

SENSE AND UNDERSTANDING

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According to the theory of intentionality, it belongs to the essence of certain conscious acts — whatever ‘act’ means here — that they are directed to an object. This article raises the opposite question. Are there objects which can be conceived of only as objects of certain epistemic or cognitive attitudes? More precisely, it poses the previous question with respect to a specific ‘object’, namely sense or meaning. In other words, it discusses the question whether sense is a ‘cognitive’ notion. Although in the case of this ‘object’ the answer seems to be affirmative, I will argue that in Frege’s works one finds the outlines of a conception which identifies an objective, non-cognitive aspect of sense.

In the majority of the works on Frege the opposite view is present, and Frege’s notion of sense is described as a cognitive concept. In section 1, I begin by indicating how this view originates from the earliest and most influential works on Frege by Michael Dummett. However, I will not discuss all the details of Dummett’s much more complex views on the notions of meaning and sense, since my aim is only to contest a single principle which, I argue, lies at the heart of the general conception. Since this principle is supposed to be one of the main premises of Frege’s well known argument for the introduction of the notion of sense, I introduce the discussion of the principle by studying the latter argument. First, in section 2, I outline the train of thought in its most straightforward form. Since the argument heavily relies on the notion of identity, in section 3 I take a short detour, and discuss this notion. These investigations will reveal the problems of our first interpretation, and, by section 4, will result in a new, final formulation of Frege’s reasoning. It is only in this section — more precisely in part 4.1 —, where the confrontation with the main principle of the cognitive interpretation will take place. In section 5 I discuss how, in contrast to the generally accepted view, a rudimentary notion of meaning is present even in *Begriffsschrift*, and how this notion differs from the one discussed in the previous section. Finally, in a short conclusion I assess the significance of the cognitive interpretation. Although I find the interpretation itself misguided, it is clear that the problem which it intends to solve is one of the most pressing

questions of our time. It is therefore necessary to raise this question anew, and to indicate the directions in which an answer might be found.

1. *Sense as a cognitive notion*

On the face of it, the idea that Frege's notion of sense is a cognitive one and that it has an epistemic import might appear odd. In Frege's later works, that is, the only works where epistemic questions frequently appear, sense belongs to an independent, self-subsistent 'third' realm, which exists parallel to physical and psychic reality. A science of sense does not presuppose an epistemic foundation any more than sciences dealing with spatio-temporal reality. Logic, as the study of this objective sphere, just as sciences which, for instance, aim to study the physical laws of nature, does not necessarily involve a part on epistemology; similarly to the basic notions of physics, those of logic are not cognitive concepts either. According to this interpretation, it is a mistake to suppose that the relation between sense, on the one hand, and thinking and understanding, on the other, is closer than the relation between physical objects and perception. The laws of understanding are of no more interest from the standpoint of a science of sense, than the laws of perception from the standpoint of mechanics.

However, even in the Fregean context, it is often claimed that such notions as 'meaning', 'sense',¹ 'a priori' and even 'analytic', have, at least implicitly, an epistemic or cognitive significance. The most influential proponent of this view is undoubtedly Michael Dummett. According to him Frege's notion of sense has a cognitive import, since, first of all, it was introduced by an argument which essentially relies on a cognitive principle.² Following Evans I will call this principle the 'intuitive criterion of identity', though I will discuss its content only later. Here I will only deal with the general interpretation built on this principle, and indicate the significance and the role which it supposed to have.

¹For the Fregean term 'Sinn' I will use both 'sense' and 'meaning', and I will use these two words interchangeably. I will use the term 'reference' as the translation of '*Bedeutung*', and will not differentiate between 'reference' and 'referent'. In the different English translations there is no uniform way of translating this term, thus, in order to avoid confusion, I will modify the quoted translations whenever '*Bedeutung*' is translated as 'meaning'. When I refer to Frege's works, I first give the page numbers of the referred German editions, then the page numbers of the English translation.

²I do not claim that this is Dummett's *only* reason to attribute this principle to Frege. There are other components of this claim which I will also discuss. But, in my view, this is the most important reason. Accordingly, I will focus mainly on how Frege's notion of meaning is introduced.

The most important claim is that the cognitive notion of sense, as it is developed from Frege's own concept, played an important role in the linguistic turn. This notion is supposed to initiate a process in which theory of meaning gradually took over the central role traditionally played by epistemology. According to Dummett the concept could not have played such an important role had it not contained cognitive components. Although Frege often explicitly denies that there is any relation between his notion of meaning and epistemic concepts, Dummett suggests that the implicit sense of Frege's conception makes it possible to use his central notion in an explanation of such a relation. Furthermore, it is a duty of any theory of meaning to yield such an explanation.

However, the acceptance of the thesis that the notion of sense is an inherently cognitive notion is not in itself enough to demonstrate that the fundamental discipline of philosophy must be a theory of meaning. One might accept that sense is basically a cognitive notion, and, *precisely because of this*, claim that thought and epistemology in some sense play a more fundamental role than sense and a theory of meaning. This is the option which, for instance, Gareth Evans chooses. Although, following Dummett, he himself accepts the first thesis, and takes the notion of sense to be a cognitive notion, he refuses to accept Dummett's second claim and, on the contrary, thinks that "thought" is more fundamental than "meaning".³ Dummett chooses a different option. In his view it is possible to hold that the concept of sense is cognitive without reverting to the traditional idea, which regards epistemology as the cornerstone of the entire edifice of philosophy. Although the "theory of meaning is a theory of understanding", a "theory of understanding" is not a theory of knowledge in any straightforward sense. "An account of understanding language, i.e., of what it is to know the meanings of words and expressions in language, is thus at the same time an account of how language functions."⁴ Although sense is a cognitive notion, this does not mean that the theory of meaning should be based on epistemology, since cognitive notions themselves can be accounted for by studying how language functions.

