Throughout his works, Frege insists on the following methodological principles:

1. Always distinguish the psychological from the logical.

2. The meaning of the sentence is fundamental, and word meaning is only obtained by projection from sentence meaning.

3. Always distinguish concepts from objects. (*Grundlagen*)

In the *Grundlagen* and other early works, Frege does not distinguish between two different layers of meaning. Instead, he takes the meaning or *semantic value* of expressions to be exhausted by their reference, or *nominatum*. He subscribed to what you might call a *Direct Reference* version of the *Thing Theory of Meaning*.

*Problems in Paradise:* However, all was not well. This theory seemed to work reasonably well for logic and mathematics, but once you open your eyes up to other matters, its inadequacies are exposed. A number of problems stand out: (a) Differences in the cognitive significance of identity judgments, (b) Empty names, and (c) Opaque contexts. Consider the first of these: *differences in the cognitive significance of identity judgments*.

4. \(a=a\) and \(a=b\) have different cognitive significance: \(a=a\) is logically true, whereas \(a=b\) could well be a shocking development. But if we want to view identity claims as claims about objects, then \(a=b\) (if true) would be a claim to the effect that the object designated is self-identical; in this case, \(a=b\) would be no different than \(a=a\).

5. How can one account for this? Frege tried to account for it in a way consistent with his DR commitments: explain the difference by saying that these are claims about language and not the world.

6. But this won’t do—these claims do represent *real* knowledge, and so must be claims about the world.

7. But then how is it possible to account for the difference? As before, if \(a=b\) is true, then it would have *exactly* the same meaning as \(a=a\) and so should have the same cognitive significance.

8. *The solution:* distinguish a second layer of meaning. Given an item, we can present it in different ways, and each of these ways can be associated with different expressions. It is this fact that explains the difference between \(a=b\) (if true) and \(a=a\): "a" and "b" are different names for the same thing, and this type of recognition is found in connection with the first of these but not the second. Thus, the *sense* of an
expression is the manner in which the nominatum of that expression, or item designated, is presented. (An linguistic item expresses its sense and designates its nominatum.)

In “On Sense and Nominatum”, he develops the idea that meaningful linguistic items have a second level of significance: the level of sense to go along with nominatum.

9. The former roughly corresponds to conceptual content and the latter to the item designated.

10. Frege argues that meaningful words and sub-sentential expressions, as well as meaningful sentences, have sense, and that many also have reference. His essay is devoted to working out the details of this argument.

11. In fact, there would appear to be an acknowledgement of a tri-partite view of significance, if not meaning: sense, reference, and psychological imagery. This would appear to motivate a distinction between, say, Total Meaning, and Linguistic Meaning.

All meaningful expressions must have sense and reference, so Frege also associates them with multi-word expressions and sentences: they also have two levels of semantic significance. These are built up out of the senses and references of the expressions that go together to form them. Frege takes names to have objects as reference and the individual concepts of those objects as sense. He argues for the sense and reference of sentences as follows:

12. **Sense**: Assume that sentences have nominata. Is the proposition expressed by the sentence the nominatum? If we take a meaningful sentence and substitute in for one expression another that has the same nominatum but a different sense, the nominatum of the sentence won't change but the proposition expressed does change, which establishes that the proposition is not identical with the nominatum. The proposition expressed by the sentence is its sense. This has several important properties:

The proposition is the primary bearer of truth value.

They have absolute truth values.

They are structured complexes.

They have no owner—they are objective.

13. **Nominatum**: Can we have sentences that have sense but no nominatum? Certainly—sentences that contain expressions without nominata would themselves be without nominata. So perhaps we can get by with sense only? But Frege argues that the fact that we are interested in the nominata of expressions indicates that we acknowledge nominata for sentences—if we have a meaningful proposition and then learn that the name involved has no nominatum, we can lose interest in it. And the reason we acknowledge this is that we are not interested just in meaningfulness, but also truthfulness. When we are interested in the nominata of the parts of the
sentence, we are also interested in the sentence's nominatum, and this is because we are interested in its truth value. In fact, the nominatum is the truth value, and the proposition expressed (or sense) is the way in which the sentence presents this truth value.

We would get the sense and reference of predicates from the sense and reference of sentences by subtraction.

Paradise Regained: With this Mediated Reference theory in place, we can solve the problems above.

Cognitive Significance

Empty Names: sentences have meanings by virtue of the senses of their constituent parts.

Opaque Contexts: reference shifts.