Positivism

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I. The Birth of Positivism

The term “Positivism” not only defines a philosophical movement, but also, in the wider sense of the word deals with science and culture, in the same way and in many similar aspects as do empiricism and pragmatism. The term “Positivism” was first coined by Saint Simon and was later popularized in the first half of the 19th Century by the French sociologist and philosopher, Auguste Comte (1798-1857) who is considered to be the father of the positivist movement. Comte also invented the word “sociology.” In the second half of the 1800’s Positivism began to spread throughout the rest of Europe and to the United States. If we were to look for expressions in the history of philosophy which clearly anticipate the spirit of Positivism, we have to turn to the words of David Hume: "When we run over libraries, persuaded of these principles, what havoc must we make ? If we take in our hand any volume, of divinity or school metaphysics, for instance; let us ask, “Does it contain any abstract reasoning concerning quantity or number?” No. “Does it contain any experimental reasoning concerning matter of fact and existence?” No. Commit it then to the flames. For it can contain nothing but sophistry and illusion" (D. Hume, *An Enquiry Concerning Human Understanding* [Oxford: Oxford University Press, 2000], p.123).

A distinctive feature of Positivism, at least as far as the original formula put down by Comte goes, is the proposition of describing the history of human thought in evolution, in three well-defined states. What in fact does “Positivism” mean? According to the French thinker, starting from the beginning up until the 19th Century, our way of thinking is divided into three major phases: the first being the “theological” phase, the second is “metaphysical”, and the third is “scientific,” or rather, to be more precise, “positivist.”. The first, the theological phase is characterized by he supremacy of mythology, seeing nature as a living being, manifesting divine attributes. The second phase is dominated by metaphysics; here human beings claim knowledge concerning nature, putting forward theories (at this point, void of any divine characteristics) using abstract thought. Comte held that all the classical metaphysical systems

of Western philosophy were to be found in this phase; going from Antiquity with Plato and Aristotle, then through St. Augustine and St. Thomas Aquinas, and finally reaching the modern era with Spinoza, Leibniz, Kant and Hegel. This is what Comte has to say on the matter: "All of our speculations, whatever they may be, are inevitably subject, either as far as the individual is concerned or the species, to passing through three different theoretical states: theological, metaphysical and positivist. Although in the first place it is indispensable, under all the aspects, the first state is to be understood from now on as being strictly provisional and preparatory; the second, which in reality, is nothing more than a slight modification of the first, carries out a transition role, gradually leading to the third; this one being the only fully normal one, to establish, in every way, the definitive regime of human reason" (A. Comte, *A Discourse on the Positive Spirit*, 1844).

Comte held that in the 19th Century, philosophy “had to” become positivist. In his opinion it was not a matter of evaluating thinking of the past, since it had traveled along quite a “natural” road, leading it from the mythical to the conceptual abstract process. In becoming positivist, philosophy on the other hand had to recognize that the only true knowledge available is that which came from the sciences, which from Galileo onwards, had been liberated from philosophical custody. This is a very important theory which would have huge repercussions on the way in which philosophical work was to be understood in the 20th Century. In other words it was necessary for philosophers to let go of their claim to know “privileged” objects or ambits of reality which shirked from scientifical enquiry. This meant that “metaphysics” would have to be eliminated, since it represented the mistaken and illusory attempt to investigate and know reality using non-empirical methods. Comte announced, in almost messianic terms, that Aristotelian type research of the most universal principles of *being qua being*, was to be substituted by the discovery of the great laws of Nature. The paradigmatic example, is that of the law of universal gravitation formulated by Isaac Newton. Such laws describe experimental facts and pave the way for other facts, thus concrete and experimented reality [2] is the only reality, that is to say, that which can be described without having to resort to any other entity or transcendent principle.

