Quine on Analyticity and Holism: A critical appraisal in dialogue with Sandro Nannini[1]

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Abstract: The first four sections evaluate Quine's thesis that the two dogmas of empiricism (analyticity and reductionism) are at root identical. In particular, a full compatibility is developed and defended between epistemological, anti-reductionist holism and both the analytic/synthetic and *a priori/a posteriori* distinctions. According to the view defended here, understanding the relations between theory and experience requires not the rejection of such distinctions, but rather their relativization. In the fifth and final section, the importance of such distinctions is shown regarding epistemological analysis and discussions of the relations between science and philosophy.

1. I am particularly pleased to participate in this initiative in honor of Sandro, both because of our old friendship and the passionate and lively philosophical discussions we had year after year.

Such discussions have chiefly concerned two themes: realism and naturalism. Sandro is in favor of what I would call metaphysical realism, whereas I am in favor of empirical realism.[2] Sandro supports a naturalism explicitly deriving from Quine, whereas I have some methodological misgivings about the turn taken by the debate on the *mind-body problem*[3] in the last decades, let alone about naturalism. Even though, in principle, I have no objection to the programs of naturalization, I still think that epistemology and phenomenology posit prob-

[1] English version of *Quine su analiticità e olismo. Una valutazione critica in dialogo con Sandro Nannini*, in C. Lumer & G. Romano, eds., *Dalla filosofia dell'azione alla filosofia della mente. Riflessioni in onore di Sandro Nannini*, Corisco Edizioni, Roma-Messina 2018. [Author's translation, copy-edited by permission by K. R. Westphal.]

[2] See Nannini and Parrini in Lanfredini & Peruzzi (2013, 2016), respectively vol. 1: 113-127, vol. 2: 61-88, in particular, 75-77. I must add that the reasons why Sandro does not share my position on realism have nothing to do with some recent singular evaluations of it. In my opinion, certain appraisals fail to consider the various aspects involved in the *Realismusfrage*. For similar reasons, it seems to me that also other more elaborate criticisms rest on misunderstandings of my ideas or reduce to clear forms of *begging the question* (see below *n.* 4).

[3] On this point, I share many observations contained in Westphal (2016).

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lems which, at least so far, do not seem dissolved, nor satisfactorily solved, by naturalistic conceptions bordering on physicalism (Nannini 2015, Parrini 2015).

Today I would like to speak about a third theme that so far has remained in the background, though likely lying at the origin of our different positions on both realism and naturalism. I refer to our attitude towards the way in which Quine developed his holism by rejecting the analytic/synthetic distinction and the *a priori/a posteriori* distinction which he considered (as do Logical Empiricists) co-extensive with the analytic/synthetic distinction. The forerunner of our divergence can be found in one of Sandro's books written in the form of a dialogue: *La Nottola di Minerva. Storie e dialoghi fantastici sulla filosofia della mente* (2008).

In the copy he kindly gave me, Sandro wrote that one of the characters of such a dialogue, namely the *Analitico Primo* (who above all seems to reflect the standard Neo-empiristic conception), "owes a lot" to me. To tell the truth, my epistemological position (which centrally highlights, *inter alia*, an interactive theory of knowledge, the reticular model, the idea of an open-texture rationality and the negation of transcendental principles of knowledge of a Kantian kind) is rather a conception of a Neurathian, post-Neo-empiristic and post-Quinean sort, far closer to the perspectives advocated by another character of Sandro's book, the *Straniero*, than to those of the old Logical Empiricism. Since many of the theses supported by the *Straniero* are very dear to Sandro, this means that, apart from realism and naturalism, our ideas appear to converge considerably.

Of course, there is a link between me and the *Analitico Primo*, but this link only grasps the fact that, although in a way and in a context deeply modified, I have tried to keep a role for some Neo-empiristic ideas criticized by Quine. In particular, although I no longer accept a fundamental Neo-positivistic principle such as the verification principle, I have defended a modified version of the *a priori/a posteriori* and analytic/synthetic distinctions which were integral parts of the Neo-empiristic package. Here I wish to show in which way such distinctions can coexist with a firm assent to a holistic conception of the theory/experience relation, such as that supported by Quine (though with an odd oscillation I will mention shortly). I shall try to explain, first, the reasons why I think that holism requires not a rejection, but a relativization of the analytic/synthetic and *a priori/a posteriori* distinctions, with a weak (not a strong) negation of the Kantian synthetic *a priori*; second, the reasons why I believe that such distinctions are *philosophically* crucial in order to answer problems regarding objectivity, truth and realism.[4]

[4] The complexity of the problem of realism referred to in note 2 depends upon this: The answers to the questions of objectivity, reality and truth must consider many conflicting elements among

