Tarski – The Semantic Conception of Truth – Philosophy and Phenomenological Research - 1944

Truth is not a stand-alone concept. Truth always applies to a *sentence*. Therefore, truth is a property of sentences. However, a sentence that is true in one *language* doesn't have to be true in another one. In other words, whether a certain sentence is true or not depends on the actual language under consideration.

An *adequate truth definition* for a certain language must infer which sentences are true in that language.

Two conditions must hold in order to come up with an adequate truth definition for a certain language

1. The structure of the language (its formal syntax or grammar) must be exactly defined,
2. The language must not be able to talk about itself.

The second condition means that the language must not be able to refer to itself or reason about itself. This implies that the language may not contain the term 'true'. Condition 2 assures that the well-known *liar paradox* (such as "this sentence is not true") cannot occur for sentences of that language.

Ordinary natural languages (such as English) do not satisfy these conditions. Therefore it is not possible to come up with an adequate truth definition for the sentences of a natural language.

Another important conclusion is that a truth definition for the sentences of a certain language must be expressed in another language that is richer than the language itself. This can be achieved by choosing a *meta language* in which we are able to talk about the language for which we want to come up with an adequate truth definition. The latter language is then called the *object language*.

The object language is the language <u>about</u> which we reason. The meta language is the language <u>in</u> which we reason about the object language. It is not possible to select an arbitrary language as meta language in order to come up with an adequate truth definition. The meta language must have at least the following five characteristics:

1. Rich enough to construct a name (label) for every sentence of the object language,
2. The language must contain the term 'true', which can be applied to sentences of the object language,
3. The language must contain the object language as part,
4. The language must be essentially richer than the object language,
5. The meta-language must contain logical terms, such as the expression "if, and only if".

Condition 1 is needed to assure that the language is able to refer to all sentences of the object language.

Condition 4 means that the meta language must have a higher expressive power than the object language. It must not be possible to translate each meta language sentence into object languages sentences. Condition 4 is needed to prevent the liar paradox.

Condition 5 guarantees that the meta-language is indeed able to reason about the object language.

As already mentioned above, the truth definition for (sentences of) the object language must be stated in the meta language. An adequate truth definition must (at least) satisfy to the following two requirements:

1. non-circular (the definition uses terms of the meta-language other than 'true'),
2. T-sentence compliant (all T-sentences must be provable from the definition of truth).

A *T-sentence* is a sentence in the meta language having the form [p if and only if "p is true"] in which [p] is a sentence of the object language.

The above five characteristics proves to be, not only necessary, but also sufficient for the construction of an adequate definition of truth; i.e., if the meta-language has these characteristics, a notion of truth for the object language satisfying both requirements can be defined in it.