

**Differences between Quine's and Gibson's interpretations of the
naturalized epistemology project: Consequences of Gibson's
naturalism**

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ABSTRACT: In this paper we will try to show the differences between Quine's and Gibson's interpretation of the naturalized epistemology project. Namely, although Gibson points out that the genetic approach advocated by Quine is the best strategy there is to investigate the relations between evidence and theory, and that externalizing of empiricism that it requires is one of Quine's major philosophical contributions, we argue that the assumptions on which Gibson's project is based, apart from the fact that they are in conflict with some strongly held intuitions, would have to be essentially different from Quine's. In other words, contrary to Quine's position within which we have the possibility of staying on more moderate, and in our opinion, more plausible behavioristic line of approach, we will try to show that one of the consequences of Gibson's interpretation is that this possibility is ruled out in Gibson's case. On the other hand, this should enable us to draw some more radical conclusions about the nature of Quine's epistemological project.

KEYWORDS: Naturalism, empiricism, epistemology, ontology, genetic approach, behaviorism, physicalism.

1. Introduction

American philosopher Willard Van Orman Quine is one of the most significant philosophers of the twentieth century. Reasons for valuing Quine's work lie in the fact that he has reformed the empiricist tradition in philosophy practically on his own. However, apart from being a reformer of a school of philosophy, Quine is also seen by some theorists as a reformer of a discipline whose problems in contemporary philosophy are considered to be one of the most important ones, due to their significance and fundamental nature.

In fact, it could be said that after the successful reform of empiricism, Quine took it upon himself to reform epistemology too. However, while there is almost a consensus regarding the former endeavor that Quine has changed the face of a great philosophical tradition for good, when it comes to the latter, assessments of its value among contemporary theorists range from those who completely deny Quine's contribution (Kim, Stroud, Putnam), to those who believe that his insights are a necessary and long-awaited revelation in the field of epistemological research (Gibson, Thompson, Wren, Mi). Nevertheless, there is certain regularity in these different views about Quine's reform of epistemology that is important to us; in short, theorists who tend to view Quine's work as a coherent whole see it more favorably, unlike those who view it as a "mere collection of doctrines and thesis on a multiplicity of apparently disparate philosophical topics" (Gibson 1988, p. 22).

For example, Roger Gibson believes that the main reason why Quine is not seen as a reformer of epistemology is primarily that no effort has been made to realize that naturalism that Quine has eventually reached is a more significant position than empiricism he started from, and that it is this doctrine that unites Quine's ideas and makes a systematic whole of his work: "[There are] two sources of misinterpretation of Quine's thought: failure to perceive Quine as a systematic philosopher, and failure to appreciate the scope of Quine's commitment to naturalism" (Ibid., xvi). However, although by his own admission he followed Quine as regards his proposal for a naturalized epistemology, in this paper we will show the differences between Quine's and Gibson's interpretation of the naturalized epistemology project.

Namely, Gibson points out that the genetic approach advocated by Quine in epistemological research is "the best way that we have to investigate the relation between evidence and theory", and "externalizing of empiricism that it requires one of Quine's major philosophical contributions" (Ibid., pp. 66-67); but apart from being in conflict with some strongly held and, we might say, generally accepted intuitions, we will also try to show that the assumptions on which Gibson's project was based would have to be substantially different from Quine's. However, we believe that even more important is perhaps that the line of argumentation that we will follow for this purpose will enable us to draw some more radical conclusions regarding the nature and character of Quine's epistemological project.

2. Background of Gibson's interpretation

Despite strong influence it exerted, the common view is that there are certain dichotomies in Quine's philosophy that are thought to jeopardize its unity and make its interpretation difficult. These dichotomies can be detected both at the theoretical and the methodological level, but the best way to observe them would be to refer to probably the most important one – the dichotomy between empiricist and naturalistic views that Quine advocated in different periods.

Namely, when it comes to reality of objects, in his early, empiricist phase Quine advocated the instrumentalist position according to which objects are only 'cultural posits', while theories that imply them are 'fictions' (see Quine 1951, pp. 39-43), but in time he has

become increasingly inclined to the view that they have reality. Since it is commonly believed that the main feature of Quine's later philosophy is that it is primarily naturalistic, one of the sure indicators of the weakening of empiricism in favor of naturalism in Quine's work is that objects are less and less conceptualized as posits, and more and more as constituents of objective reality.

However, although at one point Quine was no doubt more inclined to naturalism than to empiricism, it should be noted that he never gave up completely some empiricist and instrumentalist views. This will be the cause of growing tensions in his philosophy and to reconcile them, Quine argued that ontology and epistemology are disciplines that are reciprocally contained. In other words, just like answers to questions about method and evidence should include answers to questions about truth or what there is, Quine believed that those concerning truth should also include answers to questions about method and evidence.

Although this proposal was at first well received by most Quine's supporters, it proved to be unsatisfactory after all, as evidenced by the fact that some of them began to give priority in their interpretation to ontological or questions of truth, over epistemological or questions of evidence. They justified it by pointing out that, given the dichotomies in Quine's philosophy, it was the only way to show it for what it ultimately is, i.e. "systematic, naturalistic response to the epistemological question of how we acquire our theory of the world" (Gibson 1988, p. 22).