To avoid misunderstandings, I specify in advance that when in the next pages I clarify my position with respect to the assertions of the *Straniero* and the *Psicologa* (another character of *La Nottola di Minerva*), I do not intend in the least to criticize Sandro, whose detailed convictions about the relation between holism and the *a priori* I do not know. I use his dialogue and characters only because, though he does not entirely accept "the classic scientific realism of a Quinean origin" (Nannini 2013: 120), he appears to be so near to a kind of naturalized epistemology as to believe "in the *collapse* of the distinction between analytical judgements and synthetical judgements" (Nannini 2013: 123, emphasis added). For this reason, I suspect that some assertions of the *Straniero* and the *Psicologa* may be the clue to a certain divergence between the two of us, not only regarding realism and naturalism, but also regarding the theme I shall address here. In a word, just as I would not be wholly identified with Sandro's *Analitico Primo*, in the same way my criticism of the *Straniero* and the *Psicologa* is not to be seen as a criticism to Sandro himself, whose ideas I am not sure coincide altogether with theirs.

2. In the course of his long activity, Quine has given several motivations of his refusal of analyticity. On the whole, we can say that above all he advanced two types of criticisms: (*i*) semantic-pragmatic criticisms aiming to show that it is not possible to explicate analyticity in terms of dispositions to overt verbal behavior; and (*ii*) epistemological criticisms linked to a two-fold consideration: that there are no statements which, like supposed analytic statements, are devoid of empirical content (anti-reductionist and anti-phenomenalistic holism), and that there are no statements which can be considered true regardless of whatever happens. According to Quine, in order to re-establish the accord between experience and the complex of our beliefs, it is possible to revise the truth-value of whatever statement, supposed analytic statements included (revision argument).

With the passing of the years, however, Quine did not acknowledge the same motivational value to these different kinds of criticisms. Here I cannot expound

which two have particular value; on the one hand, the kind of realism 'encapsulated' in the usual conception of knowledge as correspondence which is also at the basis of Tarski's well-known definition of truth; on the other hand the coherentist (or semi-coherentist) character of epistemic justification and then of criteria of truth. Only by neglecting conceptual tensions such as these is it possible to defend answers that are so seemingly straightforward and substantially deficient from one or several points of view. I think answers able to eliminate such tensions can only be given by 'ascending' to the level of conceptual explication. For this reason, criticisms of answers such as mine should not forget their explicative nature. Otherwise, as already noted, they reduce themselves to more or less coarse cases of *begging the question*.

all the various changes in his position.[5] It will suffice to recall the general direction of his changes. At the beginning, the accent was placed on his nominalistic and extensionalistic scruples against the admission of abstract entities such as meanings and his charge against intensional (and then also intentional) entities of being *creatures of darkness* (Quine 1956: 188), devoid of identity criteria specifiable in extensional and behavioristic terms. Later, though, epistemological motivations prevailed. In fact, such a prevalence had already begun appearing in the Fifties. In the course of discussion with Sir Peter F. Strawson, Quine pointed to the reductionist-phenomenal conception of the relation between theory and experience as the main source of plausibility of the analytic/synthetic distinction, for which reason the abandonment of reductionism would also indirectly show the epistemological groundlessness of such a distinction (Quine 1953: 138). Nevertheless, after Strawson's and H.P. Grice's demonstration (1956) that it would be possible to give up reductionism and phenomenalism without giving up synonymy and, through that, analyticity, Quine stressed again the empirically spurious character of intensional and intentional notions as not scientifically reconstructable on the basis of observable verbal behavior.[6]

Such a motivation, though, has progressively lost its strength as two faults of Quine's position have emerged ever more clearly: first, that he made his rejection of analyticity depend upon an, at least very disputable and perhaps unsustainable conception of language, *i.e.* on a behavioristic, naturalistic and ultimately, fundamentally physicalistic conception; second – as Jerrold J. Katz showed – that it was possible to develop an empirical test which linked analyticity to some traits of the speakers' linguistic behavior (see Parrini 1976: I/6). Not for nothing, just when replying to Katz, Quine started again stressing the epistemological motivations of his rejection. In fact, he maintained that on the basis of Katz's operational test, which aims to distinguish between obvious truths of a factual kind and obvious truths based on meanings, "in the really interesting regions – notably in scientific theories – where philosophers have trouble sorting out the analytic sentences, none would count as analytic" (Quine 1967: 53*f.*). In this way, Quine concluded, "Such point as the notion of analyticity was once supposed to have for the philosophy of science would in this way be largely forfeited" (Quine 1967: 54).

