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Empiricism without dogmas: a comment on Quine's critique to logical positivism

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Abstract

In his celebrated essay *Two Dogmas of Empiricism*[1], Quine rejects the traditional postulates of logical positivism, namely the analytic- synthetic distinction and the doctrine of verifiability of singular statements. A first consequence is the impossibility of invalidating any statement and a form of *holism*. The second consequence is pragmatism. Quine's arguments echo those of some cultural anthropology. We remark on the role of Philosophy as activity.

Keywords: Analytic philosophy, empiricism, epistemology

Riassunto

Nel celebre saggio "Due dogmi dell'Empirismo", Quine refuta i postulati tradizionali del positivismo logico, vale a dire la distinzione analitico-sintetico e la dottrina della verificabilità delle proposizioni. La prima conseguenza risulta nell'impossibilità di invalidare qualsiasi proposizione e quindi una forma di *olismo*. La seconda conseguenza è il pragmatismo. Gli argomenti di Quine fanno eco ad alcuni argomenti di certa antropologia culturale. In questo saggio rimarchiamo il ruolo della Filosofia in quanto attività.

Parole chiave: Filosofia analitica, Empirismo, epistemologia

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Introduction

1. History of two dogmas

In 1951, Quine published his famous paper "*Two Dogmas of Empiricism*". This paper is arguably the most important paper in analytic philosophy of the past seventy years. Incidentally, it is also a paper that somehow kills the whole enterprise of analytic philosophy. I should say that the kind of analytic philosophy that suffers from Quine's criticism is the one "which seeks precision by *total mind control*, through issuing continuous and rigid interpretative directions"[2], to use Williams's words. However, total mind control is the distinctive trait of analytic philosophy, for one would be quite partisan in stating that any kind of rigor, or merely the usage of reason should be the landmark of analytic philosophy. In that case, we would be better off by getting rid of the adjective 'analytic' and just call it *philosophy*. And indeed that adjective is exactly one of the two targets of Quine's paper. *Logical empiricism (or positivism) is grounded in the idea that there are analytic truths which are fundamentally different from empirical truths*. This cleavage is of fundamental importance for radical empiricism. The other dogma is that every statement is given meaning by some sort of empirical verification. Failing these postulates, empiricism would be left in a state that would not amount too much more than common sense, namely, a stance in which we feel that experience should amount for

something when we try to gain some knowledge of the world.

Before proceeding with the examination of Quine's arguments, let us establish some of the historical background to it. Logical empiricism, or more generally analytic philosophy, are enamored with two ideas. The first, being an idea of progress such that philosophy should *solve some philosophical problem*. Once solved, a philosophical problem is done with and one should move on. Analytical philosophers in the making are all - without exception - intoxicated with Wittgenstein's closure for his preface to the *Tractatus*, namely

[...] the truth of the thoughts communicated here seems to me unassailable and definitive.

I am, therefore, of the opinion that the problems have in essentials been finally solved[3].

The 'problems' that Wittgenstein is referring to are nothing less than the problems of philosophy (sic). This is the secret dream of every analytic philosopher, that *si parva licet*, his or her work would constitute a progress, solving and closing some problem for good. In particular, logical empiricists would go to such lengths as saying that - if a statement has no strict procedure of verification or a problem does not admit some kind of solution - then it is meaningless. Logical empiricists do have some sort of totalitarian mentality and are ready to commit all previous philosophy to some kind of historical curiosity and to effective death.

There is a sense of moving on in which the past must be destroyed and this idea is always consciously or not flirting with some form of totalitarianism - but here I digress.

The second idea to which every modern empiricist is wedded is that, eventually, all meaningful truths about the world are empirical in nature. This is an idea that at the very least traces back to Locke and Hume. This radical statement needs to confront the fact that there are definitely some statements to which we think we can regard as true without resorting to experience, that is, *a priori*. Examples of these statements are

1. $T(p \vee \neg p)$.
2. $2 + 2 = 4$.
3. each bounded sequence in R_n has a convergent subsequence.
4. The sum of the interior angles of a triangle is n .
5. Every unmarried man is a bachelor.