In this regard, Gibson is perhaps the most significant theorist who did not give up on presenting Quine as a 'systematic philosopher' and his philosophy as a 'coherent whole', but who also thought that the precondition for such an interpretation is to give priority to ontological or questions of truth, over epistemological or questions of evidence. Gibson's grounds for this interpretation were primarily the fact that "ontology (natural science) tells us that its only evidence is sensory evidence". Since sensory evidence is nothing but "activation of (physical) nerve endings by physical objects", thus, in Gibson's view, ontology should also be given priority over epistemology, for whatever the way in which we acquire our theory of the world, it certainly "presupposes an ontology of nerve endings" (Ibid., p. 48).

Among theorists inclined to this type of interpretation (Wren, Thompson), giving priority to ontology is thought to have multiple advantages for Quine, because not only it "distances [Quine's philosophy] from the hard-line instrumentalists" (Thompson 2008, p. 121) to which he was bound by his empiricism, it also makes a systematic whole of it, as we shall see below in more detail. However, since it does not seem to matter whether a philosophy is systematic as long as it gives substantial answers to the questions it raises –

which Quine's philosophy largely does – it seems that systematicity, in itself, is not a sufficient reason to adopt the Gibson's type of interpretation. On the other hand, we have to note that this interpretation is incompatible with Quine's empiricist views according to which, generally speaking, physical objects and nerve endings that Gibson refers to are nothing but 'irreducible posits' that we use in systematization of experiences.

In a word, the interpretation that Gibson advocates conflicts with Quine's view of ontological relativism, according to which different (ontological) points of view and assumptions about what there is (physical objects, nerve endings, etc.) are possible, in which we cannot, based on all the available evidence, give priority to any of these assumptions over the others.

Quine was prompted to adopt the doctrine of ontological relativism primarily by the fact that theories are underdetermined by empirical evidence, which entails that "if all observable events can be accounted for in one comprehensive scientific theory (...) then we may expect that they can all be accounted for equally in another, conflicting, system of the world" (Quine 1975b, p. 313). On the other hand, the conclusion that we cannot give priority to what one system asserts to exist and that it is true over what another system could assert, Quine reached primarily through the thesis of indeterminacy of translation.

Namely, identifying systems of the world or theories with languages in which they are expressed, in his empiricist reflections Quine came to the conclusion that their translations "can be set up in such ways that, while each consistent with the speech dispositions of everyone concerned, they nevertheless can have different sentence-to-sentence correlations even to the point where two translations of some sentence can be correlated with sentences having opposite truth value" (Gibson 1988, p. 102). The reason for this is primarily that, being formed on pragmatic bases, these translations do not imply translation of the ontological point of view that is assumed to be contained in these languages/theories, and which, for all we know, can be completely different from the one we read into it by the act of translation.¹

¹ To illustrate this thesis, Quine imagines a hypothetical scenario of translating an indigenous language and concludes that a linguist can never know with certainty what the statements of his informants actually refer to. The famous example used by Quine for this purpose is a fictitious term 'gavagai', which is supposed to be pronounced in the presence of a rabbit, but a linguist cannot know – based on all the available evidence - whether to translate the term as 'rabbit', 'rabbit-stage', or 'undetached rabbit-part'. For more detailed information on this, see Quine's papers "Speaking of objects" and "Ontological relativity".

Therefore, Quine argues that each conceptual framework or theory of the world must have ‘empirically equivalent alternatives’, thanks to underdetermination of theories by empirical evidence, but also that there are no grounds for giving priority to any of them for the simple reason that – thanks to the fact of indeterminacy of translation, or impossibility “of reconciling them by a reconstrual of predicates” – we cannot know what those alternatives could be. It follows that just as “there is no answer to the (pseudo-) question of which translation is the uniquely correct one”, there is also no answer to the question of which of the theories is true, and Quine argues that they are all true “insofar as they measure up to the speech dispositions of all concerned” (Ibid., p. 102).

As it is commonly believed, the most important lesson of these Quine’s conclusions is that speaking of objects in a stronger sense is possible only within the same background theory or language; but even then, the objects that we speak of are nothing but ‘posits’ whose existence is determined not ‘by definition in terms of experience’, but “by theory which is a human invention: since we accept the relevant portion of each theory we accept the objects as real” (Hylton 2010, p. 21).² On the other hand, since Gibson presupposes the existence of objects or at least some of them in an absolute sense, it seems that he could give priority to ontological over epistemological questions only if he largely neglected Quine’s doctrine of ontological relativism. This was precisely the case, however, Quine himself is partly responsible for it.