[5] What I will say about Quine's criticism of analyticity and intensional (and intentional) notions reflects what I maintained since an essay dated 1973 and republished with some modifications and additions in *Linguaggio e teoria* (Parrini 1976: I). Just on the basis of the ideas expressed in such an essay, today I feel I share the substance of Westphal's (2015) general reconsideration of the analytic tradition.

[6] In Quine (1951: 37), the analytic/synthetic distinction was already described as "an unempirical dogma of empiricists, a metaphysical article of faith."

To me such an answer has always seemed odd (see Parrini 1976: I/6). In fact, from the very beginning some epistemologists (and especially Logical Empiricists) had appealed to the notion of analyticity, or truth on the basis of meanings, just to settle the controversies regarding the epistemological status of some statements belonging to logic, mathematics and empirical sciences. Quine's seminal "Truth by Convention" (1936) seemed to maintain that resorting to such a notion could not give any explicative advantage due to the spurious character of the supposed distinctions traced to, or explained on, its basis. In his reply to Katz, instead, he said that, also in case we succeeded in empirically legitimating the concept of analyticity and the distinctions based on it, such a concept could not be useful to philosophy of science because the epistemological status of the epistemologically interesting principles is uncertain; hence, these principles could not be classified as analytical or synthetic at first sight through an empirical test of Katz's type. However, this fact is one of which we have always been aware. In fact, from the start there have been discussions of the epistemological status of principles such as the axioms of Euclidean geometry, the causal principle or the principles of Newton's mechanics just because it was difficult to classify them. The problem consisted exactly in ascertaining whether it would be possible to clarify this question by recurring to a notion – analyticity – whose application to other kinds of statements did not seem problematic.

Be that as it may, Quine's reply to Katz – however odd it may (not) be – is that the notion of analyticity is devoid of epistemological relevance. Hence, it seems that eventually he saw the deepest and most considerable ground of his criticism of the analytic/synthetic and *a priori/a posteriori* distinctions just in this thesis. This interpretation is confirmed by a reply Quine gave to Geoffrey Hellman in 1986. On this occasion Quine wrote:

> I now perceive that the philosophically important question about analyticity and the linguistic doctrine of logical truth is *not* how to explicate them; it is the question rather of their relevance to epistemology. The second dogma of empiricism, to the effect that each empirically meaningful sentence has an empirical content of its own, was cited in 'Two Dogmas' merely as encouraging false confidence in the notion of analyticity; but now I would say further that the second dogma creates a need for analyticity as a key notion of epistemology, and that the need lapses when we heed Duhem and set the second dogma aside. (Quine 1986: 207)

It appears, then, that eventually Quine came back to his 1950's position according to which the main ground of his rejection of analyticity is the holistic conception of experimental control, in other words his refusal of the dogma of reductionism, even if attenuated. It would be the untenability of reduction-

ism that makes it epistemologically vacuous to speak of statements devoid of empirical content and non-revisable in the light of experience, as the supposed analytical statements should be. In such a way Quine's view of the relation between holism and analyticity could be considered settled, but for the fact that in 1991, on the occasion of the 40th anniversary of "Two Dogmas of Empiricism" and five years after the publication of his reply to Hellman, Quine came back to this topic in a paper titled "Two Dogmas in Retrospect," dedicated to a retrospective appraisal of the theses supported in the (1951) essay.

In this new paper Quine surprisingly seems to limit the validity of holism, in other words: the very reason for which the notion of analyticity should be considered epistemologically pointless. He says that he "regrets" his "needlessly strong statement of holism" according to which "The unit of empirical significance is the whole of science. […] Any statement can be held true come what may, if we make drastic enough adjustments […]. Conversely […] no statement is immune to revision" (*cf.* Quine 1951: 42*f.*). According to Quine, his initial formulation of holism "diverts attention from what is more to the point: the varying degrees of proximity to observation, the example of the brick houses in Elm Street" (Quine 1991: 268). "In later writings" – he adds – "I have invoked not the whole of science but chunks of it, clusters of sentences just inclusive enough to have critical semantic mass. By this I mean a cluster sufficient to imply an observable effect of an observable experiment condition" (Quine 1991: 268).

