Carnapian Explication and the Canberra Plan's Conceptual Analysis

A Comparison and Critique

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Abstract

Conceptual analysis has been typically recognized as a traditional methodology within analytic philosophy, but many philosophers have heavily criticized it. In contrast, the methodology of Carnapian explication has been undergoing a revival as a methodological alternative due to its revisionary aim. I will make explicit the shared structural properties and goals of Carnapian explication and the kind of conceptual analysis advanced by the advocates of the Canberra Plan. Also, I will argue that although their goal to make philosophy more scientific is desirable, they cannot achieve their goal of clearly distinguishing philosophy from science. Moreover, since traditional conceptual analysis is an element of both revisionary methodologies, it is also unable to mark a clear distinction between them. The comparison throws some light on the relationship between traditional conceptual analysis and the two revisionary methodologies, their implicit theoretical commitments and deficiencies.

1. Introduction

Analysis has always played a central role in philosophical method, "but it has been understood and practiced in many different ways." (Beaney 2018) There is more than one way to distinguish different strands of analysis, but for the purposes of this paper, the distinction that is most important is the one between descriptive analysis and revisionary analysis (Dutilh Novaes & Geerdink 2017, 71). The first sort of analysis is essentially a descriptive task that seeks to clarify and describe our ordinary concepts. The second sort seeks to transform our concepts to fulfill a specific purpose.

Within analytic philosophy, analysis as a descriptive methodology derives chiefly from Moore's views (Carnap 1963a, 68–69; Dutilh Novaes & Geerdink 2017, 70). Moore (1899, 182) and his followers, the philosophers of ordinary language and their heirs (Kelly 2005; Kelly 2008; Ryle 1949; Strawson 1959), stress common sense beliefs as the locus of philosophical analysis. The resulting view is that the task of philosophy reduces to the analysis of our ordinary concepts expressed in natural language. This analysis, which I call *traditional conceptual analysis*, consists in the clarification and description of our ordinary concepts. This is usually accomplished (and tested) by reflecting on actual and possible cases, and seeing whether the concept under investigation applies in those cases (Jackson 1998a).

On the other hand, analysis as a revisionary methodology, stems from Russell's views. From this perspective, our natural languages and our set of common beliefs are inadequate for philosophical purposes we must refine our common concepts, vocabulary, and beliefs.

Concerning his stance toward ordinary language philosophers like Strawson, Russell claims that he is "persuaded that common speech is full of vagueness and inaccuracy, and that any attempt to be precise and accurate requires modification of common speech both as regards vocabulary and as regards syntax." (Russell 1957, 387) Here, the view is that philosophical methodology is or should best be revisionary. Carnap corroborates this distinction when he asserts that:

> Only slowly did I recognize how large the divergence is between the views of the two wings of analytic philosophy in the question of natural versus constructed languages: the view which I shared with my friends in the Vienna Circle and later with many philosophers in the United States, and the view of those philosophers who are chiefly influenced by G. E. Moore and Wittgenstein. It seems to me that one explanation of this divergence is the fact that in the Vienna Circle mathematics and empirical science were taken as models representing knowledge in its best, most systematized form, toward which all philosophical work on problems of knowledge should be oriented. By contrast, Wittgenstein's indifferent and sometimes even negative attitude toward mathematics and science was accepted by many of his followers, impairing the fruitfulness of their philosophical work. (1963a, 68–69)

More recently, we see again two apparently opposing views on what the correct method of philosophy is. One can be regarded as a direct heir of traditional conceptual analysis. This is the view that philosophy employs conceptual analysis in a preparatory stage to serious metaphysics. Two of the most influential modern advocates of the so-called "Canberra Plan" support this view: David Chalmers and Frank Jackson (Chalmers & Jackson 2001; Jackson 1998a). On the other hand, we see philosophers who conceive of philosophy as the task of explicating and/or engineering concepts.[1] They are the heirs of Carnapian explication (Brun 2016; Carus 2008; Dutilh Novaes 2018; Justus 2012).

Both approaches are very similar in many respects. As I will demonstrate, one can quite confidently view the project of the Canberra Plan not only as an heir of traditional conceptual analysis but simultaneously as an instance of, or at least a methodology that overlaps with the wider revisionary version. This paper is not the first attempt to find commonalities between Carnapian explication and other philosophical methodologies. There are several attempts to find common features between Carnapian explication and other forms of theoretical refinement. For example, according to Uebel (2012), there is a common feature between explication and what he calls the "bipartite conception of metatheory". That is, the relationship between the *explicandum* and the *explicatum* (explication) is similar to the relationship between the language of existing empirical sciences and the possible languages of sciences (the bipartite conception of metatheory). Dutilh Novaes (2018) argues that explication and ameliorative analysis, as developed by Haslanger (2000), have features in common. Specifically, they seek to improve our ordinary concepts. Brun (2017) suggests that explication and reflective equilibrium can be seen as two aspects of one method. Shepherd and Justus (2015) argue that experimental philosophy can play a role in explication.

This paper can be regarded as a contribution to this literature. Firstly, I will introduce the method of explication. Secondly, I will introduce the method of conceptual analysis defended by two of the most influential advocates of the Canberra Plan (Chalmers and

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[1] See Cappelen 2018 for a recent comprehensive introduction to conceptual engineering.

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Jackson). Thirdly, I will draw a systematic comparison between both approaches. I will focus on the parallels between each element of their two-step methodology. Finally, I will point out their relationship with traditional conceptual analysis and some difficulties with these methodologies: their commitment to a purely conceptual and *a priori* component as a way to distinguish science from philosophy and the lack of a clear distinction between the two steps of their methodologies.