Namely, while the empiricist phase in Quine’s philosophy can be best presented through his arguing for the doctrine of ontological relativism,³ in the later period Quine increasingly leaned towards the position that presupposes the existence of ‘facts’ or ‘facts of the matter’ which would be independent of the question of evidence, in short, to naturalism. Although this emphasis on ‘factuality’ has often been unjustifiably interpreted as an emphasis on factuality of natural science, it still makes Quine’s later views conflict with earlier ones. In order to reconcile the resulting tensions, Quine argued, as noted earlier, that ontology and epistemology are reciprocally contained disciplines. However, the thesis of reciprocal

² In other words, even in this case, when we move within the same background theory/language, Quine argues that there is a certain indeterminacy of the objects implied by the theory, which he explained by the fact of inscrutability of reference in general. For more information, see Quine’s papers “Speaking of objects” and “Ontological relativity”.

³ Specifically, Quine’s empiricist and instrumentalist views would be best represented by three different, but closely related theses: indeterminacy of translation, inscrutability of reference, and ontological relativity.

containment of ontological and epistemological questions imply, for most interpreters, giving equal importance to naturalistic and empiricist doctrines in his philosophy.

In fact, given it focuses on the question ‘What there is?’, or ‘What is truth?’, ontology is usually identified with naturalism. On the other hand, since it tries to answer the question ‘How do we know what there is?’ – a question concerning method and evidence – epistemology is identified with empiricism. It follows that, by arguing that ontology and epistemology are reciprocally contained, Quine showed at the same time that he eventually attached equal importance to the two doctrines (empiricism and naturalism) that he was inclined to in different periods. However, while in his empiricist phase Quine emphasized that every system of the world must have empirically equivalent alternatives, none of which we can give priority to because we cannot reconcile them by reconstrual of predicates, later he claimed something that was in principle contrary to this view – that “only one such system can be correct” (Gibson 1988, p. 102).

In other words, in time Quine has increasingly argued for the so-called sectarian position contrary to the ecumenical which was a sure sign for theorists inclined to Gibsonian type of interpretation that he made a choice “between the two doctrines which he tried so diligently to balance – naturalism in which truth is distinguished from and upheld over warrant, and empiricism, in which truth becomes indistinguishable from warrant” (Thompson 2008, p. 114). As ontology is identified with naturalism, and epistemology with empiricism, it would mean that Quine eventually gave priority to ontological or questions of truth over epistemological or questions of evidence, and this is the second fact on which theorists like Gibson based their interpretation. However, before we go into the details of this interpretation, it is necessary to say a little bit more about the most important theses of Quine’s epistemological program.

3. Main features of Quine’s epistemological approach

Quine’s proposal for naturalizing epistemology research was a reaction to the negative situation, in his view, that largely continues to this day and in which philosophers enjoy a privileged position when it comes to answering what is considered to be the most important

epistemological problem – the problem of validity or justification of our theories about the world.

As is well known, (modern) epistemology is a discipline that was left as a legacy, in the form in which it is widely accepted, by the great French philosopher Rene Descartes. It primarily deals with questions such as ‘What is knowledge?’, ‘How is knowledge possible?’, and ‘What should be done to acquire knowledge?’. To answer these questions, Descartes thought that we have to test our beliefs by calling them into doubt. Thus, using modern terminology, he came to the conclusion that beliefs about current sensory states (so-called basic beliefs) are the only ones that we cannot have any doubt about, and that all our other beliefs should be based on them.

While not denying the importance of this project in general, Quine thought that when it comes to the starting point in evaluating our beliefs, there is really no room for unlimited trust in the method of doubt.

Namely, since the consistent application of Descartes’ method allows to set such standards that would make any knowledge claim impossible – even those concerning the content of our sensory states – in order to avoid the adverse effects of unlimited skepticism about our beliefs that ultimately *make them all unjustified*, Quine believed that the problem should be approached in the spirit of scientific method and not philosophical. However, in addition to dissatisfaction with the situation, he believed that there was a rational basis for his proposal found in the thesis that the epistemological problem as he saw it, or *as an attempt to answer the question of how science really developed and how we acquired it* is in fact scientific, because “(natural) science tells us that our only source of information about the external world is through the impact of light rays and molecules upon our sensory surfaces” (Quine 1975c, p. 68).

In a word, Quine’s call for naturalizing epistemology research was based on the belief that it is “within science itself, and not some prior philosophy that reality is to be identified and described” (Quine 1981, p. 21) and which implies that the only doubts that would be legitimate are in fact those regarding problems that are solvable at least in principle, which is why they are equal to the doubts we come across in common scientific practice. However, we should not think that, *because natural science discovered* that we obtain information about the world through the impact of light rays and molecules on our sensory surfaces it also follows that epistemology is not a matter of *a priori* philosophical discussion, for although this fact was known to most epistemologists, it was of little or no importance to them.