These statements from 1991 appear clearly to contradict what he affirmed in "Two Dogmas." Now Quine says that not only there are "varying degrees of proximity to observation" – a thesis he had always maintained – but also that it is possible to speak of "clusters of sentences just inclusive enough to have critical semantic mass." This sounds like a proper retraction of the holism defended in the (1951) essay where he *apertis verbis* asserted that "The *unit of empirical significance* is the whole of science" (Quine 1951: 42, emphasis added). That holism seems to disappear if there are groups of statements, no matter how large, which enjoy a certain grade of *semantical* autonomy with regard to the totality of our beliefs. Yet, just when Quine makes this palinode – even, in order to introduce such a palinode – he declares that the holistic pronunciations of "Two Dogmas" from which he is departing are still to be considered "true enough *in a legalistic sort of way*" (Quine 1991: 268).[7] This means that Quine, at least *in a legalistic sort of way*, has not intended in the least to back away from his 1951 assertion that "A conflict with experience at the periphery occasions readjustments in the interior of the field" (Quine 1951: 42) so that, because of the logical and non-logical interconnections among the statements,

[7] [*Ed. note*: a 'palinode' is a retraction.]

there are no parts of the field which *in principle* (in other words, *in a legalistic sort of way*) cannot be involved in the change. Hence, for him it still remains true – at least *in a legalistic sort of way*, *i.e.* in principle – that it is always the whole our "world system" (an expression used by Quine himself in *Philosophy of Logic* [1970: 157], explicitly referring to Newton) that is subject to the test of experience.

3. Although the historical importance of Quine's thought is beyond question, I think that, while reconsidering the epistemological component of "Two Dogmas," instead of unclearly attenuating the holistic conception, he would have better abandoned the formulations which had linked holism to the reductionist version of the verification principle. In fact, such formulations had caused undue over-lappings (not to say confusions) between linguistic and epistemological holism[8] and between language and theory, and hence had obscured the distinction between the linguistic system of a speaker and the complex of his beliefs – as was noted by Noam Chomsky (1969).

What I intend to suggest is that perhaps it would have been opportune to engage in self-criticism about the idea that the two dogmas of empiricism are *at root identical* (*cf.* Quine 1951: 41),[9] and to admit that from an epistemological point of view the acceptance of analyticity can go together both with anti-reductionism, as Grice and Strawson clearly showed in the cited essay, "In Defense of a Dogma" (1956), and the *revision argument*, as Carnap maintained since the years of the *Logische Syntax der Sprache* (*cf.* Parrini 2006: 192-194, 198-203). Carnap had repeatedly noted, in fact, that if 'analytic' means true by language, it is possible to remove the seeming inconsistency between the *revision argument* and the admission of analytical statements by distinguishing be-

[8] I think that the confusion of, or overlapping between, linguistic holism and epistemological holism (which I have already dwelt upon in various passages of Parrini (1976)) is one of the most unsustainable legacies of the so called "linguistic turn" in philosophy, both in general and in its specific Neo-empiristic version characterized by the two interconnected doctrines of the principle of verification and the linguistic theory of the *a priori*. Today, both the linguistic turn and its Neo-empiristic version are largely set aside. Yet even after the end of Logical Empiricism, around the middle of the 1950's, surreptitious forms of such a confusion or overlapping continued manifesting their effects; consider, for instance, Donald Davidson's criticism (1984) of the so called "third dogma" of empiricism (*i.e.* the dogma of the distinction between scheme and content), or the discussion of Quine's holism developed by Michael Dummett and his semantic reformulation of the realism/anti-realism contrast (see Parrini 1998: xv-xvii, 50*ff*). Some Italian effects of Dummett's position are critically examined in Corvi (2010: 189-192).

[9] Regarding this famous Quinean affirmation, allow me to mention a significant episode in Konstanz (1992), during the conference for the centennial of Carnap's and Reichenbach's births. Quine was there; when I quoted the words at issue in order to contest them, he said he had never maintained such a thesis. The astonishment was great, but the audience granted I was right in saying he had.

tween changes which do not involve a change in language and changes which can be classified as changes of the semantic rules of the linguistic apparatus of reference; see Carnap (1963: 899*f.*); Parrini (2006), (2002: chapters 4, 6, 10). What seems impossible to do, instead, is to maintain the holistic thesis in its semantic form linked to the verification principle, according to which the unit of empirical significance is science in its entirety, and at the same time to speak of statements which have such a "critical semantic mass" that they are empirically self-sufficient. If such groups of statements exist, it becomes impossible to continue saying that the unit of empirical significance is the totality of our affirmations about the world!

Additionally, Quine himself once characterized epistemological holism without invoking the verificationist theory of meaning, and hence without appeal to any notion of meaning. It is possible to gather this from a passage of *Word and Object*, *i.e.* a work in which, by fateful irony, the untenable overlapping of epistemology and semantics reached its climax. There Quine states:

> What comes of the association of sentences with sentences is a vast verbal structure which, primarily as a whole, is multifariously linked to non-verbal stimulation. … In an obvious way this structure of interconnected sentences is a single connected fabric including all sciences, and indeed everything we ever say about the world; for the logical truths at least, and no doubt many more commonplace sentences too, are germane to all topics and thus provide connections. However, some middle-sized scrap of theory usually will embody all the connections that are likely to affect our adjudication of a given sentence. (Quine 1960: 12*f.*)

4. As far as I am concerned, to "logical truths" and "commonplace sentences" I would explicitly add both mathematical statements and the statements that we usually deem to be analytic in the sense of being only dependent upon the common linguistic use, however uncertain, vague or richly nuanced it may be. Coming back to our topic, though, I would say that in the case of holism, as in others (in particular, in the case of truth and the option between pragmatism and realism), Quine, for lack of epistemological analysis, has not been able to distinguish two different questions: The appraisal of holism from a logical-epistemological point of view and the appraisal of holism from a practical-operative point of view.