2. The methodology of explication

Explications are omnipresent in philosophy and science. Typical philosophical examples are Tarski's explication of TRUTH and Hempel's explication of EXPLANATION. In science, we have the explication of prescientific concepts like HARDNESS, WORK, POVERTY, RACE, etc. This methodology has its roots in Carnap's work. He defined the process of explication as follows:

> The task of explication consists in transforming a given more or less inexact concept into an exact one or, rather, in replacing the first by the second. We call the given concept (or the term used for it) the *explicandum*, and the exact concept proposed to take the place of the first (or the term proposed for it) the *explicatum*. (Carnap 1950, 3; see also Carnap 1963b)

In his *Logical foundations of probability* (Carnap 1950), Carnap tried to provide an explication of the three interrelated concepts: PROBABILITY, CONFIRMATION and INDUCTION. Other examples are the explications of ordinary concepts like FISH and SALT. FISH, the *explicandum*, is replaced by the concepts expressed by the biological term "piscis," the *explicatum*.[2] This concept is characterized within the conceptual framework of biological theory as "cold-blooded aquatic vertebrates [that] have gills throughout life." (Carnap 1950, 6) SALT is replaced by the scientific concept NaCl. Carnap also allowed for the explication of other, ordinary, but more philosophically controversial concepts like CAUSALITY, LIFE, MIND and JUSTICE (Carnap 1950, 4). So, the scope of application of explication is wide, it ranges from ordinary to philosophical and scientific concepts.

Carnap suggested four requirements that an adequate explication must fulfill: similarity, exactness, fruitfulness and simplicity (Carnap 1950, 7). Similarity, the first requirement, demands that the replacing concept be sufficiently similar to the replaced concept. This is an essential requirement, because if it is not fulfilled, then one cannot guarantee that we are talking about the same subject.[3] This requisite lies at the base of the revisionary method of explication. Similarity is what makes revision, transformation and/or amelioration possible.

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[2] A cautionary note about terminology. Although I often speak of terms, my interest is in concepts: in the cognitive content of terms. Although Carnap often speaks of terms and concepts interchangeably (Carnap 1950, 3), explication is better understood as dealing with the content of concepts. This is also true of the Canberra Plan. Jackson uses the "the word 'concept' partly in deference to the traditional terminology which talks of *conceptual* analysis, and partly to emphasize that though our subject is the elucidation of the various situations covered by bits of language according to one or another language user, or by the folk in general, it is divorced from considerations local to any particular language." (Jackson 1998a, 33) For Jackson, the "focus is on getting clear about the cases covered rather than on what does the covering, the word *per se.*" (Jackson 1998a, 33)

[3] Strawson's 1963 famous objection focuses precisely on this point. He claims that Carnapian explication changes the subject.

Exactness requires the introduction of the *explicatum* into a body of scientific concepts. Ideally, this body of concepts must be a formal language with explicit meaning postulates and transformation rules. The resulting relations between the *explicatum* and the body of concepts would be more precise (Carnap 1950, 7). Later, Carnap adopts a more flexible approach. The only necessary requirement for exactness then is that the *explicatum* be more precise than the *explicandum*. It does not matter whether the *explicatum* belongs either to scientific or ordinary language (Carnap 1963b, 935), though scientific language is almost always more exact than ordinary language. For example, we have the concepts of HOT and COLD. These can be made more precise if we replace them with comparative concepts like WARMER and COLDER, and can be made even more precise by replacing them with the quantitative and scientific concept TEMPERATURE.

Exactness frequently leads to the next requirement: fruitfulness. Scientists do their best to get rid of vague concepts, because exact concepts are more useful in the formulation of empirical laws or logical theorems. The more precise concepts like TEMPERATURE and ENERGY, for example, often are involved in well-confirmed generalizations (Justus 2012, 169). The last requirement, simplicity, demands "simple rules for using the *explicatum* as well as the simplicity of the laws which include the *explicatum*." (Brun 2016, 1215) It is added as a complementary requirement subordinated to the previous three.

Now, explication is composed of two steps:

(1) The clarification of the *explicandum*
(2) The specification of the *explicatum* (Olsson 2015, 59).

(1), "[t]he first, preparatory step in an explication consists in the informal *clarification of the explicandum.*" (Carnap 1963b, 933) This informal clarification is carried out by explanations and examples which make explicit when we use and do not use the *explicandum*. (2), the second step, consists of the replacement of the *explicandum* by the *explicatum*. The *explicatum* usually belongs to a scientific theory. Let us analyze the structure of these two steps in more detail.

2.1   The First Step of Explication

Carnap maintained that "one of the main tasks of philosophy is clarification and explication." (1963c, 917) Concerning the task of clarification, Carnap states that generally "a philosophical insight does not say anything about the world, but is merely a clearer recognition of meanings or of meaning relations," (1963c, 917) and that such insight, when expressed in a sentence, is not factual but analytic. For example, the principle of verifiability or the principle that there is no synthetic *a priori* are "proposals for certain explications (often not stated explicitly) and of certain assertions which, on the basis of these explications, are analytic." (1963c, 917)

I believe that this assertion can readily be interpreted as identifying the task of clarification with the task carried out in the first step of explication. This step is carried out before we replace the *explicandum* with the *explicatum*. The complete process of explication requires a second step: replacing the *explicandum* with the *explicatum*.

Now, "[w]e call the old concept, used in a more or less vague way either in everyday language or in an earlier stage of scientific language, the *explicandum*." (Carnap 1945, 513) In fact, the *explicandum* can also belong to "a previous stage in the development of

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scientific language." (Carnap 1950, 3) Either way, the *explicandum* is, at least compared to the *explicatum*, imprecise. Although it can also belong to scientific language, it is in ordinary language where we often find the most imprecise concepts in need of clarification. That is why it is especially important to clarify the concepts of ordinary language. Carnap offers a way to do it:

> What *X* means by a certain term in contexts of a certain kind is at least practically clear to *Y* if *Y* is able to predict correctly *X*'s interpretation for most of the simple, ordinary cases of the use of the term in those contexts [. . .] An indication of the meaning with the help of some examples for its intended use and other examples for uses not now intended can help the understanding. An informal explanation in general terms may be added. (Carnap 1950, 4)

The clarification is carried out by giving examples and explanations. Take the ordinary notion of SALT. The way to clarify it, as Carnap suggests, is to list cases in which the term can or cannot be applied in our ordinary talk in the household. For example, one may mention its white appearance and its use in food preservation and seasoning.