In other words, it turned out that, in order to abandon speculative methodology in epistemological research, and establish the natural science one it was necessary to do something more than merely emphasize the physical character of processes through which we obtain information about the world, and that is a special type of interpretation of the very sense data. However, Quine did not hesitate to do so and it is the thesis that sense data can be accessed in the same objective spirit that permeates natural sciences that will strengthen his belief that he has all the necessary means to relieve philosophy of its responsibility to tell us what knowledge is and how we acquire it, and to hand over the problem to disciplines that should be, in his opinion, responsible for it. A key step in this direction has been the thesis that, contrary to what is assumed by the traditional approach, *sensory evidence no longer refers to something that is in the subject of perception, but to the presence of some publicly available stimuli.*

Namely, although Quine has claimed that there is no room in objective science for speaking of sense data (mental states), due to its ambiguity and logical uncertainty,⁴ he believed that sense data (mental states) are open to the same type of study characteristic of natural sciences, thanks to the fact that they are characterized by intersubjectivity *inherent in (natural) science*. Quine found the justification for this thesis primarily in the fact that, thanks to their ‘behavioral adjuncts’, they can be reconstrued as dispositions towards behavior in observable circumstances. In this way, Quine prepared the ground for a view that would be applied in epistemological context as well, the view that sensory impressions are equally open to objective methods of study, which is why – in the context of epistemological research as he sees it – all that subject experiences by receiving impressions from the environment is also “open to scientific study” (Quine 1975c, p. 68).

The research in question concerns the so-called genetic approach and it is a project whose implementation, both for Quine’s interpreters and for Quine himself is “the best way that we have to investigate the relation between evidence and theory, a task that Quine sees as central to traditional epistemology” (Hylton 2010, p. 95). One of the arguments on which this claim is based relates to the fact that it is a project that can be implemented by using objective

⁴ Quine’s view on the pseudo-scientific character of speaking about propositional attitudes such as beliefs was, *inter alia*, based on a distrust of the possibility of translating in general the idiom of a propositional attitude into some other, more objective terms: “In each particular case, knowing the circumstances, we may be able to say something in other terms that would be no less useful as an aid to transacting some business in hand; but we can hope for no verbal equivalent of ‘*a* believes that *p*’ even for given ‘*a*’ and ‘*p*’, that is independent of the circumstances under which it may have been said that *a* believes that *p*” (Quine 1969b, p. 146).

research techniques. However, apart from the thesis that sense data are now ‘out in the open’, accessible to intersubjective research techniques, what provides the genetic approach with the above objectivity is also the assumed, intersubjective character of the so-called observation sentences, which results from the fact that “there is generally no subjectivity in their phrasing” (Quine 1969a, p. 87).

Namely, acquiring a theory of the world takes place, in Quine’s opinion, in parallel with language acquisition. However, language acquisition is a relatively complex process because it presupposes learning the truth conditions of sentences that can be both nonverbal and verbal stimuli. In the first case, truth of the sentences is determined by the world, because “although most of the language consists of interverbal associations, somewhere there have to be nonverbal reference points, nonverbal circumstances that can be intersubjectively appreciated and associated with appropriate utterances” (Gibson 1988, p. 55). In the second, it is determined by the relation of observation sentences to theoretical ones that, thanks to this relation, also have truth conditions: “Just as ranges of nonverbal stimuli become evidence for the truth (i.e. justification) of various observation sentences, these sentences in turn become evidence for theoretical sentence” (Ibid., p. 82).⁵

However, in addition to representing “the evidence on which our theories rest and the point at which language confronts reality directly enough” (Dancy 1989, p. 235), one of the distinctive characteristics of observation sentences is that “under agreeing stimulation”, there will be “intersubjective agreement” about them. It follows that not only they are sentences we learn first— because “they will usually be about bodies”, but also that observation sentences carry a certain objectivity because they are sentences “on which all speakers of the language give the same verdict when given the same concurrent stimulation” (Quine 1969a, pp. 86-87).

Therefore, although through the learning process language will “naturally grow as a fabric of sentences” (Mi 2007, p. 124) most of which are related to observation sentences only indirectly, since these are sentences on which there is intersubjective agreement – and also that observation sentences are the ones that provide evidence for the truth of theoretical sentences – Quine argues that it is “possible to give a naturalistic account” of the process of language learning and acquiring a theory, “one that does not take for granted ideas such as

⁵ In other words, Quine interpreted science as a “linguistic structure that is keyed to observation at some points (...). Some of the sentences, the observation sentences, are conditioned to observable events (...) while the rest of the language depends, for whatever empirical content it has, on its devious and tenuous connections with the observation sentences; and those are the same connections, nearly enough, through one has achieved one's fluent part in that discourse” (Quine 1975c, pp. 74-75).

meaning and understanding” (Hylton 2010, p. 27). On the other hand, what allows not to take ideas such as meaning and understanding for granted is, as we have seen, the externalization of empiricism, that is, the thesis that sense data – or, in traditional terminology, impressions – are now also ‘out in the open’, which is why they are also accessible to objective research techniques. Thus, the common view is that the genetic approach creates two separate questions from the central epistemological question – the relation between evidence and theory – which are both open to study using objective research techniques: “‘How are observation sentences acquired on the basis of sensory stimulation?’ and ‘How do observation sentences serve as evidence for theoretical sentences?’”(Gibson 1988, p. 66).