It is to be noted, meanwhile, that this is a duty which involves the scientist, and not the philosopher. If things are really this way, then the role of philosophy is lesser and much more limited than that which was put forward by metaphysics. The philosopher’s duty is to promote the “scientific spirit”, which has enabled humanity to obtain decisive results where our knowledge of the world is concerned, and to “dominate it”; the philosopher should likewise endeavor to diffuse such a spirit in all the various fields which it has not yet reached. Yet which fields are we speaking of, seeing as the world of Nature is already successfully investigated by science, which does not need — or at least in theory — the assistance of philosophy so as to carry out its enquiries? Obviously we are dealing with the social world; as we have already previously pointed out, Comte is the inventor of a term which was destined have an enormous impact: “sociology.” However, it is not sociology in the way in which the term is understood today, that is the historical-social science which studies various aspects of society; here we are looking at a much vaster concept; Comte’s sociology takes on board both social order as well as social “progress,” the latter depending on the spread of the scientific-positive spirit. At the political level, the very social order is considered according to the specific scientific criteria. Thus, at the end of his life, Comte maintained the need to bring about a kind of “religion of humanity”, of which he himself was the High-Priest. The need for restricting the object of research — later only scientific — to the “positive” aspects of reality, places the Comtean doctrine in clear contrast with any kind of religious vision of life. Neither God nor the “first cause” are in any way able to be reached, and therefore, things being this way, we cannot use these type of concepts in order to explain facts.

The fact of the matter, as it has previously been pointed out, is that Comte’s scientific religion has, in a most remarkable way influenced the vision of the world and the notion of life as they have been

commonly accepted in industrialized and socially developed countries over the 19th and 20th centuries. The influence of positivist mentality is not merely restricted to the fields of science and philosophy, but has also an impact on other domains, for example in that of literature; one only has to mention the works of Jules Verne and Arthur Conan Doyle to find immediate confirmation of such an impact. The boundless confidence placed in scientific progress automatically spills over into the projects set up to reform society and to improve the quality of human life, as for example, the industrial revolution thus viewed from the point of view of its positive aspects.

Positivism however quickly found a much valued ally with the evolutionism of Charles Darwin (1809-1882), presenting both descriptive and normative characteristics. It described how human thought had in effect developed throughout the course of time, and at the same time, established norms on how it should continue to evolve in the future. Here the connection is made clear between the idea of "unavoidable progress [3]" and an evolutionistic type of ethics. The duty of humankind being the fostering of an historical-natural process to which it is impossible to be in opposition, since it is an inherent part of the very order of Nature. Emphasizing the inevitability of progress, based upon "immanent" historical-natural laws, is also present in Marxism; although it has been pointed out that the positivist influence is quite clearly more apparent in the writings of Friedrich Engels than in those of Karl Marx himself. The polemic with regard to historicism, which was lead by Karl Popper in the 20th Century is also well-known; historicism understood as the theory according to which history has a goal, that is a plan to be fulfilled following some coherent model endowed with a nature of inevitability.

In the second half of the 19th Century the spread of positivism was supported by Darwin's theory of evolution. The British philosopher Herbert Spencer (1820-1903) was, for example, of great influence: he held that there exists a general law of evolution valid for all fields of reality, whereas Darwin limited his enunciation to the law concerning the evolution of the human species upon the earth. However, still within the second half of the 19th Century came the summit of the positivist mentality, with the affirmation of the "mechanistic theory [4]," which provided the positivists with the necessary tools so as to offer a comprehensive and unified synthesis of all scientific knowledge. The project therefore began to take shape, that is, the understanding that, within the mechanistic model of the world, each natural fact was included, along with those which science was discovering at that particular time.

At this point it became obvious that, in spite of the theoretical enunciates, the positivists were putting forward a new materialistic [5] and immanentistic type of metaphysics. The mechanistic model is in fact an attempt to try to get to know the ultimate principles of reality, just as in the same way the Aristotelian or Hegelian methods tried to do. Reality is considered as a "whole", presenting classical characteristics of materialistic monism: the whole of reality is material and only science is capable of investigating it. It was this convinction to determine the subsequent crisis of classical positivism, which came later in the 19th Century, and which was due to certain, obvious facts. In the first place, the fact that instead of eliminating it, positivism adopted a new form of metaphysics, which in time would also be prone to criticism and refutation. Secondly, not everyone was willing to accept such a clear-cut "monistic" approach to reality. In the third place, the almost "religious" attachment showed by the later Comte seemed quite absurd for those who supposedly considered positivism as an instrument with which to free humanity from the influence of religion.

