

On definitions, defitions, and primitive notions

Abstract

Inspired by Popper's writing on definitions and Büttemeyer's critique of Popper, I examine the terms "nominalist definition" (renamed "definition"), "essentialist definition" (renamed "defition"), and "undefined terms" (renamed "primitive notions"). Whether defitions exist or not, primitive notions and definitions establish a coherent epistemology, though they do not guarantee a universal epistemology. The quest for universal epistemology is naïve and unattainable.

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What shall we call the statement "A puppy is a young dog"?

Many philosophers would call it a definition and might disagree on whether the statement is telling the essence of what a puppy is (essentialist definition) or giving a short name for "a young dog" (nominalist definition). Popper (1966) argued that nominalist definitions are common in science, but play no role in epistemology. Büttemeyer (2005) tried to expose weaknesses in Popper's arguments, focusing on the arbitrariness and ambiguity of nominalist definitions and highlighting the need for undefined terms to avoid infinite regress.

Büttemeyer, Popper, and other philosophers consider the terms "nominalist definition" and "essentialist definition" to be two types of definitions. If so, the two terms must agree at least on the meaning of the word "definition" which appears in both. Otherwise, we contrast different ideas rather than different types of the same idea.

The linguistic structure "A is B" is not the shared theme because "John is a tall man" is not a definition. At best we may try an explanatory sentence such as "A definition is an explanation of the meaning of a word or a phrase." But this statement is not different from the statement "A puppy is a young dog". We cannot interpret it without siding with a nominalist or an essentialist. Are we abbreviating the phrase to the right of "is", or are we telling the essence of the word "definition" to the left of "is"?

Any attempt to clarify the meaning of the word "definition" cannot be compatible with the way it is used in both "types". Therefore, the nominalist and the essentialist are not debating two types of a single idea. They are debating two ideas which may be conveyed by the same statement.

To avoid a futile battle about the ownership of words, I suggest that one side gives up the word "definition" when arguing the case. For example, I propose that Büttemeyer and others kindly agree to use a different word – say, "defition" – instead of "essential definition". Not only will they save a word, but they may, then, explain:

"Defition" is telling the essence of a word or a short phrase, whereas "definition" is abbreviating a long phrase, whose meaning is assumed to be understood, by a word or a short phrase. The last statement does not create a problem for either a nominalist or an essentialist.

Whether defitions exist is debatable, but I hope everyone agrees that definitions exist. Acronyms provide a trivial example:

Question: What shall we call, in the interest of brevity, the journal of the American medical association?

Answer: JAMA.

"JAMA" is a convenient abbreviation. No knowledge will be lost if we all agree to eliminate the word and never use it again. To present it as a defition (the essence of the word JAMA is the journal of...) is to ignore the order in which the word came into being. Nobody invented "JAMA" and then told the world about its essence. This word was made up to shorten a long name of a journal.

Here are two more examples where the chronology is unquestionable: "to Google", which substituted for "searching the web using the Google search engine"; and "defition", which I proposed earlier as a convenient substitute for "telling the essence of a word or a short phrase".

There are countless examples of words and short phrases that replaced lengthy descriptions of an idea, an object, an action, and so on. And these substitutions cannot be presented as defitions. To endow a word with essence *after* it was introduced merely as a substitute defies the very meaning of "essence". At most, its essence is being a substitute for a longer phrase.

As we all know, definitions simplify and quicken communication – in science, medicine, and elsewhere. It is easier to write "myocardial infarction" than to write "death of a significant number of muscle cells in the heart following an abrupt occlusion of a coronary artery". But there is no new medical knowledge in the words "myocardial infarction". They don't play any role in epistemology. They don't teach us anything new about the world. In that sense Popper was right – even if Aristotle

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should be credited for the original claim. (Reviving and sharpening a neglected idea deserves credit, too.)

Then comes the interesting question of infinite regress. Must repeated replacement of each element of a phrase with prior words lead to an infinite regress? Does it, perhaps, lead to definitions? The answer is “no” to both questions.

To avoid an infinite regress, we should stop at words or phrases that may be called “primitive notions” – ideas that must be accepted and understood on their own, with no other words. They are not “definitions”, however. Any attempt to tell the essence of a primitive notion is either a synonym or a longer phrase, which takes us again to infinite regress. Although Popper did not use the term primitive notions, he agreed that “...all chains of definitions must start with *undefined* terms” (Popper, 1966). Büttemeyer (2005) criticizes Popper for failing to explain “...how the abstract and universal terms get their meaning”, but his criticism is irrelevant to the question of existence. Does Büttemeyer think that an unexplained phenomenon cannot exist? The explanation is a challenge for science, not for epistemology.

To reject the existence of primitive notions is to deny epistemology. If you only agree “to defi” (tell the essence) and “to define” (replace long with short), you will be stringing words from words for ever. Moreover, there would be no common foundation upon which human beings could communicate. Primitive notions are required in the human language, just as they are required in the sounds and gestures of animals. Barking dogs might have means to shorten long messages (to define), but *some* of their communication signals are surely primitive notions.

How does a person (or a dog) understand a primitive notion? How is it possible to understand a word, a sound, or a gesture – without explaining them by using other words, sounds, or gestures? I don’t know, but undefined terms are understood daily by little human beings. When babies understand the first word, there are no prior words in their minds to define it. Do they equate the first word with a gesture? Maybe they do. But a gesture is also a communication signal, which should be understood somehow. Perhaps primitive notions are grasped by “intuition”, “soul”, and the like.

If you don’t understand the words “intuition” and “soul”, I may either define them, or claim them to be primitive notions. And if you don’t understand the phrase “primitive notion”, I will do the same. If you want to communicate with me, we will have to reach a silent agreement on a set of primitive notions, or you should derive some of my primitive notions from *your* primitive notions through definitions. Of course, we may not share an identical understanding of every word, but nothing guarantees an

identical understanding of every definition, either. (Is a 6-month old dog still “a puppy”?)

Primitive notions are essential in epistemology just as they are essential in mathematics and logic. They are the building blocks of sequential definitions (and definitions – for those who accept the idea). Without them we do not have the foundation upon which we can state the axioms of science, propose theories, and draw inference.

The combination of primitive notions and definitions does establish a coherent epistemology, though it does not guarantee a universal epistemology. It is possible, for instance, that your interpretation of the previous sentence differs from mine because we interpret differently the words “primitive notions” and “epistemology”. That kind of possible ambiguity is unavoidable. Moreover, the quest for sufficient epistemology, as reflected in Büttemeyer’s critique of Popper, is naïve and unattainable from one viewpoint, and arrogant and authoritarian from another. Nothing can guarantee unambiguous, precise communication of thoughts, because human minds are not clones of a single mind. If anything, potential disagreement on epistemology is the essence of the autonomous mind. Perhaps it is the sublimated version of the individual struggle for survival and wellbeing.

References

1. Popper, K. R., (1966). *The Open Society and Its Enemies* (Volume II), Fifth edition. Princeton, NJ: Princeton University Press.
2. Büttemeyer, W. (2005). Popper on definitions. *Journal for General Philosophy of Science*, 36:15–28