The goal of this informal clarification is to reach "an understanding of the meaning intended which is far from perfect theoretically but may be sufficient for practical purposes of a discussion of possible explications." (Carnap 1950, 5) As I will argue below, this step corresponds roughly to the conceptual elucidation methodology found in traditional conceptual analysis as well as in the first step of the Canberra Plan.

2.2.   *The Second Step of Explication*

The second step requires the formulation of more exact and fruitful concepts. This step consists of the incorporation, through definition, of the *explicandum* into a system of exact concepts which can be logical, mathematical or empirical (Carnap 1950, 3). These replace the less useful, vaguer and more confused old concepts. That is why this step brings us closer to the conceptual framework of scientific theory, which typically has concepts which are more exact and fruitful.

Of course, following the later Carnap,[4] "[t]he *explicatum* may belong to the ordinary language, although perhaps to a more exact part of it," (Carnap 1963a, 935–936) but if "a still more exact explication is desired, we may go [for example] to the scientific language of psychology" (Carnap 1963b, 934) or physics, etc. This is because it is in the conceptual framework of scientific theories where we can find the most exact, precise and fruitful concepts. In this way, explication reflects Carnap's ambitions to make philosophical methodology more scientific. Our familiarity with ordinary conceptions could readily be sacrificed in favor of theoretical virtues such as empirical adequacy.

In this manner, in the second step, we replace the *explicandum* by the *explicatum*, which "must be given by explicit rules for its use, for example, by a definition which incorporates it into a well-constructed system of scientific either logicomathematical or

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[4] The key difference between the earlier Carnap of *Logical Foundations of Probability* (Carnap 1950) and the later Carnap (Carnap 1963a; 1963b; 1963c) is that the later had a more pragmatic conception of explication (Brun 2016). The later Carnap emphasized that the departure of the *explicatum* from the *explicandum* is a practical decision that depends on our specific purposes: on what one "regards as useful in the given case." (Carnap 1963b, 937)

empirical concepts." (Carnap 1950, 3) Carnap gives several examples. For example, the *explicatum* for the *explicandum* SALT is given by the chemical concept of SODIUM CHLORIDE or NaCl. Likewise, the concept (the *explicandum*) FISH is replaced by the zoological concept (the *explicatum*) PISCIS.[5]

In these cases, the extension of the term can be the same, as in the case of SALT and NaCl. But it can be different too, as in the case of FISH and PISCIS. In this last example, the extension differs. In particular, whales and seals are excluded from the concept PISCIS. What matters is that we conserve a certain degree of similarity "in such a way that, in most cases in which the *explicandum* has so far been used, the *explicatum* can be used." (Carnap 1950, 4)

According to Carnap, the main reason that the *explicatum* is superior to the *explicandum* is that the first is more exact and fruitful. As we saw above, a concept is more fruitful "the more it can be brought into connection with other concepts on the basis of observed facts; in other words, the more it can be used for the formulation of laws." (Carnap 1950, 6) Undoubtedly, scientific concepts are usually the most exact and fruitful. They are more exact because they belong to a more systematic conceptual framework, which is usually the more scientific part of our language (Carnap 1963b, 936) and they are particularly fruitful because of their connection with observed facts. Thereby, the second step of explication demonstrates the Carnapian desire to bring philosophy closer to science.

3. The methodology of the Canberra plan

In the previous section, we saw the two steps of the methodology of explication. In this section, we will see the two steps of the methodology of the Canberra Plan. The Canberra Plan is a form of conceptual analysis that has its origins in the treatment of theoretical terms by Ramsey (1929) and Carnap (1963d). The meaning of theoretical terms could be defined by their role in a scientific theory. Later, David Lewis (Lewis 1970) extended this treatment to the definition of folk terms by their role in a folk theory like folk psychology and supplemented this treatment by providing a way to identify the referents of the folk terms on the basis of empirical investigation. Since then, the Canberra Plan has been developed by Frank Jackson (Jackson 1998a) and David Chalmers (Chalmers 2001) (henceforth, the "Planners").

Stich and Weinberg say of Jackson's defense of conceptual analysis that "[i]t is, by a long shot, the most sophisticated defense of the use of conceptual analysis in philosophy that has ever been offered." (Stich & Weinberg 2001, 637) This new methodology adds some elements which are not present in the traditional version. For example, the Canberra Plan's version of conceptual analysis appeals to science to determine or adjust our ordinary concepts, more specifically, to determine or adjust the extension of our concepts. In this sense, this kind of conceptual analysis is more naturalistic. This contrasts with traditional conceptual analysis, which is only concerned with the description of our ordinary concepts. Thus, I will refer to the Planners' version as "naturalistic conceptual analysis" from now on.

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[5] The term "fish" can be conserved to refer to the *explicatum* PISCIS, but, in order to avoid confusion, Carnap employs the term "piscis."

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The general structure of the methodology proposed by the advocates of naturalistic conceptual analysis consists of two steps: (1) the characterization of concepts via the deliverance of our intuitions when presented with actual and possible cases, and (2) determining whether those concepts refer to some entity described by the sciences. As a consequence of this second step, we must adjust our ordinary concepts to aid us in the construction of a more accurate theory of the world. The resulting concepts must be vindicated by science. Although the Planners did not explicitly enumerate the conditions of adequacy for these concepts, this requirement seems to be the primary condition of adequacy for the naturalistic conceptual analysis of the Canberra Plan.

