



The Ideal Language Tradition

Explication – Getting Analytic Philosophy Done

Definitions



- First of all, there are different types of definitions, which all serve different purposes within philosophy.
- Moreover, each type has its own standards of adequacy.
- We will briefly review them and discuss their differences. The types we will discuss are *nominal definitions*, *real definitions*, and *explications*.

Platitudes



- The classical distinction is between nominal definitions and real definitions. We will first discuss *nominal definitions*.
- These are the ones of which you frequently hear that they cannot be true or false, that “everybody can define their terms as they like”, etc.

Nominal Definitions



- Nominal definitions, indeed, are mere stipulations.
- They usually introduce new words into the language which serve as abbreviations for longer complex expressions of the language.

Nominal Definitions



- Here is an example:
(D1) The term ‘tiglon’ is an abbreviation (is synonymous with) ‘offspring of a male tiger and a female lion’.

Nominal Definitions



- We will call the new term, which is defined by the definition, the *definiendum*, and the terms of the language, by which the term is defined, the *definiens*.
- In the example just given, ‘tiglon’ is the *definiendum* and ‘offspring of a male tiger and a female lion’ the *definiens*.

Nominal Definitions



- A nominal definition stipulates that definiens and definiendum should be used synonymously.
- A nominal definition thus gives meaning to a new term of the language; it assigns the definiendum the meaning of the definiens.

Nominal Definitions



- Since these definitions assign meanings to terms via other terms, they are expressly *about* linguistic expressions.
- A new linguistic expression is introduced as an abbreviation for a longer one.
- (D1) is not about tigers or lions; it is about the word 'tiglon' and the string of words 'offspring of a male tiger and a female lion' as well as all strings synonymous with it.

Nominal Definitions



- Since these kinds of definitions are stipulations, they cannot be true or false.
- They, nevertheless, have to obey certain criteria of adequacy, such as

Eliminability



- A nominal definition has to state the conditions under which the definiendum can be eliminated from every context in which it occurs.

Conservativeness



- A nominal definition must not lead to new truths in the theory, i.e. every proposition that is true according to the theory after the definition is introduced must have been so before.

Nominal Definitions



- Without such adequacy criteria it would be possible to introduce contradictions into the language.

Nominal Definitions



- To summarise: nominal definitions are about terms, they cannot be true or false but correct or incorrect (with respect to the adequacy criteria) and they introduce new terms into the language.
- Now let us turn to *real definitions*.

Real Definitions



- Traditionally, real definitions state the “essence” or the “nature” of things. It is not very clear what is meant by that. Consider the following example:
(D2) x is a living organism if, and only if, (i) x is composed of a discrete amount of matter with a definite boundary, (ii) x continuously interchanges matter with its surroundings without manifest alteration of properties over short periods of time and (iii) x came into existence by some process of division or fractionation from one or two pre-existing objects of the same kind.

Real Definitions



- The term ‘living organism’ is already a term of the language.
- If this real definition is about linguistic expressions, it does not introduce a new word, but talks about the meaning of an expression that was already part of the language.
- We will call real definitions interpreted this way *meaning analyses*.

Meaning Analysis



- A meaning analysis can be true or false. It is true if, and only if, the meaning of the definiendum is the same as the meaning of the definiens (to be more precise: a meaning analysis is true for a language S if, and only if, the term d_1 of S stating the definiendum is synonymous in S with the term d_2 of S stating the definiens).

Meaning Analysis



- (D2) does not have to be about the linguistic expressions involved, however; it might well be about living organisms.
- In that case it does not tell us what the meaning of ‘living organism’ is in English, but tells us what living organisms are.
- We will call these definitions *empirical analyses*.

Empirical Analysis



- An empirical analysis can also be true or false. It is true if, and only if, the phenomenon referred to by the definiendum always, with nomological necessity, coincides with the phenomenon referred to by the definiens.

Empirical vs Meaning Analysis



- If we can make a distinction between the reference of an expression (e.g., H₂O is the reference of the term 'water') and reference fixing properties (e.g., being the watery (liquid, drinkable, clear, tasteless) stuff in our world is the property by which the reference of 'water' is fixed), we can say that an empirical analysis assumes that the reference fixing properties of the definiendum are (at least implicitly) known and unproblematic and tries to state the reference, whereas a meaning analysis makes explicit what the reference fixing properties are.

Empirical vs Meaning Analysis



- The latter involves an analysis of language by investigating the use of certain terms in a language community, whereas the former involves an analysis the things referred to by these terms.

Empirical vs Meaning Analysis



- To summarise: *meaning analyses* are about terms which are already in use in a language, they can be true or false and their truth-value depends on whether or not they state synonymies in a language.
- *Empirical analyses* are about the referents of terms, objects in the world; they also can be true or false but their truth-value depends on the obtaining of nomological supervenience relations between the referents of definiendum and definiens.