Thus, we have two general theses. First, that Frege's notion of meaning or sense is a cognitive notion and, accordingly, that "theory of sense" must be a "theory of understanding". Second, that the theory of understanding which

³ In view of this 'reversal of principles' Dummett claims that, even though Evans' work still belongs to the analytic tradition, he "was no longer an analytic philosopher". Cf. [15, p. 4.] and [19] A similar tendency can be seen e.g. in Searle, who claims that the intentionality of non-linguistic acts is more fundamental than the intentionality of language, and that the latter is based on the former. Cf. [25]

⁴ [13, p. 92.]

theory of sense implies is not identical to traditional epistemology. I will not develop the second thesis in this paper, but mention it only passing because it is connected to the first. Even the first I will develop only in so far as it concerns the way in which Frege introduced his notion of sense.

Dummett himself often seems to be hesitant to attribute such a view to Frege. When he considers the objection that such a model of sense "invokes epistemological considerations when they are irrelevant" he admits: "There may be something in this objection, as far as exegesis of Frege is concerned: it may be that Frege would have rejected an account along the lines proposed as involving excessive reference to our means of recognition. If so, there is ground for suspecting that Frege's theory of meaning was in error at this very place. For what can a model of sense be but a model of what it is to grasp a sense? And if what we have to explain is what it is to grasp the senses of expressions of different kinds — that is, what an understanding of their senses consists in — we have to give a model that displays how this understanding is manifested." (Ibid. p. 239.)

This critical suggestion notwithstanding, Dummett makes it clear that his conception of sense is inspired by Frege. He holds that, if we understand Frege correctly, we find the same 'cognitive' notion of sense underlying his writings as proposed by Dummett, and that "it is far from apparent that he [Frege] would have rejected an account of the form we have been considering, on the ground of the present objection. The notion of sense was in fact connected by him from its first introduction with cognitive notions: the notion of sense was required in the first place in order to explain how our sentences come to have the cognitive value which they have for us." (p. 240.) To decide whether this is so, we ourselves have to investigate the way in which Frege introduces his notion of sense.

2. A preliminary form of Frege's argument

Though the first appearance of Frege's famous distinction between sense and reference can be found in some of his earlier writings⁵ he gives the most elaborated arguments in the classical article *Über Sinn und Bedeutung*. He was confronted with the problem of meaning first of all in the form of a problem related to statements of identity. Since our first aim is to outline the Fregean conception of meaning, we also have to begin with his views on identity. He opens the article by claiming that this relation "gives rise

⁵ It is usually held that he has not yet made the distinction in the *Begriffsschrift* and in *Grundlagen*. Frege himself claims so much in *Concept and Object*. (Cf. [10, S. 72. / p. 187.]) However, in this paper I will qualify this view. The first published text where he explicitly differentiates between these notions is *Function and Concept*. [11, S. 27. / p. 145.]

to challenging questions which are not altogether easy to answer. Is it a relation? A relation between objects, or between names or signs of objects? In my *Begriffsschrift* I assumed the latter."⁶

After recalling the well known reasons which earlier convinced him that equality is a relation between signs, in *Über Sinn und Bedeutung* he gives arguments *against* this view. However, strangely enough, no straightforward answer to the above quoted introductory questions can be reconstructed from the article. This can partly explain why it is often suggested that the reasoning which builds on statements of identity can be eliminated from the argument for the notion of sense.⁷ We shall see that this view is rooted in the 'cognitive interpretation' of Frege's notions of sense, and together with the latter interpretation it will also prove to be highly questionable. To disclose the relevant problems we have to go into the details of Frege's well known argument.

In *Über Sinn und Bedeutung* he arrives at the introduction of the concept of sense after a summary of his earlier conception on identity. First he recapitulates the views which he held in *Begriffsschrift*. At that time he argued that identity is a relation between signs.

The reasons which seem to favor this are the following: $a = a$ and $a = b$ are obviously statements of differing cognitive value; $a = a$ holds *a priori* and, according to Kant, is to be labelled analytic, while statements of the form $a = b$ often contain very valuable extensions of our knowledge and cannot always be established *a priori*. . . Now if we were to regard equality as a relation between that which the names '*a*' and '*b*' designate, it would seem that $a = b$ could not differ from $a = a$ (i.e. provided $a = b$ is true). A relation would thereby be expressed of a thing to itself, and indeed one in which each thing stands to itself but to no other thing. What we apparently want to state by $a = b$ is that the signs or names '*a*' and '*b*' designate the same thing, so that those signs themselves would be under discussion; a relation between them would be asserted."⁸

⁶[9, S. 40. / p. 156.]

⁷For example Sluga suggests that the argument based on identity is merely "an ingenious didactic device", which cannot even be held, and that Frege's real motive for the introduction of the concept in this way is related to his logicism. Cf. [20, p. 150.] Noonan, on the other hand, suggests that this argument can be equivalently reformulated by the aid of attitude verbs. [21, pp. 174–176.] Dummett also claims that "the argument works just as well for any atomic statement" which contains one of the names in question. [18]. and also [13, pp. 94–95., 117.]