3.1.   The First Step

According to the advocates of the Canberra Plan, the first step of their brand of analysis is carried out by the philosopher in his armchair. The philosopher picks up and analyses ordinary concepts like CAUSALITY, COLOR, BELIEF, LIBERTY, etc. Once selected the object of study, the philosopher collects the platitudes associated with the concept under study. These platitudes are made explicit[6] through the reflection on actual and possible cases in which the concept could be applied. These reflections make explicit our platitudes through the act of intuiting. The "role of the intuitions about possible cases so distinctive of conceptual analysis is precisely to make explicit our implicit folk theory." (Jackson 1998a, 38)

For Jackson, folk theories, like folk psychology, are very important for conceptual analysis because they determine our ordinary concepts (which in turn make up our folk theories), and we need to know what our ordinary concepts are before we can improve them. As Jackson puts it:

> When bounty hunters go searching, they are searching for a person and not a handbill. But they will not get very far if they fail to attend to the representational properties of the handbill on the wanted person. These properties give them their target, or, if you like, define the subject of their search. Likewise, metaphysicians will not get very far with questions like: Are there Ks? Are Ks nothing over and above Js? and, Is the K way the world is fully determined by the J way the world is? in the absence of some conception of what counts as a K, and what counts as a J. (Jackson 1998a, 30–31)

Often it is assumed that philosophical analysis gives us the meaning of concepts. Jackson (1998a), for example, defends a descriptivist approach about meaning (Jackson 1998b) and sees platitudes as descriptions (see Nolan 2009, 280–281). From this perspective, platitudes are identified with descriptive sentences, and a set of sentences defines a concept. This is so because, for the advocates of naturalistic conceptual analysis, concepts acquire their meaning within a folk theory which is composed of platitudes. For example, if we are going to analyze free action, it depends upon its connections with platitudes (which are expressed in sentences and to which we have a shared commitment) about "free action, moral responsibility, causal explanations of various kinds, the justifiability of punishment, personal identity, and so on, along with a catalogue of those cases most obviously judged to be of free action." (Jackson 1994, 104)

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[6] Jackson asks and answers: "[w]hat's a theory that is not explicit for S? It is one (i) S holds but (ii) S cannot give the content in words. If S is asked on an exam to state the content of theory T, when S only knows T implicitly, S fails that question." (Jackson 2009, 87)

Thus, the first step of naturalistic conceptual analysis of concept c consists of the careful picking and coordination of platitudes associated with c. A concept is defined by a set of platitudes. These will be assembled into a coherent folk theory which gives meaning to the concept under study.

This seems to bring to light the core component of philosophical methodology from the perspective of the Canberra Plan: the analysis of concepts. Thus, the first step consists merely in conceptual elucidation. This part of naturalistic conceptual analysis is practically equivalent to the methodology of traditional conceptual analysis. But, as we will see, this methodology is also practically equivalent to the first step of explication in that both methodologies have the goal of clarifying our ordinary concepts.

3.2. *The Second Step*

The Planners promote what Jackson calls "serious metaphysics," which accommodates one set of entities or properties within another set of entities or properties which are more fundamental. The Planners usually take, as an illustrative example, physical entities as the set of fundamental entities (see Jackson 1998a and Chalmers & Jackson 2001). Thus, for example,

> [w]hen there is something that threatens to transcend the physical or the natural, the way to demystify it is to 'locate' it in the natural order; this location means using conceptual analysis en route to showing how facts about it are deducible *a priori* from facts about the natural order. The key to establishing these deductions is conceptual analysis (Blackburn 2008, 24).

After conducting a conceptual analysis (the first step), we need to appeal to science to see whether the concepts which are the output of the first step are implied by the vocabulary of science. If this is so, then we must coordinate the vocabulary of the first step with the vocabulary of science. "The central point here is that a macroscopic description of the world [...] is implied by a microscopic description [...]" (Chalmers & Jackson 2001, 330–331) This is what makes metaphysics serious and interesting (Kingsbury & McKeown-Green 2009, 160). But we can only do serious metaphysics after we have identified our folk concepts about the subject matter. To do this implies reflection "on which possible cases fall under which descriptions. And that in turn is to do conceptual analysis." (Jackson 1998a, 42)

Anything that we say about macroscopic entities (moral, psychological, etc.) must be implied by and reducible to whatever is said about the microscopic fundamental entities. This is possible only in principle because only an omniscient individual or a sufficiently advanced society would be able to carry out that reduction of macroscopic terms to microscopic terms. A society which is capable of determining, e.g., the state of all the physical elements constitutive of x could determine the functional role of that set of physical elements and it will immediately be aware that that role is identical to the macro role.[7]

If the philosopher finds the referent of the theoretical role in the scientific vocabulary, then he has achieved a connection between our folk theory and the world. The advocates

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[7] I have treated the ontological and the linguistic level indistinctly, but it does not seem to be a problem because the advocates of conceptual analysis sponsor serious metaphysics at a linguistic and ontological level (see Jackson 2007, 187).

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of conceptual analysis assert that the second step of the Plan implies a sort of naturalistic approach because this step permits the introduction of scientific vocabulary. Yet, it seems that the second step does not imply by itself that the philosopher has to investigate the world, it only implies that he subsumes one vocabulary under the other. On the other hand, scientists do have to go to the world to determine the existence of the referents of scientific terms. Philosophers ask scientists for the thing in the world that plays the role x, "and if there is some unique particular or kind that does, we have discovered the nature of what we set out to analyze." (Braddon-Mitchell 2009, 25)

Therefore, the second step of the Canberra Plan consists in linking scientific theories (their vocabulary) with folk theories (their vocabulary). This methodology seems to be merely descriptive, but it is not. If the folk vocabulary cannot be accommodated within the scientific one, then we must revise our folk concepts or eliminate them. If we do not find the entity that plays the role x, then we must be eliminativists (Jackson 1998a, 4–5), at least for the moment (as we are now of phlogiston).

Notice that the reduction of the folk vocabulary to the scientific vocabulary is a particularly strong move. This is not automatically assumed in the methodology of explication. As we saw above, Carnap (1963b, 935) allows ordinary language explications. However, scientific explications are preferred whenever available, because they are the most exact and fruitful.

Now, the Planners defend that after the first two steps are completed, we can deduce (*a priori*) the concept of the entity-according-to-our-folk-theory by the concept of the entity-according-to-our-scientific-theory. Presumably, this deduction is part of conceptual analysis, because "conceptual analysis is the very business of addressing when and whether a story told in one vocabulary is made true by one told in some allegedly more fundamental vocabulary." (Jackson 1998a, 28) So, we can see at least three conceptual elements in the metaphilosophical picture of the Canberra Plan. First, the characterization of a concept via its platitudes (first step). Second, the reduction of the folk vocabulary to the vocabulary of the sciences (second step). And, finally, the deductive implication of how things are in many respects by how they are fundamentally.