From the logical-epistemological point of view, what counts is the *legalistic* position according to which in principle the whole *web* of our beliefs, due to the interconnections linking those beliefs to one another, faces "the tribunal of sense experience not individually but only as a corporate body" (Quine 1951: 41). From the practical-operative point of view, instead, what counts is

the consideration that what we really aim at in the individual, actual contexts of research is the empirical evaluation of restricted and homogeneous groups of hypotheses, and in many cases of individual hypotheses, often examined in relation to another single hypothesis seen as the only plausible alternative we must keep under control (by observation or experiment). It is important to note that both these dimensions were already implicitly contained in the way in which Duhem presented holism, although he only referred to the *théorie physique*. In fact, Duhem (1906-1914: II/6) criticized the possibility of *experimenta crucis* and their conclusive value not by proposing methods of empirical control which differ from the usual ones, but by pointing out the *logical* impossibility of excluding all the possible explicative hypotheses which are alternative to that which has been accepted, because, *according to the rules of logic,* these hypotheses are potentially infinite in number. Duhem (1906-1914: 329*ff.*) also clearly maintained that there is no logical criterion on the basis of which we can determine which hypotheses are involved in a real, specific experimental test and which hypothesis we must accept or refuse on the basis of the result of that experiment. Over such choices and decisions good sense (*bon sens*), not logic, lords.

If this way of putting things is accepted, it becomes clear that acknowledging the validity *in principle* of holism does not clash with the fact that at a *practical-operative level* we put various sizes of groupings of hypotheses and statements to the test of experience, and in many cases even individual hypotheses or assertions. Holism, in any tenable form, does not require that we disavow this way of behaving, that we declare it to be illegitimate or devoid of any value. Nor does it require that we must search for a mysterious and presumably unreachable alternative procedure involving the system of our beliefs in its totality. An experimental test is always selective, it is always characterized by a certain degree of specificity, determined, I would suggest, by that same good sense to which Duhem appealed for choosing the hypothesis considered confirmed or not confirmed. Therefore, the holistic thesis according to which *in a legalistic sort of way* what is involved is the whole complex of our beliefs is completely valid. This point must be kept in mind as a *memento* that the 'cut' that we explicitly or tacitly make to conduct any empirical-experimental research has an hypothetical value and could turn out to be mistaken. In fact, such a 'cut' is the result of a selection which rests on hypotheses (depending on convictions rooted in good sense and in so-called, scientifically informed "background knowledge") which delimit what *at the moment* we suppose to be important in given specific experimental contexts.

The holistic conception tells us, then, that the conclusion that we have reached is to be considered hypothetical, temporary and revisable. Not only

does such a conclusion rest upon protocol statements which in their turn could be subjected to test and turn out to be unreliable (recall Neurath's metaphor of the sailors), it is also based on a certain way of extrapolating the sub-system of those beliefs which in a specific context we deem to be involved in the empirical control, and so are distinguished from the total system of our beliefs – and it seems impossible to give any absolute foundation of such an extrapolation. In fact, we can never be sure of having rightly selected the sub-system of hypotheses involved in the experiment, nor of having singled out all the genuinely relevant hypotheses. As the history of science has taught us, the most problematic and insidious hypotheses are those which have tacitly operated for a long time, of which we were unaware and which we were not able to include explicitly among those involved in our experimental procedures (recall special relativity theory and Einstein's analysis of simultaneity). On the other hand, it is also impossible to appeal to the fact that in some contexts neither an hypothesis nor its possible competitors can be empirically controlled except by taking for granted one (or more) common presupposition(s), to which we cannot see any alternative. This fact does not confute the holistic thesis of the *logical* impossibility of subjecting an individual hypothesis to control. It only shows that we are not always able to conceive assumptions which are different from those presupposed at the moment – think of Kantian synthetic *a priori* principles and in particular the case of Euclidean geometry before the creation of non-Euclidean geometries (*cf.* Parrini 1976: 192).