⁸[9, S. 40. / p. 157.]. Frege talks here about the view proposed in §8 of *Begriffsschrift*. I refer here to the version given in *Über Sinn und Bedeutung*, since, strangely enough, in *Begriffsschrift* Frege does not support his decision with any argument. Because one can find

The passage contains two main parts: one contains an argument that identity is not a relation between the designated objects, while the other consists of a claim that it is a relation between signs. After this Frege immediately goes on to refute the latter view as well. The relation of signs to objects is conventional and thus arbitrary. "Nobody can be forbidden to use any arbitrary producible event or object as a sign for something. In that case the sentence $a = b$ would no longer refer to the subject matter, but only to its mode of designation; we would express no proper knowledge by its means. But in many cases this is just what we want to do" (Ibid.).

If identity were a relation between signs⁹, then a statement of identity would state the arbitrary fact that the same object *is called or named* by two different names. Such proposition would be about how *we name* objects, it would refer to the "mode of designation" and not to the "subject matter" of the proposition, i.e., not to what we really talk about with such statements. Since in this case statements of identity would be only about our arbitrary ways of designating objects, they would not express "proper knowledge", they would not be about objective facts; for example, one could not express scientific insights by them.

As we have seen, in *Begriffsschrift* Frege based his 'argument' that identity is a relation between signs on another train of thought which demonstrated that identity cannot be a relation between the designated objects. It is natural to ask what he thought, after the refutation of the former view, about the latter part of his 'earlier argument'. Although, Frege refutes that identity is a relation between signs, *nowhere* does he return to that part of his 'earlier argument' which demonstrated that it is not a relation between objects, neither does he express any reluctance to accept it.

One might think that the rejection of this part follows from the rejection of the other. If the thesis that identity is a relation between signs followed from the fact that it cannot be a relation between objects, then the refutation of the former implies the refutation of the latter: if identity is not a relation between signs, then it must be one between objects.

However, this way of reasoning is not open for Frege, since, in *Über Sinn und Bedeutung*, beside the designated objects he intends to associate a further element with signs, namely sense. Thus, the content of a sign, by this time, has a second component. This view leads to an alternative which was

arguments only in the quoted retrospective recapitulation, but not in *Begriffsschrift* itself, I will refer to Frege's 'earlier' or 'previous' reasoning only in quotes. Cf. [8, S. 12–15. / p. 124–126.]

⁹I will follow Frege and call this relation a 'mediated' relation of signs, since "it would be mediated by the connection of each of the two signs with the same designated thing" [9, S. 40. / p. 157.]

not available for Frege at the time of *Begriffsschrift*, namely, that identity is neither the mediated relation between signs nor a relation between objects.

One might think that Frege's new argument for the concept of sense even *presupposes* that together with his own previous conception, he also rejects the view that identity is a relation between objects, since, understood this way, the previous two trains of thought would provide the two main premises of his argument: if identity is a relation neither between signs, nor between objects, it follows that it must be a relation between something else. To fulfill its role, this element, in a certain respect, must differ both from the signs and from the designated objects. To explain the 'cognitive difference' between identities of the form $a = a$ and $a = b$ one must associate with the contained signs new elements which are different from the object designated by a and b , but the connection of which to the designated object is not arbitrary. In the first respect these elements are different from the designated object and similar to the signs; in the second respect they are similar to the object and different from the signs.

Frege claims that if, connected to the different co-designating signs, there are also different 'ways of presentation', then the relevant statements can express different thoughts: "A difference can arise only if the difference between the signs corresponds to a difference in the mode of presentation of the thing designated... It is natural, now, to think of there being connected with a sign (name, combination of words, written mark), besides that which the sign designates, which may be called the reference of the sign, also what I should like to call the *sense* of the sign, wherein the mode of presentation is contained... The reference of 'evening star' would be the same as that of 'morning star' but not the sense" (S. 41. / p. 158.). Of course, it is the 'third element', which is identical neither with the sign, nor with the designated object, which Frege calls sense.

Since senses conceived of as the ways in which the designated object is given are not conventionally attached to objects,¹⁰ they are perfect candidates for the role which entities related in identity must play. This interpretation suggests that in this period Frege conceived identity as a *relation between senses*. If equality is a relation between senses, then statements of identity are not based on arbitrary conventions, but on objective facts, since

¹⁰This fact serves the basis of Frege's famous doctrine that sense determines reference: since modes of determination are ways towards the determined objects, if the objects designated by two names are different, then the senses of the names must be also different.

sense and its relation to the reference of the relevant expression is objective.¹¹ This would explain how statements of identity can convey objective and non-arbitrary knowledge.

3. Identity as a relation between objects

Convincing though the previous argument might seem, it is not the one which Frege actually gives. Usually it is taken for granted that he, after the criticism of his earlier position, simply converted to the view that identity is a relation between objects. However obvious this sounds for us, in *Über Sinn und Bedeutung* Frege does not explicitly propose this view. The third possibility which I sketched above emerged since Frege did not refute his 'earlier' argument, which showed that identity cannot be a relation between objects. It was only much later when Kripke explained what the problems of that reasoning are. Although for Kripke's own purposes this point is only marginal, it is central to the current discussion. One has to make an effort to see that most probably Frege himself had the same ideas in mind. Let us recall Frege's reasoning as he himself reconstructed it.

$a = a$ and $a = b$ are obviously statements of differing cognitive value;... Now if we were to regard equality as a relation between that which the names ' a ' and ' b ' designate, it would seem that $a = b$ could not differ from $a = a$ (i.e. provided $a = b$ is true). A relation would thereby be expressed of a thing to itself, and indeed one in which each thing stands to itself but to no other thing.