To all of this can be added the fact, that it was precisely the progresses made in scientific research which created the biggest problems. In physics the Newtonian model of action at a distance was replaced by that of the field of forces through electricity and electromagnetism. In mathematics the discovery of non-Euclidean geometry cast doubt upon the Euclidian conception of space. Also in philosophy there was an anti-positivist reaction due to some representative members of spiritualism, neo-idealism and

neo-Kantism. As far as the pragmatic thinkers such as C.S Peirce (1839-1914) and W. James (1842-1910) were concerned, although being close to positivism in certain areas, they too noted that scientific knowledge, being intrinsically fallible, cannot be transformed into a new metaphysics. 19th Century positivism was to inspire in the following century neo-positivism or logical empiricism, which brought its theses up to date, alongside the most recent scientific discoveries.

II. The Neo-positivism of the Vienna Circle

In the early 1920's, a group of philosophers and scientists came together under the guidance of Moritz Schlick (1882-1936) in Vienna, thus giving rise to the famous "Circle", taking its name from the Austrian capital (*Die Wiener Kreise*). Among the main members, it is worthwhile mentioning Rudolph Carnap, Otto Neurath, Hans Hahn, Friedrich Waismann and Kurt Gödel; Ludwig Wittgenstein and Karl Raimund Popper would also occasionally attend their meetings, however they were not officially members. The philosophical movement which the Circle gave rise to is known either as "logical positivism," "logical empiricism," or "logical neo-positivism," the various appellations being basically analogous. It is also interesting to note that, similar currents of thought came about both in Germany with the Circle of Berlin (Hans Reichenbach and Carl Gustav Hempel), and in Poland with the School of Leopoli-Varsavia (Stanislaw Lesniewski, Jan Lukasiewicz, Tadeusz Kotarbinski, Kazimierz Ajdukiewicz, Alfred Tarski).

20th Century neo-positivism is a more up to date, sophisticated version of that of the 19th Century. From the old movement, the new maintained the radical empiricism, the attention given to the development of the sciences (above all the formal logic and natural sciences), and the clear aversion to metaphysics. Like the classical positivists of the previous century, the neo-positivists or logical empiricists no longer considered philosophy as an attempt to elaborate comprehensive visions of the world, but as a means or a possibility to clarify the meaning of concepts and linguistic expressions. The aim was to establish a "scientific" philosophy which, as far as possible would respect the criteria of rigor and exactitude. It is mainly this aspect which distinguishes new positivism from the traditional kind. The representatives of the Circle of Vienna gave an important and fundamental role to formal logic and to mathematics (which explains the addition of the adjective *logical* to positivism). It then followed that the logical techniques elaborated in the first place by Gottlob Frege and then by Bertrand Russell and Alfred North Whitehead at the beginning of the 20th Century with the huge work *Principia Mathematica* were taken on board and greatly acclaimed. Such techniques tried to create artificial and "neutral" languages capable of eliminating the unavoidable ambiguity present in ordinary, everyday language. All of this can be interpreted as a program of radical re-foundation of the knowledge, founded upon the empirical bases, which would have had to lead to an elaboration of a "unified language" for the whole of science, based on the model of physics.

With this in mind, the neo-positivists brought about an ambitious editorial project which was known as the *International Encyclopedia of Unified Science*, directed by Otto Neurath (1882-1960), and a review called the *Journal of Unified Science.* They would have provided all that was necessary for the project of a unification of the sciences made on physicalistic bases. According to Neurath, the *Encyclopedia* was an attempt to demonstrate the possibility of synthesizing the various scientific activities, such as observation, experimentation and reasoning, so as to favor the progress of science understood in unitary terms. For the neo-positivists, the various aspects of epistemology [6], like for example the relationship between awareness and experience [2] and the structuring of theories, were valid for every type of scientific discipline, be they natural or historical-social. The project however was very quickly interrupted and the one and only volume of the *Encyclopedia* was published in Chicago in 1938. This was due both to the crisis of neo-positivism which were already perceptible in the 1930's due to the critique of Popper and of

several others, and to the defection of John Dewey (1859-1952) the leader of the pragmatic school, who had been persuaded by Neurath to collaborate to the project with an article entitled *The Unity of Science as a Social Problem.* Although he shared with the neo-positivists their interest in scientific methodology, Dewey could not accept their logical atomism and the strict separation of the world of science and the world of morals which they were putting forward.