4. Gibson’s ontologism/naturalism

Therefore, since the question of how people acquire knowledge about the world is a matter that primarily concerns the available evidence – and it is believed that Quine’s empiricism is not a theory of truth, but of evidence – the purpose of our reference to the genetic approach was, *inter alia*, to show how it is closely related to Quine’s empirical postulates. Moreover, we have seen that introducing it into Quine’s philosophy enabled the externalization of empiricism, that is, the thesis that sentences and stimuli are now out in the open, accessible to intersubjective (objective) study techniques: “The externalization of empiricism amounts to focusing on the relation between observation sentences and stimuli and the relation between these same observation sentences and theoretical sentences. The genetic approach toward studying these relations amounts to studying language learning”. However, what is extremely important and what Gibson draws attention to after all is the fact that “behavioral psychology is the medium for this inquiry” (the genetic approach, A/N) (Ibid., p. 82).

In other words, there is a close connection between Quine’s behaviorism and naturalism, and the thesis that epistemological research is grounded on the objective, scientific basis Quine based on the introduction of behaviorist method into the study of how we acquire our theory of the world.⁶ On the other hand, although Gibson also points out that

⁶ The significance of the behavioristic doctrine for Quine’s philosophy cannot be overestimated, and we can point out in favor of this first that Quine came to the famous principle ‘no entity without identity’ drawing on its

the genetic approach is the best strategy we have for studying the relation between evidence and theory, and that it is “externalizing of empiricism that it requires one of Quine’s major philosophical contributions” (Ibid., pp. 66-67), we argue that his interpretation of the naturalized epistemology project goes beyond what is guaranteed by behaviorism. In other words, we will try to show below that Gibson’s interpretation in its ultimate consequences would have to be a fundamentally different interpretation from Quine’s, and that Gibson in his approach largely disregards the genetic approach.

As we noted earlier, the main feature of Gibson’s interpretation of Quine’s philosophy involves giving priority to ontological or questions of truth over epistemological or questions of evidence. Apart from the fact that at one point Quine started to argue for the so-called sectarian position contrary to the ecumenical, Gibson’s grounds for this interpretation included the fact that whatever the way in which we acquire our theory of the world, it certainly presupposes ontology of nerve endings and physical objects. However, the relationship between ontology and epistemology, naturalism and empiricism in Quine’s theory is not as simple as it may seem at first glance, as evidenced by the fact that even Gibson shows some restraint in his interpretation.

In other words, like most Quine’s supporters, Gibson has also argued that ontology and epistemology are disciplines that are reciprocally contained.⁷ However, pointing out that “epistemological perspective presupposes ontological perspective” – whereas, given that in naturalism questions of truth are separate from questions of justification, nothing similar

legacy. Namely, since there is nothing in observable behavior that would testify to the existence of some additional, mental states or events, physical objects are for Quine the only ones that can have pretensions to reality, because only for them we have clear, behavioral criteria of identity. However, although he does not acknowledge their reality – in the sense of reality of physical objects – since their “behavioral adjuncts serve to specify them objectively” (Quine 1977, p. 102) Quine recognizes, as we have seen, intersubjectivity of mental entities. It is thanks to this fact that mental entities have a role to play in reconstructing the way in which we acquire our knowledge of the world, except that they would no longer be seen as ‘entities’, but as “dispositions to gross behavior” (Quine 1975a, p. 87).

⁷ Objections that Gibson addressed to the critics of Quine’s proposal for naturalizing epistemology, above all to Stroud, could testify to this. Namely, insisting on an unbridgeable gap between what we receive through our senses, and what is or is not true about the outside world as the main drawback of Quine’s position was for Gibson a sure sign that Stroud in his criticism “occupied only epistemological perspective”, that is, he “focuses only on how epistemology contains ontology, thereby failing to notice that ontology also contains epistemology” (Gibson 1988, p. 60).

could be said for the ontological perspective – he immediately makes it clear that questions of truth must be given priority over questions of evidence. On the other hand, even though in his epistemological reflections Quine has come up with theses such as indeterminacy of translation, inscrutability of reference, and ontological relativity, Gibson argues that this interpretation does not jeopardize in any way Quine’s empiricism or his epistemology, because Quine’s epistemological reflections “occur within an ontological setting”. Since “ontological setting [is] that of contemporary science” (Ibid., p. 138), hence the conclusion that science as such, and not some first philosophy, would be a place where reality should be identified and described.

In a word, Gibson draws attention to the fact that if we decide to give priority to questions of truth – and it seems that we would have to do it if we accept that epistemological perspective presupposes ontological perspective – the result will be that epistemology itself will become naturalized, which is after all the reason that his interpretation makes a systematic whole of Quine’s philosophy. However, while, as we have seen, Quine tried to make this transition by “replacing the old empiricist conception of 'experience' with the scientific notion of the stimulation of our sensory receptors, and construing 'our theory of the world' not as a purely mental entity, but rather as a collection of sentences to which we offer our scientific assent” (Wrenn 2008, p. 2), given the ways in which ontology contains epistemology, the idea of naturalizing epistemology research will in Gibson case get a fundamentally different and, we should say, much more radical form.

