematical objects. Philosophy, on the other hand, concerns itself with the content of reality, so it can make do with simpler forms of reasoning.

immortal fairies.) Therefore the conclusion should not step outside the realm of concepts. It should only infer that the *idea* of God contains within itself the necessity of its own existence: God is necessarily a being who must be thought of as existing. But one should not conclude from this that God must necessarily exist. We could only make this claim if another source (say, the cosmological argument for God's existence) proved that the idea of God has a manifestation in reality.

But is it possible that St. Anselm and Descartes did not spot this elementary logical truth? Could they have stepped from the realm of ideas to that of reality by simple 'error'? Not likely. We must instead assume that they believed (one because of his Platonism, the other because of his rationalism) that it is *permitted* to cross the line between these two realms. In fact, this constitutes one of the axioms of their system.

In general, we will find that wherever there is an apparent leap of logic in the arguments of great philosophers, we are faced not with an error of formal inference (a sophism), but rather, the philosopher has just implicitly assumed an axiom of his system which allows him to reach his conclusion. If this axiom were explicitly included in the premises, then the entire argument would become formally perfect. Of course it is possible that the implicit axiom is a false one, in which case the truth of the conclusion is also questionable. But this is not due to a sophistic formal error in the proof, but to the falsity of the content of one of the axioms. (I do not want to deny that *true* sophisms sometimes occur in the works of great philosophers, but with respect to the entire system these play a minor role, and are in no way ultimate sources of errors occurring within it. It will only be after he has inferred false conclusions from false axioms using formally flawless arguments that the philosopher will try to fashion sophistic arguments to support his results.)

All of these facts contradict the syllogistic explanation of philosophical errors and seem to support the axiomatic explanation.

Only the axiomatic theory explains the deep, unbridgeable chasm separating contradictory ideologies and philosophical systems. Often we must nearly doubt that any common, general human conviction connects these systems. It seems that such deeply cutting antagonisms are only possible between those who do not share any axioms!

But it is precisely at this point that the axiomatic theory comes into conflict with the fact (which we have just presented as a strength of the syllogistic theory) that the axioms and basic facts are the same for all philosophers; all philosophers are forced to accept them.

How do we explain this paradox? How can the axioms of philosophers with opposing ideologies be *identical* and *contradictory* at the same time?

The solution can only be that all philosophical systems have the *same* axioms, but every philosophical system understands these common axioms in a *different* way. (This conception may be called the *weak* axiomatic

https://doi.org/10.1017/S0266267107001538 Published online by Cambridge University Press

theory, as opposed to the strict axiomatic theory, which purports that opposing philosophical systems' axioms are opposed in *every way*.)

Upon closer scrutiny, this difference in interpretation consists of certain philosophical positions defining the scope of validity of the same axiom in a *broad* or *narrow* fashion.

For example, all philosophers accept the principle of causality. But while theists consider the principle of causality to apply to the world itself, which is believed to have an existential cause (which they call God), atheists limit the validity of the principle of causality to partial phenomena within the world. There is a causal reason for, say, the Eiffel Tower to exist, but there is no causal reason for the world itself to exist.

Another example: Heraclites, Parmenides and Aristotle all agreed that everything is identical to itself (the principle of identity), but Heraclites taught that everything is only identical to itself for an instant, but it is no longer identical to that which it will later become. Parmenides, on the other hand, held that things are so eternally identical to themselves that no change is possible in the world. Meanwhile, Aristotle, occupying the middle ground between the two, took the position that there is indeed change, but that things keep their identity while changing – change consists precisely of the *same* object *first* having *certain* qualities and *then* having *others*, while still remaining that same thing. All three thinkers agreed with the idea that all things were identical to themselves, but they disagreed regarding the *scope* of this identity.

It is common that a phenomenon has two sides, that it is governed by two opposing principles at the same time: in this case, the different thinkers' views usually differ about the location of the *border* between these two opposing principles. One philosopher leaves more scope to one principle, the other quite the opposite. Parmenides expanded the realm of *stability* at the expense of that of *change*, while Heraclites did the opposite.

But if the opposition between different philosophical positions is basically about the *scope* of the validity of the philosophical premises, then the $\pi\rho\acute{\omega}\tau\text{ου }\psi\varepsilon\acute{\upsilon}\delta\text{ος}$ [original error] of false philosophical systems cannot be anything but an unwarranted *extension* or *limitation* of the validity of premises which are true in and of themselves.

There is something consoling in this realization: it suggests some common ground among all philosophers, and allows for the existence of some commonly accepted universal principles.

But the tragedy of human life is also laid bare here: as soon as philosophers try to give shape to this set of principles – this general-human, abstract 'public good' – it becomes clear that all of them interpret this differently (because a principle has very different meanings depending on whether its scope of validity is limited or extended), and it appears that just like the ancient bricklayers of the tower of Babel, all the great historical philosophical minds speak their own separate languages.

This is also why it is impossible to topple a philosophical theory with syllogistic arguments: Aristotle has already shown that intelligent debate is only possible between those who share basic principles (and interpret them similarly, with the same scope), since every syllogism is already conditional on basic premises (and a certain interpretation of them).

Then where do the errors relating to the scope of validity of philosophical principles come from?

This question depends on our answer to another, more general, epistemological question: where does our knowledge about philosophical principles come from in the first place?