If this is right, then the fundamental, e.g., physical constitution of the world determines, e.g., the psychological constitution of entities. Like the first and second step this implication is supposed to deal only with concepts (our concepts for physical and psychological entities) and is *a priori*. The implication $P \rightarrow Q$ is *a priori* if "it is possible to know that P implies Q with justification independently of experience." (Chalmers & Jackson 2001, 316) Accordingly, to know the spatiotemporal localization of every microphysical element of the substance H_2O, and to know its functional role is equivalent to understanding the functional role of the substance water, to understand its aqueous role. This deductive implication of the ordinary concept by the scientific vocabulary is not a step by itself but a consequence of the previous two steps.

To illustrate what has been said so far, take the following example:[8]

(1) Water is the entity that plays the aqueous role.
(2) H2O is the entity that plays the aqueous role.
(3) Water is H2O.

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[8] For a similar example, see Jackson 2003, 87–88.

The advocates of naturalistic conceptual analysis, as I understand them, maintain that knowledge of (1) depends only on the activity of analyzing our concepts from the armchair through the assessment of possible cases. It corresponds to the traditional methodology of conceptual analysis and constitutes the first step. (2) and the conclusion (3) constitute the second step: coordinating (subsuming, adjusting or eliminating certain parts of) our folk vocabulary with scientific vocabulary. This is carried out once one has recollected the products of scientific theorizing, so it depends on the way the world is as it is known by experience, usually by scientific observation and experiment. Finally, if the Planners are right, (3) can be deduced from (1)–(2). This is a consequence of the previous two-step process.

Thus, the methodology of naturalistic conceptual analysis is composed of two steps. The task of the theorist reduces to conceptual elucidation, linking scientific theories to folk ones, and making explicit conceptual implications. The Planners see philosophers as particularly engaged in this methodology. However, they acknowledge (as Carnap does concerning explication), as we will see below, that scientists also use it.

4. The Canberra plan's conceptual analysis and explication: a comparison

From what has been said it should be clear that explication and the project of the Canberra Plan have many features in common. For example, both approaches see their recommended methodologies as composed of two steps; both start from ordinary concepts and seek to clarify them, and both find in science a guide to making the necessary adjustments to our ordinary concepts.

Unlike the traditional descriptive version of conceptual analysis sponsored by Moore, Strawson and their followers, the Planners see themselves as looking for a more scientific version of conceptual analysis. In fact, they move away from the more descriptive version; they want to describe reality in the most reliable way possible. So, it is acceptable to revise our concepts when required. After the elucidation of our concepts through the deployment of intuitions given hypothetical cases, it is advisable to revise our concepts. That is why – when discussing the importance of applying, as a first step, polls to the elucidation of folk concepts – Jackson claims:

> Polls are relevant to the elucidation of one or another folk concept relating to our uses of terms like 'expect' and 'believe likely.' They are not relevant to the assessment of the edifice of probabilistic reasoning that informs current statistics. This is why the 'they are wrong' response is the correct one to those who commit the gambler's fallacy. We can think of philosophical work in epistemology as aiming to build on some of the same folk materials [...] Polls won't be relevant to assessing the final product. (Jackson 2011, 480)

Jackson sees the descriptive first step as a necessary ingredient of his methodology. He asserts that "in order to address the questions of what concepts we ought to have, we need to start from those we in fact have." (Jackson 2011, 480) A good case in point is a "Gettier's survey", which "is an essential first step in the discussion of the normative question." (Jackson 2011, 481)

The main difference between these two methodologies is that explication has broader aims than naturalistic conceptual analysis. For Carnap, explication is primarily a tool that

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serves scientific purposes. The main purpose of this tool is to make as many empirical generalizations as possible. But explication can be employed to improve our concepts to almost any end we want them to play, for example, political, legal or social ends (Carus 2008; Haslanger 2000; Jenkins 2015). Besides, explication aims, in the case of logic and mathematics, to derive as many theorems as possible. The naturalistic version of conceptual analysis also has a purpose, although it is more restricted: to discover what there is in the world. Science is the best way to do that, so we must look to our best scientific theories to vindicate or correct our ordinary concepts. This usually needs the introduction of a new concept with a corrected extension. So, in Carnapian terms, this implies the replacement of the *explicandum* with an *explicatum*.

Thus, these two methodologies share a general feature: both acknowledge and require the assistance of scientific theory. This feature generally leads to changes in our prescientific concepts. We can see more finely the deployment of these characteristics if we compare the two steps individually.

4.1. The first step

Both methodologies start from prescientific concepts which often belong to ordinary language and seek to adjust these concepts to what our more scientific theories report. To this end, both employ some traditional procedures like the reflection on actual and possible cases.

As we saw above, the first step of explication consists in describing our actual conceptual practices through examples and informal explanations (Carnap 1950, 4). So, it seems to me that Carnap is actually endorsing the methodology of traditional conceptual analysis as a preparatory stage in his more revisionary approach. Of course, the advocates of traditional conceptual analysis would not endorse the second step of the explicative process: the revision of the original concept. In this sense, traditional conceptual analysis and Carnapian explication seem to be irreconcilable. But the Canberra Planners, especially Jackson, propose a version of conceptual analysis which seems not only to fit with but to be a particular instance of Carnapian explication.

Both the conceptual analysis proposed by the Planners and Carnapian explication are designed to improve the concepts that appear in our representation of the world. However, as I mentioned before, Carnapian explication can be used to improve our concepts not only for cognitive or representational purposes but also for political, social and legal ones. Furthermore, the methodology of the Canberra Plan has some characteristics that not any practitioner of Carnapian explication needs to accept: the insistence of the Planners on the *a priori* implication of what is said in the macroscopic vocabulary by what is said in the microscopic vocabulary (Chalmers & Jackson 2001), or that we must eliminate the concepts that are not vindicated by science (Jackson 1998a, 4–5). Generally, it is safe to say that the methodology of the Canberra Plan has crucial structural and axiological commonalities with Carnapian explication. More specifically, one can say that the kind of conceptual analysis proposed by the Planners is a special instance of the application of Carnapian explication. One element that links them is their reliance on a first, clarificatory step which could well be identified as traditional conceptual analysis.