As with their forerunners of the previous century, the members of the Circle of Vienna retained the idea that science had totally exhausted knowledge, and that the “scientific spirit” should move over into the philosophical ambit. Moritz Schlick held that, the philosopher who knew nothing but philosophy was incapable of carrying out his own work: if he wished for his discourse to be coherent, he needed to be an expert in at least one branch of science. Knowledge comes from science and metaphysical statements are meaningless. This theory was vividly illustrated in the Circle’s “Manifesto” where it states: "If someone asserts that there is a God, the primary basis of the world in the unconscious, there is an entelechy which is the leading principle in the living organism, we do not say to him: what you say is false; but we ask him: what do you mean by these statements ? Then it appears that there is a sharp boundary between two kinds of statements. To one belong statements as they are made by empirical science; their meaning can be determined by logical analysis or, more precisely through reduction to the simplest statements about the empirically given. The other statements, to which belong those cited above, reveal themselves as empty of meaning if one takes them in the way that metaphysicians intend" (H. Hahn, O. Neurath, R. Carnap, *Wissenschaftliche Weltauffassung*, 1929, partial Engl. Transl. in O. Neurath, *Empiricism and Sociology* [Dordrecht-Boston: Reidel, 1973], pp. 306-307).

Thus, meaning pertains to the empirical propositions of science and of the analytical propositions of logic and mathematics. The latter, according to the terminology used by Wittgenstein in his *Tractatus logico-philosophicus*, are a matter of tautology, assertions which are always true and that, therefore, add nothing, as such, to knowledge. The only knowledge available to us is that of the empirical reality, and Kant’s a priori synthetic propositions do not exist. By means of his *Tractatus*, Ludwig Wittgenstein undoubtedly had a huge influence on the mebers of the Circle of Vienna, but it must also be noted that they gave a superficial interpretation of his thought without understanding the most problematic parts...

In this way philosophy ceased to be knowledge in order to become a mere activity or linguistic clarification, and since for the neo-positivists the whole of knowledge had been reduced to empirical science, philosophers themselves could do nothing other than analyze the only meaningful discourse, that is the scientific one. Not only were the metaphysical propositions considered as being false, but also meaningless, since they seek to study a world of entities of which nothing can be said. So then, in harmony with the *first* Wittgenstein, who wrote in the *Tractatus*: "The right method of philosophy would be this. To say nothing except what can be said, i.e. the propositions of natural sciences, i.e. something that has nothing to do with philosophy: and then always, when someone else wished to say something metaphysical, to demonstrate to him that he had given no meaning to certain signs in his propositions" (*Tractaus Logico-Philosophicus*, 6.53).

Neo-positivism brought about a whole new way of doing philosophy. However a careful analysis would show thet the sophists of ancient Greece, certain medieval nominalists, the British empiricists and the classical positivists of the 19th Century, such as Comte, are actually part of its ancestry. It was due to results obtained from modern and contemporary science and from mathematical logic, that the followers of neo-positivism were able to adopt an even more radical vision. The aim being the reconstruction of philosophy, taking away any traces of useless metaphysical speculations. Like their 19th Century forerunners, these considered themselves as being the high-priests of the scientific spirit, and unlike Max Weber (1864-1920), they took on board a totally optimistic view of scientific progress. The conclusion of

their *Manifesto* is an unconditional exaltation of western scientific rationality: "We see that the spirit of the scientific conception of the world is permeating into the forms of public and private activity, into instruction and methods of education and into architecture in an ever-increasing way, as well as the contribution it makes in the promotion of economic and social life according to rational principles. The scientific conception of the world is at the service of life that acknowledges it" (H. Hahn, O. Neurath, R. Carnap, *Wissenschaftliche Weltauffassung*, 1929)

The hinge on which the whole philosophical conception of neo-positivism hangs is the famous “theory of verification,” according to which, a proposition is meaningful only if the truth of it can be established, be it in direct or indirect manner, using empirical experimentation. However, it is worth noting straightaway that, based on this assumption, the elimination of metaphysics becomes a hopeless exploit. How is it possible, using purely empirical experimentation, to verify the truth of the very proposition which express the principle of verification? From the moment when it is understood that this is not possible, it follows that we have to admit that such a proposition flees from the observation check. The neo-positivists had the intention of eliminating metaphysics using a principle which, in the frame of the canons they established, turned out to be a metaphysical one. Despite various attempts of “liberalization” of the principle, especially due to the work of Rudolph Carnap, they did not succeed in solving the basic problem. The radical program of the Circle’s members entered into a crisis and was to be replaced by Karl R. Popper’s falsification and post-empirical epistemology [6], whose major representatives were Thomas Kuhn and Paul Feyerabend.