Kripke argues that Frege's conclusion does not follow from his premise. Even if one postulates an artificial relation which *does hold* between objects, the possibility of different 'cognitive values' seems to be still open.

Suppose identity *were* a relation in English between the names. I shall introduce an artificial relation called 'schmididentity' (not a word of English) which I now stipulate to hold only between an object and itself. Now the question whether Cicero is schmididentical with Tully can arise, and if it does arise the same problems will hold for this statement as were thought in the case of the original identity statement to give the belief that this was a relation between the names.¹²

¹¹ Of course, this relation would be 'mediated' in the same way as the 'relation between signs' was.

¹² [22, p. 108.]

Frege starts his investigation by posing the question: what kind of objects are related in statements of identity. In *Über Sinn und Bedeutung* he does not explicitly answer it.¹³ He does not do so, because, without explicitly realizing it, the question which the investigations of this essay answer is a different one. It is the problem of how one can give an account of the difference between identities of the form $a = a$ and $a = b$. As Kripke's train of thought shows, this problem does not depend on the question of what kind of objects are related by identity.

Implicitly Frege himself realizes this point. In 1914, in a famous letter to Philip Jourdain, he presents the train of thought of *Über Sinn und Bedeutung* in a slightly different form. He uses the names 'Afla' and 'Ateb' to refer to the same mountain, given in two different ways, and he examines the difference of the thoughts expressed by 'Ateb is Ateb' and 'Ateb is Afla'.

Now if what is corresponded to the name 'Afla' as part of the thought was the reference of the name, and hence the mountain itself, then this would be the same in both thoughts. The thought expressed in the proposition 'Ateb is Afla' would have to coincide with the one in 'Ateb is Ateb', which is far from being the case. What corresponds to the name 'Ateb' as part of the thought must therefore be different from what corresponds to the name 'Afla' as part of the thought. This therefore cannot be the reference, which is the same for both names, but must be something which is different in the two cases. . .¹⁴

Though the difference between this version and the one which he gave in *Über Sinn und Bedeutung* seems to be small, it will prove significant. In the latter work he basically reasoned that *if identity were a relation between objects*, then the two discussed statements of identity would express the same thought. By contrast, in the above fragment he claims that the conclusion would follow *if the two names contributed the referred object itself* to the thought expressed by the relevant identities.

In the latter argument Frege does not presuppose that the contributed elements must be the same as the ones which are related by the relation of identity. He does not even mention the problem of what kind of entities are related by identity at all. He simply ponders what kind of ingredients

¹³ When he returns to his starting point in the last paragraph of *Über Sinn und Bedeutung* he again leaves the question open. All what he says is that "if now $a = b$, then indeed what is meant by 'b' is the same as what is meant by 'a', and hence the truth value of ' $a = b$ ' is the same as that of ' $a = a$ '." [9, S. 65. / p. 177.] However, this would hold even if one accepts Frege's first, 'mediated' interpretation of identity, or even if one takes identity as a relation between senses, thus it does not answer the question.

¹⁴ [4, S. 128 / p. 80.]

names *contribute to the thoughts* expressed by statements of identity. Here he does not confuse this question with the question which asks what kind of elements are *related in identity*. He, like Kripke, seems to realize that the two problems are not related. But Frege's previously quoted argument clarifies a further point which Kripke's thought experiment does not mention. It shows that the cognitive values of the two identities are different because the elements contributed by the relevant names are different. With this Frege adds a second determination to his notion of sense. The sense of names will not only be the way in which reference is determined, but also the element which they contribute to the cognitive values of sentences. This will serve a second, more important basis for Frege's notion of sense, and, as we shall see in section 5, compared to *Begriffsschrift*, the appearance of this principle is a real novelty in *Über Sinn und Bedeutung*. This step will make it possible to generalize the notion of sense also to other expressions.

4. *The final form of Frege's argument*

After these clarifications we are in a position to give one of the main insights behind Frege's argument. Although he does not make this point clear in *Über Sinn und Bedeutung*, one of the main presuppositions of his argument is not that identity can be a relation neither between objects nor between names, but that neither the relevant names themselves nor the designated objects can be the elements which names contribute to the thoughts expressed by certain statements of identity. This means that instead of a principle which decides what kind of relation identity is, a special form of the so called principle of compositionality becomes the main premise of the argument. However, we shall soon see that this change, in opposition to what is usually claimed, does not mean that statements of identity can be eliminated from the argument.

The rough structure of the argument is now the following: Frege first claims that the so called 'cognitive value' of certain statements of identity are different. In a second step — instead of relying upon a view about identity — he relies upon a certain form of the principle of compositionality, and goes on to show that the previously mentioned difference cannot be explained except by associating a new element with names. This new element is what he baptizes as 'sense'.

The structure of this section will follow the structure of Frege's argument. In part 4.1, I discuss the concept of 'cognitive value' and Frege's claim that the cognitive values of certain statements of identity are different. Although I referred to the latter difference even in the first interpretation of Frege's argument given in section 2, I postponed this discussion since I first wanted to identify the correct structure of the whole argument. Here we shall see whether the notion of 'cognitive value' and other related notions really have

epistemic import. In part 4.2 I discuss the so called 'Intuitive Criterion', which lies in the heart of the cognitive interpretations. Furthermore, in part 4.3, we briefly examine how Frege in *Der Gedanke* described the relation of epistemic notions and his concept of sense, and how this is related to the 'Intuitive Criterion'. Only after these three parts can we go on and scrutinize the form of the compositionality principle which serves as the second main premise of the argument.