Namely, although Gibson claims that the externalization of empiricism required by Quine’s approach is one of his most important philosophical contributions, and naturalistic-behavioristic thesis “the central axiom of Quine’s entire systematic philosophy” (Gibson 1988, p. 2), since ontology contains epistemology in ways that “(1) epistemology presupposes the existence of the external world; (2) epistemology’s contact points with the external world are (physical) nerve endings; and (3) the two cardinal tenets of empiricism regarding evidence and meaning are derived from science” (Ibid., p. 59), it is our opinion that his naturalism implies a disregard for behaviorist assumptions in favor of naturalistic ones, or more precisely, physicalist assumptions in epistemological research. Therefore, we argue that we can and must speak of two different and largely incompatible versions of naturalism in Quine’s and Gibson’s cases, which we will try to show in what follows.

5. Consequences of Gibson's ontologism/naturalism

Therefore, Gibson argues that Quine's naturalism requires us to accept as indisputable facts, or as truths independent of any evidence that epistemology presupposes the existence of the external world, and that epistemology's contact points with the world are *physical*, i.e. *nerve endings*. On the other hand, since factuality is implied by Quine's naturalism, primarily *factuality of modern natural science* – and “the very idea of nerve endings, epistemology's contact points to the world, belong to the part of ontology called physiology” (Ibid., p. 48) – it seem that we have to conclude that an adequate approach to epistemological questions would for Gibson imply purely explanatory models of modern natural science.

In a word, although Gibson does not state it explicitly, given the ways in which ontology contains epistemology – as well as implications of factuality of modern natural science – we believe that he argues for an approach whereby “beliefs which the subject is thereby caused to form [are] being studied physicalistically, that is by studying neurophysiology of the brain-activity which constitutes them” (Dancy 1989, p. 236). However, if we keep in mind conclusions of some of the most significant theorists regarding the possibility of explaining mental phenomena in a way that such an approach would imply, we have to say that it seems unlikely for now, and that it is quite uncertain whether this will change in the foreseeable future.

Namely, despite the fact that mental entities such as beliefs supervene on physical ones such as certain (physical) brain states, in his criticism of reductive physicalism Davidson has come to the conclusion that “there are no strict psychophysical laws because of the disparate commitments of the mental and physical scheme. It is a feature of physical reality that physical change can be explained by laws that connect it with other changes and conditions physically described. It is a feature of the mental that the attribution of mental phenomena must be responsible to the background of reason, beliefs, and intentions of the individual. There cannot be tight connections between the realms if each is to retain allegiance to its proper source of evidence” (Davidson 1992, p. 146).⁸ On the other hand, theorists such as

⁸ In a word, although he does not deny that mental events depend on the physical basis that includes nerve endings as their part, Davidson concludes that there is a fundamental difference between the mental and the physical realm which in principle calls into question the possibility of reducing the former to the latter: “Physical theory promises to provide a comprehensive closed system guaranteed to yield a standardized, unique

Kripke and Levin offer a somewhat different strategy in fighting reductionism in the philosophy of mind, arguing that although we can expect identification of a mental state with a certain physical brain state, such identification could not be treated *as an explanation* for the simple reason that a physicalist account would leave something out, the phenomenal properties of the mental state/event with which it has been identified.⁹

In a word, when it comes to the approach we attribute to Gibson, there is a strong and widespread tendency to think of mental entities and events as *in principle irreducible to their physical basis*, and therefore *inexplicable* in physical terms, regardless of further research.

However, this seems too easy and we have to assume that it is unlikely that Gibson did not take into account inherent limitations of this interpretation, as evidenced by the fact, *inter alia*, that he never explicitly argued for this position, but advocated the so-called naturalistic-behavioristic approach in epistemological research: “The reading of Quine that I am advocating focuses on what I have elsewhere dubbed the naturalistic-behavioristic thesis. The thesis is naturalistic in that it makes the study of language accessible to empirical investigation, and it is behavioristic in that it relies upon behavior as the substance of observable data” (Gibson 1988, p. 1-2). With this in mind, it seems that we have to offer more convincing arguments that, unlike Quine’s approach, Gibson’s epistemological program is actually a reductionist program in the philosophy of mind, which requires us to take a few steps back, to the very basics of Gibson’s interpretation.

As we noted above, one foundation for Gibson’s interpretation and giving priority to epistemological over ontological questions has been Quine’s commitment to naturalism that

description of every physical event couched in a vocabulary amenable to law. It is not plausible that mental concepts alone can provide such a framework, simply because mental does not (...) constitute a closed system. Too much happens to affect the mental that is not itself a systematic part of the mental. But if we combine this observation with conclusion that no psychophysical statement is, or can be built into a strict law, we have the principle of the Anomalism of the Mental: there are no strict laws at all on a basis of which we can predict and explain mental phenomena” (Davidson 1992, p. 147).