The first step of the Canberra Plan's analysis invokes intuitions about a set of actual or possible cases. These intuitions confirm or disconfirm the use of a determinate concept.

Reflection on our conceptual practices reveals to us what is the correct application of a determinate concept. The same is true for Carnapian explication. In fact, it seems that "Carnap and Strawson could agree [...] conceptual analysis can help clarify the current meaning of explicanda." (Justus 2012, 171) In fact, in discussing the apparent tension between Strawson's traditional approach and explication, Carnap recognized that both methods could be combined and that "[t]he future will show which of the two methods, or which of the many varieties of each, or which combinations of both, furnishes the best results." (Carnap 1963b, 940) The explication process deals with concepts like CAUSE, EXPLANATION, LAW, TRUTH, etc. The terms expressing these concepts "are in common use, with more or less agreement as to where it applies." (Kemeny 1963) Carnap claims that "in raising problems of analysis or explication, philosophers very frequently [...] ask questions like: 'What is causality?', 'What is life?', 'What is mind?', 'What is justice?', etc." (Carnap 1950, 4) But these concepts are not yet clear enough for explicative purposes, so he alludes to the use of traditional conceptual analysis as a first elucidatory step:

> Even though the terms in question are unsystematic, inexact terms, there are means for reaching a relatively good mutual understanding as to their intended meaning. An indication of the meaning with the help of some examples for its intended use and other examples for uses not now intended can help the understanding. An informal explanation in general terms may be added. (Carnap 1950, 4)

Accordingly, "meaning analysis may be very useful if only to search for evident examples and non-examples and for finding further conditions of (in) adequacy for concept explication." (Kuipers 2007, ix) Justus (2012) and other theorists (Schupbach 2017; Sytsma 2010) have argued that the use of intuitions can serve as a preparatory step for Carnapian explication. Surely,

> Carnap could even grant that proverbial 'armchair' conceptual analysis – where the predominant focus is what intuitions reveal – can help identify the current meaning of an *explicandum* [...] Carnap recognized a role for traditional philosophical approaches to such problems in the first step of explication. This fact is too often overlooked by critics. (Justus 2012, 173–174)

Justus favors the more empirical methods of experimental philosophy. But, in any case, intuitions are still invoked to play the role of the first step: identify and clarify the *explicandum*.[9]

In the same way, Jackson thinks that we must consult our intuitions because "only that way, do we define our subject." (Jackson 1998a, 42) Of course, naturalistic conceptual analysis seems to employ more resources than explication to find the meaning of a given concept. They recur to the evaluation of actual and possible scenarios. Carnap was not initially aware of the importance of this procedure, but later he saw it as part of an adequate methodology in the elucidation of our concepts. Specifically, "[f]or the determination of intension, not only actually given cases must be taken into consideration, but also possible cases, i.e., kinds of objects which can be described without self-contradiction, irrespective of the question whether there are any objects of the kinds described." (Carnap 1955,

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[9] In this sense, the explicative process can take intuitions as the *explicanda*. In fact, "[i]n case of intuition explication the subsequent task is to prove a theorem to the effect that the intuition, if reformulated in explicated terms, becomes justified, demystified or undermined, whatever the case may be." (Kuipers 2007, xvi)

45) Here, "Carnap described a method for uncovering intensions that involves presenting language users with a range of logically possible scenarios and asking them to make judgements regarding the concept in question."[10] (Shepherd & Justus 2015, 390) In both cases, the underlying method is the same: to clarify the *explicandum* via the evaluation of examples and counterexamples for the intended use of a concept.

For Carnap, this first step had the primary goal of reducing the ambiguity and vagueness of the *explicandum*. This goal fits well with the first step of the Canberra Plan: to get clear about the meaning of the concept under investigation; undoubtedly, reducing ambiguity and vagueness are important to achieve this aim. Both methodologies regard this preliminary procedure of clarification as a precondition to the second step. Their purpose is to get clear on the meaning of our ordinary terms, via traditional conceptual analysis, for subsequent systematization and use.

4.2.   The second step

Perhaps the main similarity between the project of the Canberra Plan and Carnap's explication is that both encourage a revisionist task for the philosopher. For Carnap, the aim was to bring forward precision, exactness, fruitfulness and simplicity to concepts lacking these virtues. So, "Carnapian explication is essentially an *ameliorative* project." (Dutilh Novaes & Reck 2017) "Carnap sought to undermine the standard philosophical methodology in favor of a more scientifically cognizant, inductively warranted alternative." (Justus 2012, 177) He emphasizes that "[a] natural language is like a crude, primitive pocketknife, very useful for a hundred different purposes. But for certain specific purposes, special tools are more efficient, e.g., chisels, cutting machines, and finally the microtome." (Carnap 1963b, 938)

On the other hand, Canberra Planners like Jackson want to make ordinary concepts "scientific" in the sense that they must be vindicated by science as referring to something in reality. This condition of adequacy requires to check whether there is some scientific concept that has the same extension as the ordinary concept under study.

The second step of the Canberra Plan is specifically designed to make our ordinary concepts more scientific, and this makes metaphysics "serious". However, the Planners also encourage the refinement or elimination of defective ordinary concepts. In contrast to Carnap, the Planners are committed to doing "serious metaphysics". Remember that, according to Carnap, the *explicatum* can belong to ordinary language, although to a more precise part of it. But for the Planners, although they allow for the existence of phenomenal facts as fundamental entities (Chalmers & Jackson 2001), if our ordinary concepts do not get support from science, then we must refine or eliminate them. In fact, this kind of naturalistic conceptual analysis is seeking to address whether our ordinary concepts survive what science tells us about the world.[11] We are seeking to address, for example, "whether

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[10] In fact, the naturalistic version of conceptual analysis also employs the reflection about possible cases to discover intensions: *A*-intensions and *C*-intensions (Jackson 2004).