4.1. *The first premise: The problem of different 'cognitive values'*

Frege does not explicitly specify what he means by the 'cognitive value' of sentences, but he uses many different expressions to circumscribe it. It is what we "want to state" by the sentence, what is "asserted" by it, the "subject matter" to which the sentence "refers", what the sentence "expresses", and finally it is what a sentence "contains".¹⁵ In the letter fragment which I have quoted he simply uses 'thought' where he used to say 'cognitive value', and I will use it as interchangeable with thought.

Second, to see that his notion of 'cognitive value' is as little an epistemic notion as his notion of 'thought', we have to take a closer look at his statements about cognitive values: " $a = a$ and $a = b$ are obviously statements of differing cognitive value; $a = a$ holds *a priori* and, according to Kant, is to be labelled analytic, while statements of the form $a = b$ often contain very valuable extensions of our knowledge and cannot always be established *a priori*." (S. 40. / p. 157.)

Frege in this period of his life has already made explicit his logicist program, according to which arithmetical truths and *arithmetical* statements of identity are analytic. He also thought that all analytic truths are *a priori*. Thus, when he says that "statements of the form $a = b$ often contain very valuable extensions of our knowledge and cannot always be established *a priori*", he cannot mean arithmetical statements. This fact does not pose a problem for the argument¹⁶, since it is obvious that the starting point of Frege's reasoning is not that *all* statements of identity of the form $a = b$ are synthetic or *a posteriori*. If there are *some* such statements which cannot be decided *a priori*, the argument goes through. That is why Frege only claims that such identities *often* extend our knowledge, and cannot *always* be decided *a priori*. And that is also why he always uses empirical examples like

¹⁵ Cf. [9, S. 40–41. / pp. 157–158.].

¹⁶ As, for instance, Sluga suggests [20, pp. 154–156.]

'Hesperus is Phosphorus', 'Ateb is Afla', or geometrical ones which he took to be synthetic.¹⁷

The third and most important point concerns the way in which Frege differentiates between the cognitive values of the two sentences. This difference serves as the starting point of his argument. It is usually claimed that the relevant sentences have different cognitive values since the same person can believe the one and at the same time refuse to believe the other. It is this difference through which Frege's notion of sense is alleged to receive 'cognitive' or 'epistemic' content. According to this interpretation, the senses or 'cognitive values' of the two sentences are different, since it is possible to have different epistemic attitudes to them. In sharp contrast to this, we have just seen that in Frege's central argument the key difference stems from the fact that one of the sentences is analytic whereas the other is not. It seems that this difference has nothing to do with epistemic *attitudes*. Rather, it is a difference based on the objective *content* of the propositions.

However, the authors who claim that Frege's notion of sense is a 'cognitive notion' make the same claim about Frege's distinction between 'analytic' and 'synthetic'. "Frege classified truths according to an epistemic principle, that is by reference to how we can know them. 'A priori' and 'a posteriori' are naturally taken, as Kant took them, as epithets which, in the first instance, qualify our knowledge; but Frege understood 'analytic' and 'synthetic' in an equally epistemic sense."¹⁸ If it is true that the notions of 'analytic' and 'synthetic' are epistemic notions, then the same will be true of the concept of 'sense', since the argument by which Frege introduces the latter notion relies heavily on the former ones.

Although the relevant distinctions drawn by Frege really "qualify our knowledge", this means that they "classify truths" not "by reference to *how* we can know them", but by the *content* of our knowledge. If one takes a closer look at Frege's early definition of the notions of analytic and synthetic, *a priori* and *a posteriori*, one can hardly find any 'epistemic' element in it. Although Frege himself claims that "these distinctions between a priori and a posteriori, synthetic and analytic, concern, as I see it, not the content of

¹⁷ Frege's argument might work even if we take arithmetical identities into account. This is so because although he thought that arithmetic is analytic and *a priori*, he did not think that analytic truths can never extend our knowledge. (See Dummett's discussion in [16, pp. 195–199]) Thus there can be a 'cognitive difference' between $a = a$ and $a = b$ even if they are arithmetical statements. Naturally in this case the difference cannot be formulated by saying that one is analytic and *a priori*, whereas the other is not, but it still can be claimed that one "contains very valuable extensions of our knowledge" whereas the other does not.

¹⁸ [14, p. 28.]

the judgment but the justification for making the judgment", he immediately adds the following qualification:

When a proposition is called a posteriori or analytic in my sense, this is not a judgement about the conditions, psychological, physiological and physical, which have made it possible to form the content of the proposition in our consciousness; nor is it a judgment about the way in which some other man has come, perhaps erroneously, to believe it true; rather, it is a judgment about the ultimate ground upon which rests the justification for holding it to be true.¹⁹

Accordingly, when he claims that the distinction does not concern the "content" of a judgment, he is suggesting that the distinction is not based on the conditions which have made it possible to *form* the content. When he mentions the "justification for making the judgment", he means the "ground upon which rests the justification". He immediately makes clear what he means by the latter. "The problem becomes, in fact, that of finding the proof of the proposition and of following it up right back to the primitive truths." The classification of the judgements into analytic, synthetic, etc, will depend on the classification of the primitive truths on which their proofs rest. This classification, in its turn, clearly depends on the *content* of the primitive truths. What matters is whether they are "general logical laws", or they "belong to the sphere of some special science", or "appeal to facts". This means that the classification will depend on the *scope of the generality* of the judgment. If the judgment is unconditionally general, then it is 'analytic', if its generality is restricted to a special domain, then it is *a priori synthetic* and if it is about a single fact, then it is *a posteriori*. Which category any given case falls into can be decided on the basis of the content of the proposition in question and has nothing to do with epistemic considerations. The primitive truths on which the proof of a proposition is based are determined exclusively by the content of the proposition. They can be conceived as the elements into which the content of a proposition can be analyzed. They do not necessarily contain any reference to cognitive notions. In Frege the difference between analytic and synthetic, as well as the difference between *a priori* and *a posteriori* are based on the content of the propositions.