All the above statements are true, and it seems that we do not need to get out of there and look at the world to establish their truth. So, in order for a radical empiricist to be able to maintain the position that all we know we know from experience, one has to set aside this kind of statements as special, as not yielding any real knowledge. They are statements that are true because of their *form or meaning*, and would be true in any conceivable world, to put it as Leibniz would and who talked about truths of reason and truths of fact. In the above list, the first statement is a *tautology*¹. Tautologies are well defined in logic and their truthfulness is indeed formal. There is some agreement

that tautologies are special and meaningless, exactly because they hold true in any possible world. Well, even this idea has been challenged by von Neumann and quantum logic, but that is a topic for another time.

Statements like 2, 3, 4 are mathematical statements. The whole problem of in which sense they are true is the subject of the philosophy of mathematics. It is interesting how this entire branch of philosophy pretty much retraced the medieval debate on the universals. Whether mathematical statements are like tautologies - and therefore meaningless - or are in fact properties of the empirical world - like geometry is now assumed to be - they do respect the fundamental cleavage between analytic and empirical truths. It is true that some mathematicians, think of Weyl and Poincaré have held some intuitionist position, and some still do - I am myself tempted by that every now and then. This position entails that there is some form of knowledge about the world that, although being *a priori*, and thus obtainable by mere reasoning, it is also synthetic, which pretty much amounts to affirm something meaningful about the world. There is a lot to say about intuitionist positions, as they are very deep and interesting, but this goes beyond the scope of this paper. For now, we can buy into the doctrine that mathematics does not pose a fundamental threat to the analytic/non-analytic sharp distinction that empiricists require. It is the statements of the form (5) that are problematic, in Quine's view. We shall examine his arguments in the next section.

In order to establish the radical empiricist program, one needs also a second article of faith. That is the dogma of reductionism.

¹ This is the statement that every proposition is either true or false, et tertium non datur.

One must be able to reduce every proposition in a language only containing sense data or material from one's experience, and the truthfulness of every particular or general such proposition can be assessed by means of empirical verification. The method and scope of this empirical verification also produces a theory of meaning, that is, a theory that explicates what is the meaning of the statements that are under inquiry.

2. Two Dogmas of Empiricism

As anticipated, Quine attacks the two dogmas of empiricism. With his characteristic playful style, Quine plays the death knell of such dogmas. The attack is indeed impressive. The first objective is for Quine to invalidate the dogma according to which statements like (5) are true in virtue of their meaning. The problem with such statements is that one would like to reduce them to tautologies by using *synonymy*. One says that 'bachelor' is synonymous with 'not married', and the rest sequitur. Very well, if we only knew what *synonymous* means. There are three ways to understand this notion. One is by definition. We can stipulate that the meaning of bachelor is 'not married'. This is fair enough, but then Quine holds that indeed the whole field of analytic statements is made of just tautologies. Meaning by definition is not really meaning. The second way is by trying to define synonymy by interchangeability *salva veritate*. It does not take much thought to see that this requires a notion of analyticity. Indeed, either it just so happens that two terms are interchangeable without changing the truth value of a statement, or it is a necessity. Interchangeability *salva veritate* by mere extension, that is, for all the actual given

occurrences, has very little to do with meaning. In any true statement regarding 'living beings with a heart' this last expression can be substituted with 'living beings with kidneys' *salva veritate*, but this is hardly because of the meaning of these terms, as having kidneys definitely means something different from having a heart. On the other hand, if we need to add that such interchangeability is not just a mere fact, but it necessarily has to be, this is circularly begging the question of what 'necessarily' means.