The theses of Rudolph Carnap (1891-1970) deserve special attention, due to the influence they had in the 20th Century. In an article in the 1930’s, Carnap spoke of the elimination of metaphysics using the logical analysis of language. He considered metaphysics as a mass of pseudo-enunciates which did not abide by the rules, and he affirmed that using the instruments provided by formal logic we could strip metaphysics of its deceitful language. In order to reach his goal and support his position he took quotations of Hegel and Heidegger out of context. This is what he says: "Similar to the terms previously considered, i.e. “principle” and “God [7],” also most of the other metaphysical terms are meaningless, such as for instance, the terms the Idea, the Absolute, the Unconditioned, Infinity, the being of the entity, the non-entity, the thing-in-itself, the absolute spirit, the objective spirit, the essence, the in-it selfness, the through-it selfness, revelation, articulation, the Self, the non-Self, etc [...]. A metaphysician would say that he cannot provide empirical conditions of truthfulness for them. When he adds that by such and such a word he means something, we know that, in actual fact, he is only referring to associations between ideas and feelings, by which those words gain no meaning whatsoever. The so-called metaphysical sentences, that contain such meaningless words, do not say anything at all: they are merely pseudo-propositions" (R. Carnap, "*Uberwindung der Metaphyisk durch logische Analyse der Sprache*," *Erkenntis* [1932], II, pp. 219-241).

Carnap’s investigation allows us to understand all the more why, quite a few thinkers who are unfamiliar with the analytical tradition (yet certainly not all of them) indulge in the magic of words. However, it seems important to point out the fact that obscurity or allusiveness are not necessarily synonymous with lack of meaning, nor that as a result of the fact that Martin Heidegger often used obscure language are we able to deduce that his propositions are meaningless. Carnap and indeed neo-positivists in general seem unaware of the fact that the word metaphysics has many semantic connotations, besides which a careful study of the history of philosophy shows that many metaphysicians, Aristotle being an outstanding example, were extremely thorough even from a logical viewpoint.

The great relevance of the role played by language in neo-positivist philosophy is reflected in the fundamental characteristics of the “linguistic turn” which was started off by Gottlob Frege (1854-1941);

in this sense neo-positivism can also be considered, along with its distinguishing characteristics, as being a part of the vast analytical tradition. Without any doubt, the Vienna Circle's members had the merit of turning the attention of many philosophers to a real problem: in our own era, it is difficult to deny the fact that science has truly replaced philosophy in many sectors of knowledge. Nor can we ignore the fact that following the classical examples left by Descartes, Leibniz and Kant, neo-positivists pointed the way to renewing the link between science, philosophy and metaphysics, and no doubt that the study of the relationship among these disciplines benefited from some of their scathing analyses.

Today the aspect of neo-positivist philosophy which seems more up-to-dated is the project of transforming philosophers into linguistic analyzers; they would not have a necessarily useless role to play, but it would certainly be considered secondary or auxiliary as far as that of scientists is concerned. If we were to paraphrase the medieval idea of philosophy being the handmaid of theology, we could say that philosophy merely being understood as the analysis of language it would simply become the handmaid of science, having no autonomy and ready to obey each and every command. Faced with this kind of thinking, Ernst Bloch (1885-1977) reacted, having noted that philosophy had been relegated from the position of science's forerunner to now simply running behind. However, it is worthwhile remembering that the scientists themselves do not seem to have the same perspective, at a time when, within the boundaries of contemporary science, questions of a distinctly metaphysical-philosophical nature are being raised. In fact, quite a number of scientists today criticize philosophers for neglecting the metaphysical questions which arise within their own subject areas.