4.2. The 'Intuitive Criterion'

In Frege's most basic argument for the concept of sense the difference between $a = a$ and $a = b$ is objective, and can simply be grasped together with the sense of the sentences. Furthermore this difference is not something which Frege argues for. That the former is unconditionally general (a

¹⁹ [2, p. 3.]

logical law) whereas the latter is not is something obvious for anyone who understands the two relevant sentences.

In spite of this, many philosophers find it necessary to discover some explicitly formulated general criterion of difference for thoughts in Frege. Most probably misled by the fact that Frege often uses the expression 'cognitive value' for 'thought', it is widely accepted that such criterion can be expressed in epistemic terms. The most explicit is Evans' so called Intuitive Criterion of Difference:

And the single constraint Frege imposed upon his notion of thought was that it should conform to what we might call 'the Intuitive Criterion of Difference', namely, that the thought associated with one sentence S as its sense must be different from the thought associated with another sentence S' as its sense, if it is possible for someone to understand both sentences at a given time while coherently taking different attitudes towards them, i.e., accepting (rejecting) one while rejecting (accepting), or being agnostic about the other.²⁰

As we have seen, in his first and most basic argument for the concept of sense, which is built on the difference of two thoughts, Frege does not apply or mention this or any other general criterion of difference at all. As I argued the difference on which he builds his reasoning is not that someone can believe $a = a$ whereas, at the same time, reject $a = b$, but that statements of the first form are always *a priori* or analytic, whereas those of the second often are not.

On the other hand the attribution of such criteria to Frege does not seem to be completely baseless. For instance, even in *Über Sinn und Bedeutung*, a few pages after his introductory argument, Frege himself seems to use Evans' criterion. Here he intends to show that the thought expressed by a sentence is not its reference but its sense.

If we now replace one word of the sentence by another having the same reference, but a different sense, this can have no effect upon the reference of the sentence. Yet we can see that in such a case the thought changes; since, e.g., the thought in the sentence 'The morning star is a body illuminated by the sun' differs from that in the sentence 'The evening star is a body illuminated by the sun'. Anybody who did not know that the evening star is the morning star might hold the one thought to be true, the other false. The thought, accordingly, cannot be the reference of the sentence, but must rather be considered as its sense.²¹

²⁰[19, pp. 18–19.]

²¹[9, S. 47. / p. 162.]

But if one takes a closer look at the passage, one finds that Frege does not make entirely clear what the relation is between the difference of the mentioned thoughts and the possibility of different epistemic attitudes. Are the thoughts different *because* the same person might have different attitudes towards them, or, *vice versa*, one thinks the latter to be possible precisely *because* the relevant thoughts can somehow be seen to be different? Does Frege — with the introduction of different attitudes — want to give a basis for the difference of the mentioned thoughts, or does he simply claim that from the difference of thoughts the possibility of different attitudes follows?

It is possible to understand Frege's claim in the latter way, since it is possible to see the difference of the thoughts as something which follows from Frege's *first argument* independently of the possibility of different epistemic attitudes. Since, as the argument based on statements of identity showed, 'Hesperus' and 'Phosphorus' (or 'the evening star' and 'the morning star') contribute different elements to the cognitive values of sentences, thus those sentences which differ only in these names will have different cognitive values.

In the quoted text the question is not decided, but if one takes other texts where Frege talks about epistemic attitudes into account, the latter interpretation is further confirmed. The clearest passage in this respect is the letter fragment which we have already quoted. In this Frege combines the two arguments which we have studied, i.e., the one based on cognitive values, and the other from the epistemic attitudes. Thus here the relation of the two arguments becomes clear.

Let us suppose an explorer traveling in an unexplained country sees a high snowcapped mountain on the northern horizon. By making inquiries among the natives he learns that its name is 'Afla'. ... Another explorer sees a snowcapped mountain on the southern horizon and learns that it is called 'Ateb'. He enters it on his map under that name. Later comparison shows that both explorers saw the same mountain. Now the content of the proposition 'Ateb is Afla' is far from being a mere consequence of the principle of identity, but contains a valuable piece of information. What is stated in the sentence 'Ateb is Afla' is certainly not the same thing as the content of the proposition 'Ateb is Ateb'. Now if what is corresponded to the name 'Afla' as part of the thought was the reference of the name, and hence the mountain itself, then this would be the same in both thoughts. The thought expressed in the proposition 'Ateb is Afla' would have to coincide with the one in 'Ateb is Ateb', which is far from being the case. What corresponds to the name 'Ateb' as part of the thought must therefore be different from what corresponds to the name 'Afla' as part of the thought. This therefore

cannot be the reference, which is the same for both names, but must be something which is different in the two cases, and I say accordingly that the sense of the name 'Ateb' is different from the sense of the name 'Afla'. Accordingly the sense of the proposition 'Ateb is at least 5,000 metres high' is also different from the sense of the proposition 'Afla is at least 5,000 metres high'. Someone who takes the latter to be true need not therefore take the former to be true.²²