A third solution to define analyticity as 'true in virtue of its meaning' is to adopt a verificationist theory of meaning, following the footsteps of C.S. Peirce. We will examine this argument further down. For now, let us follow Quine and admit that we are back to square one with what we mean by analyticity. There is another possibility left over. That one defines analyticity by means of semantical rules. Such rules are what now are called the axioms of a formal language. We regard some propositions as true, just because we select them to be, but then so what? There is no progress in such a solution.

We mentioned above that meaning by verification is a way of defining meaning, hence synonymy, and finally analyticity. This has really been the pet theory of logical empiricists and the one that most aligns with their vision of the world. This theory holds that the meaning of a statement is in the method of empirically validating or falsifying it. If the verification theory is acceptable, one can give a good account of cognitive synonymy - that is, of synonymy not by mere extension, but by meaning - and finally save the notion of analyticity. Analytical statements are those that are confirmed no matter what, to use the swift Quine's

language. It is here that Quine's attack strikes with all of its might, and it is this attack that has had the most profound historical consequences.

We observed that the second dogma of empiricism is that of radical reductionism, that is, the doctrine that every meaningful statement can be translated into a statement about direct experience. This theory is *in nuce* present in both Locke and Hume; it is kind of assumed by them that it would be possible to perform such a translation. Of course the difficulties would be formidable. But Carnap, in his *Aufbau*[4], set out to do exactly that. He really wanted to achieve this progress and move on.

Carnap's project did not work out, and not just because of formidable difficulties. Carnap's project is based into translating every possible statement in a statement of the form 'the quality q is at the point (x, y, z, t) '. The problem here is not in how hard it is to actually translate all possible language - even just technical language - in this form. In one of the history of philosophy's most remarkable examples of intellectual honesty, Carnap eventually recognized that the connective 'is at' is undefined. And there is where all the juice is.

Of course, the failure of Carnap's program does not mean that empiricists stopped thinking that, in a way or another, to every meaningful statement there is some kind of experience that can verify it, or at least increase its likelihood, or, on the contrary, falsify it. Ask any scientist. They will lazily answer this way. It is true that scientists have very poor knowledge of the history of science. To their defense we should add that, to paraphrase Newman, philosophy of science is for the scientists as ornithology is for the birds. At any rate, it is crucial for any

kind of reductionism that each statement about the world should be passible of confirmation independently of any other statement. As Quine points out, this doctrine is implicit in the verification theory of meaning or it would be impossible to give meaning to each statement on its own. The two dogmas of empiricism support each other. We have seen that the verification theory of meaning supports the notion of analyticity (beyond mere tautologies); on the other hand, maintaining that every statement has a language component and a factual component, the very distinction between them, supports the theory of the existence of facts that can be checked somehow empirically. It is noteworthy that this is pure *Tractatus* but Quine seems to not find it relevant to remark that.

It is commonplace to say that there are such things as constructive criticisms and that this is what every criticism should be. Quine's essay is something much more remarkable: it is a theory that by the very fact that it is proposing a different angle, results in a destructive criticism of dogmatic empiricism. Quine goes to the heart of the question: statements about the world face the tribunal of experience not individually but as a corporate body. This is the *holistic empiricism* of Quine.

Quine tells us that the totality of human knowledge is a man-made construction that only touches experience at the periphery. The closer to the core, the more resilient a statement is in front of experience. In other words, experience underdetermines our knowledge, and it may leave core knowledge relatively untouched. Sometimes a conflict with experience at the periphery of our body of knowledge requires a deep readjustment of several layers of