It is in fact, in examining the position of the British philosopher Alfred J.Ayer (1910-1989) that the transience of the neo-positivist vision can be understood even more clearly. Ayer is the author of the famous volume *Language, Truth and Logic*, edited in 1936 and still considered the clearest introduction to the neo-positivist theories. Upon reading the already mentioned "Manifesto" of the Circle of Vienna, an underlying theory can be clearly seen, i.e. if it is not possible to give verifiable propositions to certain experiences, then they are meaningless: the fate of such a conclusion not only applies to metaphysical enunciates, but also to those in the area of ethics and theology.

Ayer held that affirmations of ethical value acquired meaning in as far as they could be translated into empirical or affirmations of fact. He continued: "Our contention is simply that, in our language, sentences which contain normative ethical symbols are not equivalent to sentences which express psychological propositions, or indeed empirical propositions of any kind" (*Language, Truth and Logic* [London: Camelot Press, 1953], p. 105). It follows that fundamental ethical concepts cannot be analysed, nor is it possible to give reasons for that. There remains only one possible conclusion: "The reason why they are unanalysable is that they are mere pseudo-concepts. The presence of an ethical symbol in a proposition adds nothing to its factorial content [...]. We can see now why it is impossible to find a criterion for determining the validity of ethical judgments. It is not because they have an absolute validity which is materiously independent of ordinary sense-experience, but because they have no objective validity whatsoever. If a sentence makes no statement at all, there is obviously no sense in asking whether what it says is true or false" (*ibidem*, pp. 107-108). The same, merely linguistic type of strategy is used against theology: "There cannot be any transcendent truths of religion. For the sentences which the theist uses to express such truths are not literally significant" (*ibidem*, pp. 117-118). In the light of this, we can easily understand the accusations of "philosophical irrelevance" concerning the doctrines of neo-positivism, often put forward by the members of other schools of thought.

III. General Evaluation of Positivism between Scientific Thought and Philosophical Reflection

Let us now continue by drawing up a general, and as far as possible schematic, evaluation of the main theories upheld by the neo-positivist logicians. It is important to note that the purely linguistic conception of the truth [8], on the one hand it allows us to determine a precise borderline between mathematical (and logical) assertions and the assertions of the empirical sciences, on the other hand it explains the same logical-mathematical knowledge without the help of the first principles of metaphysics or abstract entities such as concepts and ideas. Logic and mathematics having been put in a safe place as purely analytical knowledge, and metaphysics theoretically eliminated as a useless discourse, all that remained, was to find a suitable characterization for philosophy as such.

In actual fact, philosophy was reduced to the logical analysis of language. The main difference between *philosophy* (understood precisely as linguistic analysis) and real *science* (i.e. the various forms of empirical science with physics being in pole position, and the historical-social sciences understood according to totally reductionistic [9] norms), consists in the fact that philosophy is concerned uniquely with language and meaning, whereas factual questions are to be exclusively dealt with using scientific competency. All of this is not without important consequences; empirical science treats all the questions outside of the linguistic world in an exclusive way. The fact that, from now on, philosophy is dealing only with the domain of linguistics, means that the philosopher has no area higher than that of empirical science in which he can work; if he wants to, the philosopher can dedicate his work, so to speak, only to language, which is then used by scientists to carry out their investigations concerning non-linguistic reality. The aim of the analysis is mainly the clarification of language so as to make it as clear and precise as possible. It is only when acting in this way that “pseudo-problems” (which are in fact nearly all of those taken into consideration by traditional philosophy) are able to be distinguished from genuine problems. It follows that whatever difficulties the neo-positivists encountered in trying to define the method of logical analysis, it remains clear that the difference that passes between philosophy and science is the same one which passes between “language” on the one hand, and the “world” which language itself describes on the other.

The superiority of the role which language plays within the neo-positivist conception of philosophy is in agreement with the fundamental characteristics of that movement which, by Frege later on, is defined as “linguistic turn.” Such a turn had a major influence on a large part of 20th Century thought, including the philosophical currents referred to as hermeneutics. The important problem which the logical empiricists were seeking to solve was: “How could it be possible, given the great cognitive achievements made by contemporary science, to keep hold of the usefulness and the relevance of a philosophy understood in an autonomous way?” It is obvious, that if the neo-positivist presumption of the death of metaphysics is accepted, then it is necessary to provide philosophy with a proper area of research and a methodology independent from scientific practical knowledge.