⁹ A famous example used by Kripke and Levin in the criticism of reductive physicalism concerns the feeling of pain as a mental state whose identification with the correlated brain state, although possible, would fail to *explain* the (mental) state in which a person is when he feels pain. In other words, these theorists will base the thesis that there is a so-called explanatory gap between the physical and the mental which makes explanations of the mental by reducing it to the physical inadequate on the fact that these explanations would leave out phenomenal properties of mental sensations such as the feeling of pain. See: Levin, Joseph, “Materialism and qualia: the explanatory gap”, and Kripke, Saul, “Identity and necessity”.

was primarily reflected in the adoption of sectarian position, contrary to ecumenical one. However, since the adoption of sectarian position was inconsistent with most conclusions that Quine had reached in his empiricist phase, he was expected to justify this new, drastic change in his attitude, which he did by making a “difference between fact of the matter about physics and fact of the matter about translation” (Thompson 2008, p. 121). In a word, Quine tried to reconcile tensions between the view that only one system of the world can be the accurate system, and the view about indeterminacy of translation by pointing out that “there is no fact of the matter to the question of which translation is the correct one, but there is a fact of the matter to the question of which physical theory is the correct one” (Gibson 1988, p. 102), i.e. that, unlike science, “translation [is] burdened with additional indeterminacy” (Thompson 2008, p. 122).

For theorists inclined to Gibsonian type of interpretation (Thompson, Wren), this was evidence that, in the context of advocating sectarian and not ecumenical position, a theory that would also be *a true theory* for Quine would have to be natural science or physics, because “for physics to be indeterminate, there would have to be some other form of knowledge about the world other than science, and it is just this that Quine’s naturalism denies” (Gibson 1982, p. 94). However, although Quine pointed out that ‘there is no fact of the matter to the question of which translation is the correct one, but there is a fact of the matter to the question of which physical theory is the correct one’, given other views he advocated, we argue that Quine never drew all the consequences of this point of view. On the other hand, Gibson had to do it, which is a thesis that we base primarily on his ontologism and the view that there are facts independent of any evidence, which would, in fact, be truths that we are informed of by modern natural science.

Thus, although in both cases there is an insistence on introducing the methodology of natural science in epistemological research, in Quine’s case there is a possibility of holding a more moderate and, in our opinion, more plausible behavioristic line, while we believe that this possibility is ruled out in Gibson’s case. This is primarily based on the view that if we, as Gibson suggests, accept as indisputable facts what natural science tells us, then we must also have a theory of truth that is independent of evidence, which is why Gibson has no choice but to claim that “translation and physics are not on ontological par”, and that “physics, as ultimate ontological parameter avoids the indeterminacy (lack of factuality) that plagues linguistics” (Thompson 2008, p.123). However, it seems to us that this assertion would be empty unless we also assume that the emphasis on natural science or physics has a certain advantage; having in mind the ontology of nerve endings, and in general, the ways in which

ontology contains epistemology according to Gibson, it seems most plausible that this advantage would in epistemological context consist in its ability to explain, by its own means, the way in which we acquire our beliefs about the outside world.

In other words, the view that Gibson's naturalism is in its ultimate consequences a variant of reductive physicalism in the philosophy of mind is based primarily on the thesis that the assertion that there are no facts about translation, but that there are facts about science would have no content unless we also assume the possibility of reducing mental states/events such as beliefs to their physical bases such as certain (physical) brain states. On the other hand, this is not the case in Quine's approach, or at least it is not necessarily the case, as evidenced by the fact that Gibson would in that case be forced, at least for the sake of a working hypothesis, to distinguish between mental and physical objects to which the former would be reduced to or explained by. In short, he would have to introduce an ontological asymmetry between the mental and the physical that does not exist in Quine's approach.

Namely, although Quine often oscillated in attitudes regarding the character of mental entities and events, having in mind the genetic approach as his last view and the dominant one (at least when it comes to conducting epistemological research) we must conclude that mental entities were for Quine equal to physical objects in their ontological status.¹⁰ On the other hand, if it is true that in explaining the way we acquire our theory of the world Gibson argued only for the methodology of modern natural science, *viz.* reductive physicalism, then he would also have to rehabilitate mentalism from which Quine explicitly distances himself, and which, moreover, challenges his externalized empiricism. We therefore find it unlikely that Quine ever had a theory of truth or factuality that would be independent of empirical evidence as attributed to him by theorists inclined to Gibsonian type of interpretation, if for no other reason than because that theory would be inconsistent with epistemological research as he sees it, in short, with the genetic approach. However, if we follow through this line of argument, it will require drawing more radical conclusions about the nature of the relationship between Quine's and Gibson's naturalism.

¹⁰ Although it is undoubtedly unlikely that mental entities could have any role in 'working a manageable structure into the flux of experience' as physical ones do – which explains the observed differences between them – since they are now also out in the open, accessible to inter-subjective research techniques, the same behavioral identity criteria that apply to physical objects would also apply to them. In short, we would be informed about both of them, as we have seen, by the so-called observation sentences on which there is general agreement.