knowledge, some of which can be very close to the core. This is what is sometimes called a paradigm shift. A conflict with experience also leaves a lot of freedom of which statements are to be reevaluated in order to reorganize our knowledge. This position echoes that of Poincaré who held that many notions in physical sciences are conventional[5], for instance whether gravity should be intended as a force-less geometrical field or a force in a Euclidean geometry. In Quine's view, every statement can be held true in the face of recalcitrant experience by amending other statements, for instance, invoking hallucinations. This is something that happens all the time in pseudosciences. From Quine's point of view, pseudo-sciences may look somehow not very different from the well respected Science of our Universities, inasmuch they both have to organize their experiential material with almost unbounded freedom. In the same way, no statement or theory is immune from revision. Revision is always possible, even that of logical laws. The insurgence of quantum logic is, admittedly, a vindication of Quine. Similar positions were held much earlier by Duhem[6] who, however, thought that this situation was specific to physics while in some way chemistry or, say psychology, are in a different epistemological situation. Using Quine's metaphor, they are at the periphery. In Quine's view, everything is on the same footing epistemologically. Homer gods are akin to physical objects as irreducible postulates of some vision of the world. We can clearly recognize Quine's epistemology as all-tolerant and matter-of-factish, in the sense that just accepts as a fact that different cultures and people have held or hold different beliefs. We cannot help but

noticing how this paper is almost a paper in cultural anthropology. In the end, it is saying that science is an aspect of culture. People believe what they believe and there is no clear-cut in method as to why they believe what they believe. Quine decides to believe in physical objects because they are useful tools to predict future experiences on the basis of past experiences. He does not find Homer gods as useful, and thus he rejects them. In the end, holism and such a tolerant epistemology are a lead in to pragmatism.

3. Anything goes?

Is *two dogmas of empiricism* telling us that anything goes? On the one hand, it would seem so. In its conception it is very similar to the account of morality given by a cultural anthropologist. There is no way to say that something is moral and something is not and there is no way to establish whether a moral system is superior to another one. Similarly, the body of knowledge about the world containing the belief in Homer gods is not more or less scientific than that containing physical objects like atom and electrons. Quine says that such objects are tools, and some tools are more useful to some goals than other tools.

Quine's essay is at the same time liberating and infuriating. It is liberating from the tyranny of harsh classification and scholastic discrimination typical of analytic philosophy. To be honest, I do not see how any analytic philosophy can survive Quine's considerations. It is also infuriating because, well, all relativism is. The principle *to each his own* is not a lot of philosophy and one would not need to read hundreds of thousands of pages to reach this conclusion. It is very easy to take Quine's words as a belief in 'anything goes'. I am surprised his work has not

become a pet of some philosophers of postmodernist inclination. Perhaps, there is something in Quine's words that makes one feel that he is not really thinking that anything goes, just that he cannot prove the contrary. After all, this is the human condition. To say that nothing is settled forever and we cannot move on for good on any philosophical problem does not really mean that anything goes. On what guidance should we get about what is worth pursuing, Quine offers pragmatism.

My problem with pragmatists is that I do not believe them, just like I do not believe consequentialists in ethics. They say they think something, but they do not think that way. Unless one says that pragmatism just means that one has to live somehow, then I find it an unauthentic position. People act on principles, and believe something to be true for reasons. It is true that one cannot get out of the system and judge these reasons from outside. One has always to be inside some system of thought to even start uttering some words. Again, this is the human condition. But this does not mean that we do not believe in Good or Beauty. It just requires a continuous perpetual sewing of thoughts and words to make up what we mean by those words and how we live by them. It is indeed, the activity of one's life. Because this is what Philosophy is, a way of living with reason, and not a way of moving on.

References

- WILLARD VAN ORMAN QUINE, "Two Dogmas of Empiricism", *The Philosophical Review*, 60 (1951): 20-43.
 BERNARD WILLIAMS, "Philosophy as a humanistic Discipline", *Annual Lecture*

at the Royal Institute of Philosophy, 23 February 2000.

LUDWIG WITTGENSTEIN, *Tractatus Logico-Philosophicus*, (Kegan Paul, 1922).

RUDOLF CARNAP, *Der logische Aufbau der Welt*, (Berlin 1928).

HENRI POINCARÉ *Science and Hypothesis*. (Paris 1902)

PIERRE DUHEM, *La Théorie Physique: son objet et sa structure*, (Paris 1906).

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