[11] According to Reck, Carnapian explication is too focused on formal aspects. This makes us "blind to questions about the appropriateness of the abstraction and idealization involved." (Reck 2012, 109) It seems that the addition of naturalistic conceptual analysis to Carnapian explication can answer the challenge that Reck directs to explication because naturalistic conceptual analysis is less formal and more empirically driven.

intentional states *according to our ordinary conception*, or something suitably close to it, will survive what cognitive science reveals about the operations of our brains." (Jackson 1998a, 31). Our ordinary concepts, that is to say, our folk theory can be revised if it is too crude "in the light of one or another empirical discovery". (Jackson 1998a, 44)

Given this corrective attitude, the Plan's second step is not very different from the revisionist project of explication. This step "requires us to address when matters described in one vocabulary are made true by matters described in another." (Jackson 1998a, 41) In the same way, explication tries to conserve the extension of the original ordinary concept (as Hanna (1968) argues). The new concept C′, the *explicatum*, "replaces a given, often pre-theoretic concept *C* of philosophical interest, so that the extension of *C*′ coincides with that of *C* in the clear-cut and uncontroversial cases." (Leitgeb 2013, 271)

Certainly, some differences are permitted between the *explicandum* and the *explicatum*. Although the concepts PISCIS and FISH overlap in extension, they still differ. The concept PISCIS is narrower because it does not include whales and dolphins. The *explicatum* can also be wider than the *explicandum*: the explicated concept VELOCITY includes zero velocity, which the ordinary concept does not. Yet they still overlap in extension.

Take the concept SALT, the first step consists in assessing actual or possible cases where it is used. For example, we assess the actual cases when we use this concept in the household. In the second step, we give the *explicatum* which is given "by the compound expression 'sodium chloride' or the synonymous symbol 'NaCl' of the language of chemistry." (Carnap 1950, 5) It is clear that the extension is the same in both cases, at least in the sense that it is said that the concepts WATER and H_2O share the same extension.

As we have noted above, the Planners think that there is identity in extension between the concepts WATER and H_2O, and they present it as a clear example of the second step of their methodology. To acknowledge that there is a scientific concept for something discovered by science which has the same extension that our ordinary concept constitutes the second step of their proposed philosophical methodology.

Notice that, analogous to the Carnapian approach, the scientific concepts cannot replace the ordinary ones in all cases. Some differences are permitted. The scientific concept of *solidity* does not include "being everywhere dense in addition to resisting encroachment." (Jackson 1998a, 3) Similarly, the scientific concept of FISH does not include whales (Jackson 1998a, 34–35).

In sum, Carnapian explication and the Canberra Plan share many of the features associated with their respective first and second steps. Although both approaches presuppose traditional conceptual analysis at the beginning of inquiry, they seek to revise our concepts to fit what our best theories state. Thereby, both challenge Strawson's view that: "the language of science could not in this way *supplant* the language of the drawing-room, the kitchen, the law courts and the novel." (Strawson 1963, 505)

5. Implications for philosophical methodology: some critical remarks

My discussion scrutinized the parallels between the two methodologies of Carnapian explication and the Canberra Plan's conceptual analysis. The parallels identified in their revisionary aims and their two-step methodology throw some light on the relationship between the naturalistic conceptual analysis of the Canberra Plan and Carnapian explication,

and the relationship between these two methods and traditional conceptual analysis. In particular, it clarifies the role that traditional conceptual analysis plays in the two revisionary methodologies investigated, and how these last methodologies connect philosophy with science.

First, the initial step of Carnapian explication and of the naturalistic analysis of the Canberra Plan consists merely in the clarification of our ordinary concepts (usually through the assessment of possible cases). This step does not aim at improving our concepts. Now, this is what traditional conceptual analysis does. It works with ordinary concepts and pursues the same clarifying aim. Therefore, traditional conceptual analysis is the first step of both methodologies.

Second, Carnapian explication and the naturalistic analysis of the Canberra Plan aim at improving our concepts through an appeal to science. This is the second step with which traditional conceptual analysis disagrees. The two revisionary methodologies make use of traditional conceptual analysis only as a preparatory step (Carnap 1963a, 933). In contrast, traditional conceptual analysis is primarily focused on the description of folk concepts.

Finally, the naturalistic analysis of the Canberra Plan is an instance of explication or at least overlaps with it. As we saw above, in explication, the *explicatum* can belong to the realm of ordinary concepts. This contrasts with the Canberra Plan's emphasis on scientific concepts, especially from physics, as the result of the method. Furthermore, the advocates of the Canberra Plan are interested in describing the world. In contrast, the methodology of explication can perform other functions: to improve our concepts for political, legal or social purposes.

Now, in contrast to the proposal that philosophers must limit themselves to the use of traditional conceptual analysis (Strawson 1963), I think that the revisionary methodologies have more potential to advance philosophical theory (surely, it is also of help for scientific theory). Their use of scientific theory can be useful in many ways to philosophy, for example, by providing empirical evidence to justify the use of our improved ordinary concepts. The emphasis on exactness can be of assistance in theoretical contexts and the elimination of vagueness is not necessarily a loss to ordinary discourse. In fact, the purpose of communicating a future state of the world with the statement "it will be very hot tomorrow at noon" can also be achieved if we replace the ordinary concept VERY HOT with the improved concept TEMPERATURE (Carnap 1963b, 936). In addition, as a methodology, traditional conceptual analysis is vindicated as part of philosophical and scientific methodology. Yet, in one sense, there does not seem to be a clear distinction line between the two steps of both methodologies.