Although it is true that Duhem limited his attention to physics, holism in its radical form is only the natural extension of Duhem's idea that when a scientist decrees the falsification of an hypothesis in the light of an experimental result, he can do that only by taking for granted (implicitly or explicitly) the validity of *all* the statements involved in his reasoning or in his argumentation. So it is impossible to deny, although Duhem does not clearly express such a consequence, that *in a legalistic sort of way* among such statements there are also those most general principles, common to all the various disciplinary fields, to which Quine will refer to maintain the validity of holism from a logical point of view, that is from the point of view we cannot leave out of consideration when developing an epistemological discourse; and likewise when one thinks – as do I (Parrini 2018: §5) – that epistemology cannot be deprived of authority by logic.[10]

As I have already suggested, in the case of presuppositional assumptions in the first instance the reference is to those famous Kantian synthetic *a priori*

[10] See Parrini (2018: §5). On this point I refer to Westphal's works (2017, 2018; forthcoming) to underline the importance of "cognitive semantics" for a suitable epistemological theory of non-formal systems of empirical sciences.

principles apodictically certain which are no longer much favored in contemporary epistemology. Some epistemologists, though, have revalued the idea (although in different ways) that the process of epistemic justification (of which empirical control is an integral part) requires admitting such assumptions, but, unlike Kant, in a form which takes into consideration the hypothetical and revisable character of every component of our knowledge. In fact, in order to understand the structure of the relation between our beliefs (scientific beliefs, especially) and experience, it is not enough to distinguish the analytic from the synthetic in an over-simplified way with the analytic intended as including logical-mathematical truths. Not only it is also necessary to consider if and in which measure analytical statements intended as truths in virtue of meaning can include logical and mathematical truths; in addition, and above all, it is necessary to take into consideration that in scientific knowledge, though also in commonsense knowledge, presuppositional principles play a fundamental role, and that the validity of these principles, although not completely independent of experience, depends not on individual, specific experiences, but on experience considered in its totally. These presuppositional principles make empirical knowledge possible, because only through them does it become possible to link individual statements to specific experiences and then to proceed to the usual attempts at empirical control. This aspect of the question, already implicit in Duhem's criticism of Poincaré's conventionalism (characterized by a linguistic inflection),[11] started emerging with Schlick's and Reichenbach's reflection upon the philosophical meaning of relativity theory and the associated doctrine of coördination principles; it presented itself again with Kuhn's so-called 'paradigmatic propositions' and finally resulted in the proposal of a relativized *a priori*, for some scholars linked to Carnap's doctrine of *linguistic frameworks* and for others to the conception of a *synthetic* relativized *a priori*.

5. In my opinion, Quine's epistemological criticisms taken alone (in other words, leaving aside the semantic-pragmatic criticisms) were not such as to invalidate the analytic/synthetic and *a priori/a posteriori* distinctions. Given the structure of epistemic justification, above all in the case of theory/experience relations, they should have led not to the rejection of such distinctions, but to the recovery of a functional, relativized version of them, which version, beside the analytic *a priori* and synthetic *a posteriori*, could also acknowledge

[11] In the conceptual itinerary from Poincaré's conventionalism with its linguistic inflection to Logical Empiricists' semantic-epistemological conceptions, this point – which I cannot examine here – is linked to the reasons that led to the aforementioned, harmful overlapping of semantic holism and epistemological holism. I discuss aspects of this topic in Parrini (1983: 86-90, 96-99, 109-112).

a role for a synthetic relative *a priori*. However, today it is not my intention to speak about this question which I examined in many works.[12] Nor it is my intention to speak about the possibility of inserting the relativized synthetic *a priori* into a model of epistemic justification that can allow us to eliminate the problematic concept of intuition, which Carnap wished as much as Quine (see Parrini 2002: ch. 10, esp. §3). Carrying on my dialogue with Sandro, I would like to show the reasons why it seems to me that the rescue of these and other epistemological notions is worthwhile.

One of the characters of the *Nottola di Minerva*[13] raises just this problem. At a certain point of the book, the *Straniero* discusses the problem of the definition of 'mental', maintaining that, at least for the time being, he would distinguish such a definition from other empirical questions concerning the same notion. This gives the hint to the *Analitico Primo* to ask him ("ironically") whether, by introducing such a dichotomy between definitions and empirical questions, he does not also reintroduce "the distinction between analytical judgements and