What therefore, is the reason behind the fact, that the analysis of language is so important to the model of philosophical investigation, as set out by the neo-positivists? The answer to such a question can only be given when avoiding the most superficial interpretation of neo-positivism; that is, admitting that the analysis of scientific language made by this school is quite similar to a metaphysical type of undertaking which aims to establish the “limits of meaning” in a very precise way. It is obvious that we are dealing with a strategy whose roots are found in Wittgenstein’s *Tractatus*. That explains the fact that, language analysists, moving along in this persuasive direction, found a way to assume an important task.

Even though it is incorrect, historically speaking, to claim that the linguistic turn has simply “replaced” Kant’s transcendental point of view, it does however represent its natural continuation. Let us take for granted, at least for one moment, the neo-positivist assumption that philosophy has been entirely substituted in the cognitive field by the sciences (either natural or historical-social). In other words, things

being this way, we can conclude that we no longer need philosophy. Philosophers having been converted into language analysists, would assume their tasks, which although not useless, would all the same, turn out to be, secondary and auxiliary compared to the tasks of scientists.

It is known that, in affirming that science should take on as its main reference points the perceptive and conceptual characteristics of our experience, Kant had wanted to protect knowledge from Humean skepticism, without falling into rationalist excesses. It was natural that in identifying the scientific discourse with the understanding of appearances, Kantian thought should end up interesting itself on a terrain which, taking seriously his theories, could certainly not be reduced to appearances alone. Nor should it be forgotten that in rejecting the Kantian bridge of “a priori synthetic propositions”, neo-positivism set out to block any opening which could eventually lead to a return to the field of metaphysics; it is in this sense that the neo-positivist reduction of any kind of knowledge to purely empirical or linguistic factors without any remains, should be properly evaluated. In this way it is explained the difference between philosophy and science: philosophy should deal with nothing else except for the search for meaning, whilst all the questions regarding the truth are to be dealt with exclusively by science.

As far as the philosopher is concerned, what is expected of him, is a task of clarification and reconstruction of material which has already been given; the philosopher’s duty is in making clear the meaning of sentences in science and reconstructing its language in a precise way. The scientist, on the other hand, deals with establishing truth concerning propositions which refer to the world, and elaborates theories which are subject to the process of verification. However, based upon this idea, to reach the conclusion that the neo-positivist philosophers are only the “water-bearers (servants)” of scientists, would be a misunderstanding. If the task both of studying nature and the extension of meaningful discourse is attributed to the analytical philosophers, it is obvious that, everyone, including scientists, will have to first of all “eat their humble pie.” The discusssion about the meaningfulness of the discourse includes the scientific one, and it follows that the philosophical domain stretches out even to the point of establishing the parameters that scientific research is bound to respect if it wants to be allowed to enter into the previously mentioned significant discourse. Scientific inquiry therefore, is everything but independent from philosophy, understood as the analysis of language, in so far as it is the latter which determines the limitations beyond which science cannot go (sanction, reprimand, turning into nonsense).

What then becomes of logical-linguistic analysis from now on understood in these terms? Can it be seriously held that it is limited to the mere examination of terms and propositions? It has to be clear, based on what has just been said, that the answer to the second question has to be “no”. Instead of eliminating metaphysics, linguistic analysis turns itself into another “first philosophy”, which, establishes the limits of meaning and determines the possibilities of human knowledge. After having pointed out all of this, it becomes even more difficult to deny the fact of Kant’s influence on the neo-positivists and the analytical philosophers. Although his influence is indirect, it is nevertheless easily noticeable. Just as Kant was opposed to the extremes of rationalism, in the same way, the representatives of the linguistic turn reacted to the extremes of idealism (it is in this way that the completely negative and paradoxical Carnap’s reading of Hegelian thought must be interpreted). Parallels can also be found between Kant’s intention of limiting the damage caused by Humean skepticism and the effort made by neo-positivist/analytical philosophy in protecting knowledge from the problems caused by the fundamental crisis which between the 19th and 20th Century beset the main scientific disciplines.