Both methodologies have some important limitations. These have their root in the aforementioned methodological commitment to a distinction between science and philosophy. Take the Canberra Plan: its advocates saw the revival of conceptual analysis as a way to distinguish philosophy from science. However, their two-step methodology is also employed by scientists, as Jackson himself acknowledges. Political scientists do conceptual analysis, as a preparatory stage, concerning what is designated by terms like "capitalist", psychologists analyze the meaning of the terms used by children (Jackson 1998a, 32–33). Like philosophers, scientists also analyze concepts (Kingsbury & McKeown-Green 2009, 173). They analyze concepts like MOLECULE, TIGER, MOMENTUM, etc. On the other hand, philosophers seem interested in more general concepts like SUBSTANCE and KNOWLEDGE. However, scientists and philosophers work on the meaning of concepts like WATER, TIME

and SOCIALIST. So, if scientists and philosophers deal with the same set of concepts or with a subset of it, then it is not clear that the two-step methodology of the Canberra Plan is a distinctive and essential part of philosophy.[12]

Similarly, Carnap wanted to distinguish philosophy from science. For the early Carnap, the problems of philosophy were just syntactical problems, but later he recognized that philosophical problems are metatheoretical in nature: they included semantics and pragmatics (Carnap 1963a, 56). Nevertheless, the methodology of explication seems to undermine his distinction between philosophy and science. Again, both the first and the second step are carried out by scientists themselves. First, the scientific community has to identify in informal terms what they are talking about; second, they try to adjust the concepts considering what observation reveals. Carnap himself claims that "[e]xplications are often given also by scientists, it seems to me particularly characteristic of philosophical work that a great part of it is devoted to proposing and discussing explications of certain basic, general concepts." (Carnap 1963b, 933) Thus, it seems that Carnapian explication implies that the only difference between philosophy and science lies in the generality of the concepts employed.

Another difficulty is that both approaches seem to be strongly committed to viewing their respective first step as a purely conceptual and *a priori* component. However, it seems to rely on more than conceptual facts. If we believe that the systematization of platitudes in a folk theory constitutes an essential element of philosophical methodology, then, if our folk theories depend on the world, we must recognize a factual element in this methodology. According to David Papineau (2009, 4), our folk theories keep a relationship with the world,[13] with experience, because these theories have synthetic consequences. Take his proposal of a very small theory of pain:

(1) Body damage causes pain.
(2) Pain causes the individual to avoid more body damage.
(3) Therefore: body injuries cause the individual to avoid more body damage.

(3) is a synthetic consequence of the theory constituted by (1) and (2). Certainly, (3) implies observable behavior, scientifically verifiable. Consequently, the implication of (3) by the premises (1) and (2) means that the theory constituted by these premises keeps a relationship with the world. The same can be said of many other philosophical concepts like KNOWLEDGE, FREEDOM, NAMES, etc. The activity of analyzing our concepts is partially determined by the world. It is simply "[c]onfused and obscure ideas of conceptual truth [that] create the illusion of a special domain for philosophical investigation." (Williamson 2007, 4)

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[12] Now, if we grant that philosophy and science do conceptual analysis, then, what distinguishes science from philosophy? Only observation and experimentation can distinguish them, but there are a lot of examples where observation and experiment play a role in the construction, justification, and rejection of philosophical concepts and theories. For example, the theory of relativity has had an enormous impact on presentism (only the present is real) (see Putnam 1967 and Rietdijk 1966), and quantum mechanics in the determination of individuality (Ladyman & Ross 2008).

[13] Laurence and Margolis 2003 hold something similar.

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So, the distinction between step one and two for each of the discussed methodologies appears to be only a procedural one, not one between a purely conceptual and an empirically informed one. It must be noted that if the distinction between the first and second step is not possible in this sense, then it is not possible to say that the methodology of traditional conceptual analysis belongs uniquely to philosophy. Even if philosophy limits itself to doing conceptual analysis (the first step), the lack of a clear borderline (in terms of conceptual and empirical matters) between the first and second step blocks a clear-cut distinction between philosophy and science.

In fact, it is quite tenable that philosophers and scientists possess a set of implicit scientific platitudes which are the product of their interaction with the world. These platitudes are expressed as intuitions, which do not differ in kind from the layman in the street. The intuitions of the scientist are just more structured, complex and based on carefully selected empirical evidence. These theories embody experience accumulated through the lifespan of the individual and communities of individuals (for a survey of the psychological evidence, see Chassy & Gobet 2009; Epstein 2010).

Similarly, to entertain possible cases (remember that both approaches employ these cases) we need to rely on our past experience with the world. As Jackson acknowledges "language conveys putative information through being a system of representation that divides how things are being represented to be from the other ways they might be." (Jackson 2004, 238) It is precisely because possible cases mirror the way the world is in some respects that the intuitions we have when we reflect on them reveal something about the world. For example, Moorean intuitions (which are grounded on our platitudes) rely on what is communicated to us through our senses. The intuitive statement "I have two hands" depends on how the world is which is known by us through our senses. Thus, the influence of the world on our concepts is evidence that engaging in the analysis of concepts is not entirely a conceptual activity.

6. Conclusion

In this paper, I have presented a comparative analysis between two methodologies: Carnapian explication and the naturalistic conceptual analysis of the Canberra Plan. I have argued that, although they differ in some aspects, both approaches have many features in common. The naturalistic conceptual analysis of the Canberra Plan can be considered a particular instance of explication, or at least a methodology that overlaps with the more general Carnapian one. Furthermore, traditional conceptual analysis, which is a merely descriptive activity, is used as the first step of both revisionary approaches.

Also, I argued that although the revisionary methodologies seem very promising, they do not seem to be distinctive of philosophical methodology. That is because their two-step methodology is also employed by scientists. Moreover, their first step alone, traditional conceptual analysis, seems to depend on how the world is. But we know the world through the methodology of science: observation and experimentation. Therefore, traditional conceptual analysis is not an exclusive methodology of philosophy.

Surely, more research is needed to uncover the relationships between explication and other forms of conceptual analysis: to make explicit their descriptive and revisionary components as well as their relationship with science. Nevertheless, this paper has contributed

to the clarification of the relationship between Carnapian explication and the Canberra Plan's conceptual analysis. It also has thrown some light on the role that traditional conceptual analysis plays in these revisionary methodologies.[14]

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