First of all here Frege makes clear why he thinks that the senses of sentences like 'Ateb is at least 5,000 metres high' and 'Afla is at least 5,000 metres high' are different. His reason is that the senses of the involved names are different, and *not* that someone can hold different attitudes towards them. And his reasoning for the difference of the nominal senses is based on the same fact here as it was in his initial argument in *Über Sinn und Bedeutung*, i.e. it is based on the different 'cognitive values' of the two statements of identity involving the names in question. There he took $a = a$ and $a = b$ as his starting point, here he does the same with 'Ateb' and 'Afla' in the role of a and b . The only difference is that what he earlier called 'cognitive value' now he calls 'thought'.

Frege starts from a specific difference between statements of identity, namely from the objective difference between analytic and synthetic thoughts, and arrives at a more general difference which holds between sentences which do not differ in the previous respect: both 'Ateb is at least 5,000 metres high' and 'Afla is at least 5,000 metres high' are synthetic. Without the first part of the argument, which can only be formulated by using statements of identity, the latter, more general claim could not be made.

In *Über Sinn und Bedeutung* these two parts of the argument are separated. This is the main source of the illusion that the more general difference, the one between the sense of 'The morning star is a body illuminated by the sun' and 'The evening star is a body illuminated by the sun', is not based on the results of the first part but on the possibility of different epistemic attitudes.

Accordingly, the question which is not decided in *Über Sinn und Bedeutung*, i.e., the one concerning the relation of the difference of thoughts and that of epistemic attitudes, is unambiguously decided at the end of the previous fragment. Since the senses of 'Ateb' and 'Afla' are different, and since sense is something which names contribute to the thoughts expressed by sentences containing them, the thoughts expressed by the two sentences 'Ateb is at least 5,000 metres high' and 'Afla is at least 5,000 metres high' will be also different. It is only *after* this conclusion, when Frege continues: "Someone who takes the latter to be true need not therefore take the former to be true."

²² [4, S. 128. / p. 80]

He makes clear that this statement is a *conclusion* drawn from the difference of thoughts and not a *criterion* of their difference.²³

If two thoughts are different *then* one can believe that they differ in truth value but, as we shall soon see, the converse is not so obviously true. In Frege's conception the difference of two thoughts is shown on the basis of their *content*, and not on the possibility of different attitudes by which a subject can relate to them.

This means, at the same time, that in this period of Frege's thinking one can find no general criterion of difference for thoughts, but in each particular case the thoughts themselves must be analyzed.²⁴

4.3. *Thoughts and epistemic attitudes in Frege*

So far we have investigated how criteria based on epistemic attitudes appear in some of Frege's most important texts. Next, we discuss briefly how the use of epistemic notions fits into his system in general. Is not, for instance, his repeated insistence on the objectivity of thoughts obviously inconsistent with criteria like Evans'? To decide this question, we have to consider certain characteristically Fregean statements like the following ones: "Thus for

²³ Evans cites precisely the end of the analyzed passage from Frege to support his Intuitive Criterion of Difference. At the crucial point, however, he omits the beginning of the argument by which Frege arrives at the difference of the two thoughts. As a consequence, he makes the odd suggestion that for Frege the penultimate sentence follows from the final one rather than the other way around as one would naturally assume. As a matter of fact, dropping the last sentence would leave the entire argument basically intact. This, in itself, clearly shows that Evans' criterion is not applied in the argument. Cf. [19, p. 19. and the footnote joining to the relevant quote]. Perhaps the view ascribed by Evans to Frege can in fact be found in some of Frege's *other* works. Yet even if this is the case, it is not absolutely necessary for Frege to subscribe to such a view, since, as I hope to have shown, the coherence of his argument does not depend on any reference to propositional attitudes.

²⁴ Although Evans' criterion intends to be a 'criterion of difference', what is really at stake here is synonymy. Naturally, a criterion of difference for thoughts also yields a criterion for synonymy as well. Thus, what I suggest amounts to claim that until the period of *Über Sinn und Bedeutung* Frege did not think it necessary to find a general criteria for synonymy. Christian Thiel shows that he began to be interested in the problem after his correspondence with Husserl. Although Thiel also mentions the criterion for difference which we discussed here as Evans', and he also attributes it to Frege [23, S. 91.], but he does not take it into account as a criterion of synonymy. However, scrutinizing all the other possible candidates in Frege he cannot find a satisfying criterion either. Similarly to my previous suggestion, he also concludes that usually it is better to understand Frege's suggestions as ones which yield the *consequences* of synonymy but not its *criteria*. (Cf. chapter 2.3)

example the thought we have expressed in the Pythagorean theorem is timelessly true, true independently of whether anyone takes it to be true."²⁵, or another one from the same essay: "For what I have called thoughts stand in the closest connection with truth. What I acknowledge as true, I judge to be true quite apart from my acknowledging its truth or even thinking about it. That someone thinks it has nothing to do with the truth of a thought." (S. 50. / p. 368.)