That of course is not the end of the analogies. For Kant, our knowledge of reality is always “indirect,” in the sense that it cannot escape those categories which, alone can provide form to human experience [2], the result being the total impossibility of any kind of absolute knowledge of reality: knowledge makes

sense in so far as it is relative to the conceptual apparatus. Neo-positivsim and analytical philosophy does nothing more than transfer this apparatus —which "filters" experience— moving it from intellect to language. In both cases we find ourselves faced with pre-conditions which carry out the necessary and fundamental role in the acquisition of knowledge. As Kant asked questions concerning the conditions which preceded the possibility of knowledge, in a similar way, the neo-positivists and analytical philosophers asked what were the necessary conditions previously required for the possibility of a meaningful discourse.

Kant's influence is also quite clear regarding the thesis that holds that knowledge of reality is always "relative to language and to the conceptual schemas which these include". Such an influence emerges considering the famous passage in which Otto Neurath affirms that, right from the start human beings have set out on a conceptual ship from which they cannot disembark and which can only be repaired during the sailing on the open sea. If things are really this way, it is quite obvious to reach the conclusion that we can get to know the extra-linguistic world, if we admit that such a world exists, only thanks to the conceptual apparatus. Such theories were later taken up again by post-positivist authors such as W. Quine (1908-2000).

According to the neo-positivists, scientific knowledge is universal and a-temporal. The methodological rules of science are of such kind as if they "would take flesh" in various epochs and cultural contexts, without undergoing significant changes. It should be quite clear that this model offers an essentialist explanation of the changes in scientific theories. The essentialism comes from the fact of seeking to eliminate the temporal factor of science, thus giving the explanation of the changes suffered by theories in purely synchronic terms. However, on the basis of the neo-positivist vision they still remain unjustified assumptions. For example, no one has ever succeeded in demonstrating the fact that the presence of meaning coincides with the empirical verification, nor proving indubitable the supremacy of the "logical-linguistic" dimension over the "practical" one (that is, what the scientists do). It is taken for granted that the objective truth be really available and can be communicated via the creation of a prescribed artificial (logic) language. Doubt was cast upon each one of these assumptions by that which is commonly defined today as the "new philosophy of science."

Carnap and the other neo-positivist representatives showed very little interest concerning the problematic of scientific changes, and this is hardly surprising if we take into consideration the exclusively logical-linguistic layout of their works. A certain interest regarding the problem of changes in scientific theories can be found in the writings of H. Reichenbach (1891-1953), neo-empiricist from Berlin who moved to the United States during the 1930's. However, it was with the thinking of Karl R. Popper that such a problem became really crucial. In the popperian model, science ceases to become a static system, and becomes a dynamic undertaking capable of modifying itself incessantly. In other words, the scientific revolutions are always destined to follow each other, a situation that may be described by using the same title of Popper's autobiography, an "unended quest."

Between the end of the 1950's and the beginning of the 1960's the theories of certain authors, who had followed the same direction as Popper with the intention of breaking down the schema set up by the neo-positivists, and considered by the former as unrealistic and unfaithful to the ways of science, began to make a certain break through in the ambit of epistemology [6]. Among the most important of them were Thomas S. Kuhn, Imre Lakatos and Paul K. Feyerabend. The problem of changes in science is a predominant feature of their writings, and it is also due to them that the historical-temporal dimension of science was underlined. These authors differentiate themselves from the neo-positivist writers for various reasons. In the first place, in developing the Popperian lesson which holds that observation is always theory-laden, they deny the existence of a radical antithesis between the theoretical and observed

dimensions. They also reject the conception that a "cumulative knowledge" does remain when one moves from a scientific theory to another, as the contents of a theory are not entirely preserved when the theory in question is replaced by another. It is easy to understand that in this way, during a process of theoretical change, the invariance of meaning of the enunciates of the observed phenomena shall be denied. The scientific changes acquire an essentially temporal character and it is greatly influenced by the changes which occur in an historical-social context. It follows, then, that insisting on the purely logical aspects of the justification of scientific statements, lead to neglecting the "dynamic" aspect of science —as for example had happened in the neo-positivist ambit— and the vaster context (practical, historical and social) in which it comes about and develops.

Read also: Epistemology [6]
Encyclopedism [10]
Experience [2]
Materialism [5]
Realism [11]
Truth [8]
Documents of the Catholic Church related to the subject:
Abbreviations and complete titles of the documents [12]

DH 4511-4512; DH 4810; Fides et ratio, 88 [13]; Benedict XVI, Address to the Bundestag, Berlin, 22.09.2011 [14].

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Links
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