Space does not permit us to expound on the details of our inquiry in this field. Let it simply be said that we believe that our philosophical principles are drawn from *experience*.[5] The road from singular and contingent facts of experience to general and necessary principles is called induction. (In any case, with the recognition of philosophical principles we are faced with a special kind of induction. This is one which is capable of extracting a general principle from a *single* fact of experience, by realizing the experiential fact's real substance, its intrinsic nature, and the general law that it embodies – this is the so-called *abstractive* induction.)

This epistemological conception clarifies our previous result. The frequency of erroneously *overextending* or overly *limiting* the scope of philosophical principles is due to the inherent risk of recklessness or timidity in inductive generalizations.

Thus the $\pi\rho\acute{\omega}\tau\omega\upsilon\ \psi\varepsilon\acute{\upsilon}\delta\omega\varsigma$ of erroneous philosophical systems are not false *deductions*, but rather false *inductions*.

Induction from an experiential fact can only lead to conclusions about cases that are in essence *of the same character*. For instance, the fact that

[5] We cannot accept the viewpoint of the Descartes–Leibniz-type rationalism in this question, according to which principles are *analytic* judgments (and thus their truth can be recognized a priori), because first of all, a number of principles are not analytic (for instance the principle of causation) – modern research agrees with Kant in this question – and even those which appear analytic contain a synthetic statement: namely that the subject and the predicate are concepts with *real* value, that they are concepts of actually existing things or at least of *potentially existing* things. (All the sciences are namely forced to suppose that the concepts contained in their principles *exist*, in the manner appropriate to the science's subject. For instance, mathematics supposes that the basic concepts present in their axioms are endowed with an ideal mathematical existence, i.e., are free of contradiction; philosophy supposes that the basic concepts in its principles refer to really existing, or potentially existing objects) All such existence-claims, however, are synthetic judgments, whether they express true existence, its mere possibility or simply a lack of contradiction.

But here we must break away from Kant: we have every reason to view these synthetic principles as ontological laws, independent of our knowledge, and not to regard them as subjective illusions of our intellect, as synthetic judgments a priori in the Kantian meaning of the phrase.

Thus there is no other alternative than to derive these synthetic judgments from experience.

https://doi.org/10.1017/S0266267107001538 Published online by Cambridge University Press

this piece of aluminium conducts electricity leads to the induction that aluminium *in general* is a conductor of electricity.

On the other hand, nothing can be said about cases that are fundamentally *different* from the original fact. The observation that this piece of aluminium conducts electricity does not allow us to draw any conclusions about the qualities of rubber, for example.

This much is clear. The problem is that in philosophy it is *not* always *easy* to decide which cases can be considered *fundamentally* of an identical character, and which should be deemed different from a given case. When is there a sufficient degree of similarity between two cases to allow an inference from one to the other, and when is this not the case? (The answer depends on which properties are to be considered *essential* and which *unimportant* with respect to the induction.)

Yet this is precisely what *determines* what *level* of generality we can attribute to a philosophical principle gained from a certain experiential fact.

This is why it is much easier to determine whether a philosophical principle is *true* than to determine the *extent* of its validity.

But why don't the same difficulties and uncertainties arise in the induction processes of mathematics and the natural sciences?

With respect to mathematics, the answer lies in the very simple and intelligible logical structure of mathematical objects. For example, it requires no additional investigation to determine that, if we can draw a straight line between two points, then we can draw a straight line between *any* two points: because the points of space – if perhaps not qualitatively, at least geometrically – are completely equivalent to each other. We have such a clear concept of a 'point' that it is immediately obvious that there can never be such a *qualitative* difference between two points that it would negate their geometric equivalence.

In the natural sciences, the uncertainty of induction is already apparent, given that the natural sciences concern themselves with the *real* world, just like philosophy, and not with artificially simplified, logically structured, abstract objects, as does mathematics. The question of how far one can extend the validity of an experiential law through induction poses the same problem for a physicist as the question of how broadly a philosopher can assert a philosophical principle while maintaining a clear conscience. (It is unclear, for example, whether there is enough of a resemblance between aluminium and, say, copper, to be able to conclude anything about the latter from the conductive qualities of the former.)

Yet the natural sciences can decide such questions on the basis of experimentation. If one cannot conclude anything concrete about copper through the investigation of aluminum's qualities, then one is still left with the option of investigating the qualities of *copper* directly.

However, performing an *experimentum crucis* in the realm of philosophy is usually not possible: the *disputed* areas of validity of philosophical principles usually lie outside the 'limits of possible experience' (Kant).

For instance, there is a debate among philosophers over whether the experiential evidence that individual objects of the world do not come into existence without causes allows one to conclude that the *entire* universe must also have its Cause of Existence. This question cannot be decided by direct observation, because the Creator of the world – if such a thing exists – is in no way a *directly observable* Being, and the dependency of the world upon Him also cannot be directly observed.

Nevertheless, we are convinced that by a thorough *analysis* of the *laws of philosophical induction* (by meticulously working out the objective methods of differentiating between the relevant and irrelevant features of the induction) the debated questions of the scope of validity of philosophical principles can be *unequivocally* decided. The details of such an analysis no longer lie within the scope of this study. We must simply be aware of the fact that we do *not* possess any a priori knowledge regarding philosophical principles: these are therefore in need of *experiential* justification and *may not be stated as more general than what the inductive analysis of experiential facts justifies*.

Yet philosophy *must* make use of the full measure of inductive generalization which observable facts do indeed allow us to assert, even if this leads to areas which are inaccessible to observation. For otherwise the discipline would not be able to fulfill its own function: as it could not devise general principles, it would not be able to give unified and consistent explanations (based on universal considerations) of the world's phenomena.