[12] My conception of a relativized or contextualized synthetic *a priori* dates back to 1976 (Parrini 1976: 153-290, esp. 264-290). Some decades after, a similar idea has been advanced by Michael Friedman on the basis of an "intellectual" or "historical narrative" (Friedman 2012: 51 *n.*18) centered on the developments that led from Newtonian physics to relativistic theory. As regards Friedman's treatment of this topic, Noretta Koertge (2010, 511*ff.*) has referred to Ernan McMullin to point out that "mechanics is not the only – and perhaps not the best – example to look at when we study the structure of science"; other pertinent critical observations on Friedman's approach can be found in Thomas Mormann (2010). It is also to be noticed that Friedman's conception – that replaced his previous, realistic vision of the philosophy of space and time – initially took the form of a recovery of Carnap's idea of the *linguistic frameworks*. Later Friedman, through a series of "twists and turns" (see Uebel 2012: 7-17, and Friedman 2012: 53 *n.*24), has swung about the way of intending the *relativized a priori* but always remaining linked to a narrative framework of an historical kind tinged with vaguely Hegelian 'necessitarian' connotations. Such connotations are accentuated in Robert DiSalle, who, however, declares himself in favour of a relativized synthetic *a priori*, although he does not give specific reasons for his decision (2010: 524*f.*, 545). As far as I am concerned, from the very beginning I have referred to the position advocated by Reichenbach in the early 1920s and maintained the necessity of admitting a relativized *a priori* of a synthetic kind beside a relativized *a priori* of an analytic kind. In my conception this idea is organized into a vision of scientific rationality that aims at coherence both with what we know about the historical development of philosophical and scientific thought when these are considered in the full variety of their aspects and ramifications, and the firm affirmation of the historically contingent character of every *a priori*, in other words of the contingent character of the cognitive synthesis (*cf.* Parrini 2002: ch. 9); for a general evaluation of this topic I refer back to my recent re-examination of geometrical conventionalism (Parrini 2011: ch. 3). Such a conception is also linked to the way in which I have justified the *a priori/a posteriori* distinction against Quine, and to my position on truth, externalism and realism. On all that, see Parrini in Ferrini (2015), and Westphal in Ferrini (2015: 70-72, 78-79); see also Westphal (2017), (2018) and (forthcoming): in such essays Westphal has very well caught the reasons why I believe that the relativized *a priori* cannot be purely linguistic, as Thomas Uebel maintains (2012: 15-16), nor merely meta-linguistic.

[13] On my use of the theses expressed by the characters of the *Dialogue*, see the *caveat* at the end of §1 above.

synthetic judgements." The *Straniero* replies ("rather wearily"), "No, no! After all definitions too are of course empirical hypotheses. Only after all, though!" Moreover, Sandro makes even clearer the reason that explains the *Straniero*'s weary tone through what the *Psicologa* says immediately after. Unlike the *Analitico Primo*, she intends to face the specific scientific core of the question. The *Psicologa*, in fact, expounds her point of view "with a look that betrays her indifference to … epistemological squabbles," clearly referring to what was said by the two other interlocutors (Nannini 2008: 73).

I think that at this point of his dialogue Sandro touches on an important problem in a two-fold sense, both particular and general. In a particular sense, the *Psicologa*'s attitude gives plastic expression to a thesis of Quine's, *i.e.* the idea that after all in the course of a scientific discussion what really matters is what the scientist affirms or denies, apart from having established at an historical-epistemological level whether we are speaking about definitions or hypotheses. What really matters is only the scientific validity of the result we are trying to establish.[14] Regarding this point, I too am convinced, just like Quine, that in the case of many scientific debates epistemological considerations can turn out to be idle or irrelevant because things are going very well without them. I am also convinced that many philosophical ideas have scant or even nil scientific relevance because they are not properly theoretically or empirically conceived (from this point of view, also philosophers of mind and metaphysicians with an analytical background are not always faultless). I only add, though, that such a position could be shared also by the *Analitico Primo*, if this character is conceived as supporting the old-fashioned Neo-empiristic ideas.

[14] Consider the following passage of *Word and Object*: "Thus it is that in theoretical science, unless as recast by semantics enthusiasts, distinctions between synonymies and 'factual' equivalences are seldom sensed or claimed. Even the identity historically introduced into mechanics by defining 'momentum' as 'mas times velocity' takes its place in the network of connections on a par with the rest; if a physicist subsequently so revises mechanics that momentum fails to be proportional to velocity, the change will probably be seen as a change of theory and not peculiarly of meaning" (Quine 1960: 57). From the point of view of scientific change, Quine's thesis seems to be hardly refutable. Nevertheless, if we take into consideration the logical structure of epistemic justification and in particular the logical structure of empirical control, we clearly see that they involve a functional distinction among the various kinds of the assertions involved and that among such distinctions there are also those between the analytic and the synthetic and between the relativized *a priori* of an analytic kind and the relativized *a priori* of a synthetic kind. In fact, the studies on empirical control have variously shown that the only way of separating the sub-systems provided with a critical empirical (and not semantical) mass from the complex of our beliefs is to acknowledge a functional role to such distinctions, in particular to the distinction between the assertions or principles to which we attribute an indirect empirical content, and those assertions to which we attribute a direct empirical content. Eventually – as we have already seen – Quine himself was obliged to admit that something did not work in his way of conceiving holism, although in my opinion he failed to see the key weak point of his conception.