Namely, taking into account the naturalistic-behavioristic thesis, but at the same time the thesis on factuality of modern natural science, although in our view Gibson advocated the approach that would concern only the latter, he also believed that there was a link between behavioral and physical levels in epistemological research. On the other hand, Quine also postulated continuity between behaviorism and (reductive) physicalism, as evidenced by the fact that although he thought that, because now we do not have “detailed knowledge of the structure of the human brain, and of particular events in particular brains more or less speculative answer, or at least a very incomplete answer [is] the best that we can hope for”, he still believed that “we may, however, know enough about a brain and its workings to be able to make it plausible that the detailed story would be more of the same, an extension of our knowledge along the same [behavioristic, A/N] lines” (Hylton 2010, pp. 97-98).

In other words, given the view that ‘nothing happens in the world without some redistribution of micro-physical states’, both Quine and some of his interpreters who, generally speaking, did not share Gibson’s beliefs (Hylton) nevertheless believed in continuity between behavioral and physical levels in epistemological research.¹¹ However, we believe that there can be no question of any continuity, and that Quine did not need an assumption about factuality that would be independent of evidence, although some of his views might be evidence to the contrary.

First of all, if we take into account the ways in which ontology contains epistemology, and in general, Gibson’s suggestions about factuality of modern natural science which strengthen our beliefs that explanatory models of this science would be for him the only acceptable ones in the context of epistemological research, the question is *in what relevant sense* it could have anything to do with studying “the ways in which language-learners actually move from an understanding of simple observation sentences to an understanding of the more complex sentences (...) of which theories are constructed” (Dancy 1989, p. 236).

In a word, although they both point out that the genetic approach is the best strategy we have for answering questions ‘How are observation sentences acquired on the basis of sensory stimulation?’, and ‘How do observation sentences serve as evidence for theoretical

¹¹ In other words, just as Gibson’s commitment to physicalism was not as clear and unambiguous as is revealed here, the same goes for Quine’s commitment to behaviorism. Thus, for example, although Hylton points out the difference between behavioral and physical levels in explanations of language, he also points out that in Quine’s case these “levels are linked. A behavioural account is an account in terms of dispositions to behaviour. Such dispositions are physical states of the organism (...). So a behavioural account is also, by Quine’s lights, a physicalistic account” (Hylton 2010, p. 106).

sentences?’, it is not clear what place the assumptions about nerve endings and in general, about truths that we are informed of by modern natural science such as neurophysiology could have in it. On the other hand, since the behavioral level would not require any assumption about facts that would go beyond the available evidence, it seems that there is no reason why Quine should argue – even though he did – that there are no facts about translation but that there are facts about science, which would make him committed to reductive physicalism as we have seen above. It seems that the only reason Quine could claim something like this, and why he might have claimed it is that this assumption would in principle neutralize the problem of circularity that his project would otherwise be confronted with. However, we have seen that epistemological program based on physicalistic (reductionist) assumptions would be inconsistent with other theses of Quine’s philosophy, and that – having in mind the attitudes of some of the most important contemporary theorists regarding the possibility of reducing the mental to the physical which such an approach would imply *de facto* – there are more than convincing arguments against its viability.¹²

6. Conclusion

The naturalized epistemology project can be approached in several different and not necessarily compatible ways, but when it comes to projects inspired by Quine’s proposal, it seems that the way we approach them will depend primarily on how ambitiously we interpret Quine’s thesis on the *objective character* of sense data, and what conclusions we are prepared to draw from it, and thus from the epistemological endeavor. In this regard, it turns out that some theorists draw more far-reaching conclusions from this assumption than others, even Quine himself.

In our opinion, this is the case with Roger Gibson who, as we have seen, advocated an approach according to which ‘beliefs which the subject is thereby caused to form [are] being studied physicalistically, that is by studying neurophysiology of the brain-activity which

¹² Although it may seem so, we should not think that giving up physicalism and holding a more moderate, behavioristic line that we attribute to Quine would imply his giving up on at least minimal naturalism, especially if we keep in mind that in this case the requirement for the introduction of objective research techniques that characterize the methodology of natural science would also be met.

constitutes them'. However, although Quine was in one period inclined to something akin to this type of interpretation, we believe that it is at least arguable whether he has ever advocated anything as radical as Gibson's proposal, as evidenced by the fact, *inter alia*, that for him epistemology has never been subordinated to ontology the way it is in Gibson's work. In other words, it seems that Quine rightly sought to preserve equal relations between these disciplines, for not only would the adoption of Gibson's proposal imply radical modifications of his empiricism, but it is an open question to what extent, if at all, this proposal is viable.

Therefore, although they shared some common beliefs such as the necessity of naturalizing epistemology research, we argue that there are sufficient grounds for concluding that Quine advocated one type of interpretation of the naturalized epistemology project and Gibson another type, and that there is no continuity between the assumptions on which these projects would be based. In addition, we should not forget that the path Quine followed to get to his naturalistic views is significantly different from the one followed by Gibson, which will together unable naturalism advocated by Quine in epistemological research, unlike Gibson's, to go much further than what is guaranteed by behaviorism.

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