The Use of Nominal Definition in Philosophy



- Nominal definitions are of use in philosophy whenever new technical terms are introduced.
- Examples for such technical terms are 'a priori', 'consequentialism', 'supervenience', 'nominal definition' and the like.

The Use of Real Analyses in Philosophy



- As we have seen, the logical empiricists thought that philosophy is merely concerned with the clarification of scientific language and not with the empirical analysis the scientific theories are about.
- This was assumed to be the job of the sciences.
- Therefore, empirical analyses are not within the scope of philosophy.
- What is in the scope of philosophy is the analysis of *meaning*.

The Use of Real Analyses in Philosophy



- As we have learnt from Carnap's philosophy, however, logical empiricists did not think that a meaning analysis of natural language would in all cases lead to a sufficient clarification.

The Use of Real Analyses in Philosophy



- Natural language is unstable. Some speakers might use terms synonymously that others would not use that way, the meaning of some terms might lack sharp boundaries, these terms might be vague, others are ambiguous, etc.
- Although meaning analysis is an important part of early analytic philosophy, it is not its end.
- The aim of the ideal language philosophy was to overcome the ambiguity and vagueness of natural language. This was done with the help of modern logic and by way of *explications*.

Explication



- An explication is a type of definition which is a hybrid of nominal definitions and meaning analyses.
- Since philosophy tries to clarify our way of speaking, it has to depart from the terms and expressions we already use in the language.
- These terms are assumed to be imprecise and that is why they lead to philosophical problems.

Explication



- If we want to clarify these terms, we have to substitute them with terms that are in the relevant respect clearer than the ones we have started with.
- The new terms, however, should cover the same subject matter as the old ones, of course.
- Otherwise philosophy would be too easy.

Explication



- Consider the following example. Say we have a philosophical problem stated in normal English with the notion of free will.
- The philosophical problem is how we can be free in our will (the way we assume we are) when at the same time we are subject to physical laws which together with initial conditions that were in place long before our birth absolutely determine what we will do and want (as we also assume we are).

Explication



- A philosopher might think that it is because of the concept of 'free will' that this puzzle arises, and that we should clarify English to get rid of the problem.
- Nothing seems easier than that. Just restrict English to the fragment that is about elementary algebra and you are done.
- The problem of free will can not reoccur in "clarified English" simply because there are no terms in clarified English with which to state the problem. There is no such term as 'free will' to begin with.

Explication



- Therefore we want the problematic expression of ordinary or pre-scientific language, the *explicandum*, to be approximated by the meaning of the substitute, the *explicatum*.
- That they will differ to some degree in their meaning is, of course, intended. After all, the *explicandum* had a meaning which was too vague or ambiguous for the purposes of science or analytic philosophy.

Adequacy



- To be as precise as possible when it comes to formulate the datum for an explication, the explicandum, a trick must be used.
- Since the explicandum is vague or ambiguous, it cannot be directly used as a datum.
- Instead the scientist or philosopher chooses sentences of ordinary, pre-systematic discourse in which the explicandum is used in a meaning that the scientist wishes to preserve.
- These sentences then serve as additional adequacy criteria for the explication.

Adequacy



- The explicatum must be such that it is interchangeable *salva veritate* for the explicandum in all these sentences (i.e. if the explicandum is replaced by the explicatum in these sentences, the sentences do not change their truth value).

Adequacy



- Other requirements for an adequate explication are *exactness*, *fruitfulness* and *simplicity*.
- The first guarantees that the explicatum is introduced into a well-connected system of scientific discourse.
- The fruitfulness criterion is satisfied, if the new concept is useful for the formulation of many interesting universal statements.
- Finally, an explicatum should be as simple as possible, as measured by the form of its definition and measured by the forms of the laws connecting it with other concepts.

Adequacy



- There might even be cases in which a definition does not have to be coextensional.
- Clearly, when it comes to explications, coextensionality might already be too strong a criterion.
- If the pre-theoretic usage is muddled, our explicata should be less muddled.
- That implies that the explicatum and the explicandum will not agree on all cases.
- Borderline cases of the explicandum might be clear cases of the explicatum, or they might also fall out of its extension, if that seems more fruitful.

Adequacy



- Zoologists explicated the term 'fish' as it is used in ordinary language but the explicatum does not include whales or dolphins.
- The reason was that the zoologists found out that *animals living in water* have by far not as many properties in common as the *animals which live in water, are cold-blooded vertebrates, and have gills throughout life*.
- It seemed more fruitful to restrict the extension of 'fish' in the latter way.