Coming to the general sense of the problem raised by Sandro, in other words to the fact that scientists often deem, so to say, in principle philosophical and epistemological debates to be fruitless and irrelevant to on their work, I wish to point out at least two reasons for thinking that attitudes such as the *Psicologa*'s are not wholly justified and can turn out to be self-defeating from a cultural point of view.

First of all, history proves that often purposes of purely philosophical clarifications – purposes that were considered of a foundational type when research on foundations was still deemed possible – can turn out to be useful for the development of scientific knowledge. The debates about the nature of space and time or the epistemological status of geometry and mechanics which accompanied the birth of conventionalism and relativistic physics provide the most evident proof of this. Such debates fostered the rise of the theory of relativity and are still useful to better understand both that theory and its relations to other theoretical constructions such as quantum mechanics. This point of view was maintained by Einstein himself, who more than once acknowledged the role of epistemological debates for the birth of the theory of relativity, contributed to those discussions himself and once wrote that "The reciprocal relationship of epistemology and science is of noteworthy kind […] Epistemology without contact with science becomes an empty scheme. Science without epistemology is – insofar as it is thinkable at all – primitive and muddled."[15] In my opinion this means that the coöperation between science and philosophy so dear to the *Straniero* (and Sandro) can easily go together with the work of philosophers chiefly pursuing aims of epistemological clarification.

The second reason highlights a trait typical of philosophy as it has been traditionally conceived and practiced. I think that it would be dangerous to renounce it and limit oneself to the, albeit indispensable, analytical side of the philosophical inquiry.

Science is an essential part of our cultural system and by its purposes and methods it aims at distinguishing itself from other relevant parts of this same system, such as the different forms of artistic expression or religious beliefs. The salient point on which this distinction rests is the high cognitive value (I do not say the exclusive cognitive value, as a dogmatic follower of scientism would claim) that at least *prima facie* is acknowledged to science in comparison with other parts. Nevertheless, we all know very well, whether we are philosophers or not, that such a value, the cognitive value of science,

[15] See, for example, Einstein (1949: 684). Einstein has also made fundamental contributions to the discussion of the geometry/experience relation. Such discussion has such general and autonomous epistemological relevance that still today it cannot be neglected.

is far from being obvious and can be questioned both *in toto* and in part by means of the most various arguments and the most various reasons. In such a discussion – whether one likes it or not – *also* philosophy gives its opinion. Of course philosophy cannot address these questions without adequate knowledge of the object at issue – I mean science – but at the same time, still today, one cannot help referring to the problems traditionally raised about the possibility of knowledge, which are philosophical problems in the proper sense of the term.

Although some epistemological 'squabbles' may appear to be cunning or irrelevant to research scientists in their fields, these same 'squabbles' could have (and sometimes did have) a constitutive function in settling important controversies. Think of the crucial role played by the notion of objectivity in the discussions between relativists and anti-relativists, pragmatists and metaphysical realists, transcendentalists and constructive empiricists.[16] It is difficult to believe that it is possible to take a position on questions concerning the paradigmatically cognitive character of scientific activity and the reliability itself of the results of scientifically conducted researches in comparison to other kinds of statements (for instance, of a religious or mythological type), without referring to epistemological issues concerning the cognitive value of statements, hypotheses and scientific theories, however irrelevant such issues may appear from the point of view of the specific scientific problems addressed on the empiric-experimental level or (also) at the theoretical and logical-mathematical level.

One requirement still integral to today's cultural world, which philosophy first and foremost is called to address, is just an overall vision that could be a reference point for the answers given to problems such as that concerning the reliability and the cognitive value of science. That philosophy must accomplish this task in a way both scientifically informed and conceptually clear and organized seems to me beyond question; that it must renounce this task only so as not to elicit manifest indifference or boredom, not to say nuisance, from scientists (and even some philosophers), seems to me to be only to renounce its very nature.

[16] For example, I think one of the weakest points of the defense of objectivity attempted by Paul Boghossian (2006) in *Fear of Knowledge: Against Relativism and Constructivism* is insufficient attention devoted to the most significant developments in the debate about the logical structure of empirical control to which, after Logical Empiricists, some of the most important post-Popperian and post-Kuhnian epistemologists have contributed.

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[17] In the interim, *cf.* Id., *Kant's Critical Epistemology* (Routledge, Oxon & New York 2020), §§66-74 (*Ed. note*).