Since truth "stands in the closest connection" with thought, the truth of a thought, similarly to the thought itself, is a mind independent, objective fact. If the Pythagorean theorem is true, then its truth is independent of the fact that perhaps someone does not believe it, or even of the fact that anyone has ever thought of the theorem or not. But, if the truth of a thought is independent of the fact that someone accepts the thought or not, then it is inappropriate to draw any conclusion concerning a thought from the fact that someone *holds* it true or false. Someone can hold a true thought to be false and *vice versa*. But Evans' intuitive criterion of difference draws a conclusion concerning thoughts — namely that they are different — precisely from what one can think about the truth of the relevant thoughts. As I have showed, Frege thought that the difference of two thoughts can serve as the basis of the possibility of having different attitudes towards the thoughts. Now it seems clear that he did not hold the opposite. From the fact that someone can believe that two thoughts differ in truth value, apparently it did not follow for him that the thoughts are really different.

Whatever Frege's view is about this question, the elements which play a role in it, namely synonymy and propositional attitudes, were not the focus of Frege's interest, and this situation had changed only at the very end of his life. Because of this one must be careful in creating hypotheses about how these based on such concepts fit into Frege's system.

Our problem seems to be related to the problem of error. At first sight, one can believe that two synonymous sentences differ in truth value only if one is mistaken about the truth of one of the sentences.²⁶ And it is obviously possible to be mistaken about the truth of a statement if its meaning is not correctly grasped, i.e., when it is misunderstood. Although in this case it is possible to think that another, synonymous sentence has different truth

²⁵ [12, S. 43–44. / p. 363.] Frege uses various verbs for the propositional attitude the object of which is thought. His most explicit word is 'grasping' (*das Fassen*): "The grasp of a thought is thinking (*das Denken*)" (ibid. S. 35. / p. 355.) However, in connection to sentences or propositions, he uses the verb 'understanding' (*verstehen*) as well. Cf. the already quoted letter [4, S. 127. / p. 79.]

²⁶ Although Frege held that, properly speaking, truth belongs to thoughts, often it is easier to say simply that sentences are true or false. However, this is only a matter of convenience.

value, in such cases what one thinks is not that the *same* thought, when it is expressed by two different sentences, has different truth values. The question which Evans' criteria poses is interesting only if we presuppose that the person perfectly understands both of the synonymous sentences. Is it *in this case* possible to believe that they have different truth values?

In Frege's thinking error can have other reasons than misunderstanding. Often Frege seems to suggest that one can be mistaken about the truth-value of a sentence even if one perfectly understands it. This is indicated by the separability of thoughts and their truth values. We can entertain a thought without having a concrete position or belief concerning its truth. We can understand it without believing or refusing it. It is because of this, that we can join a truth value to a thought which does not belong to it. Even if we understand a sentence, we can be mistaken about its truth value. One might think that the separability of thought and truth motivates Frege's views on judgment. It needs a special act, namely 'judging', to connect truth values to thoughts. "Judgements can be regarded as advances from a thought to a truth-value."²⁷

On the other hand, as we have already emphasized, according to Frege truth is very closely connected to thoughts themselves. To entertain a thought without recognizing its truth-value is only a human possibility. It is made possible by a special human capacity, which Frege calls 'grasping'. Grasping a thought does not necessarily mean connecting a determinate truth-value to it.

The possibility of *belief, knowledge* and other propositional attitudes related to thoughts are not based simply on grasping thoughts, but on judging thoughts to be true. As Frege puts it, they presuppose some 'advance' from thoughts towards truth. And, although truth values are inseparably connected to thoughts, such an advance — such a human possibility — cannot always be made merely on the basis of grasping a thought. Beyond simply entertaining a thought we often need something else, for example experience, to judge about the truth-value of the thought. There are features of thoughts, e.g. their truth value, to which we cannot always have direct access merely by grasping them.

However, Frege sometimes claims that if one asserts a false thought, then the thought cannot properly be said to be understood. By claiming this he denies that one would need 'to advance from thought to truth-value'. Understanding a thought and the recognition of its truth go hand in hand. "Whoever understands a proposition uttered with assertoric force adds to it his recognition of truth. If a proposition uttered with assertoric force expresses a false thought, then it is logically useless and cannot strictly speaking be

²⁷ [12, S. 50. / p. 164–165.]

understood.”²⁸ If we accept this claim — though this might not match our intuitions in some cases —, then, of course, Evans’ criterion will be valid.

But even if we refuse it, and accept the more intuitive principle that truth and thought are, at least for human agents, separable, we are not necessarily forced to refuse Evans’ criterion. The possibility of being mistaken about the truth-value of a thought which one completely understands, does not obviously exclude the principle which Evans’ criterion is based on. It only shows that one can be mistaken about the truth value of a *single*, perfectly understood thought. Even if we accept this, we can still hold that if the same person recognizes another sentence as synonymous with the first one, he is bound to join the same truth value to both of them. He is to judge like this independently of the question of whether his attribution of a truth value is correct or not. Perhaps he is mistaken about the truth value of the first sentence but, if he understands both of the sentences and accepts that they are synonymous, it still can be held that he must attribute the same truth value to them.

Obviously, this latter possibility does not depend on the question of whether it is possible to understand a sentence correctly and still join an incorrect truth value to it, but on the different one, namely, whether it is possible to *recognize* two synonymous sentences as synonymous and still think that they differ in truth. Denying the latter possibility does not imply denying the former. One can be mistaken about the truth-value of *both* of the synonyms, or simply have no idea at all which *particular* truth-value they have, and still think that they cannot differ in truth.

The possibility of error is based on the above discussed possibility that although truth value and thought stand in the closest possible relation, still, for human understanding, they are separable. There is an epistemic ‘gap’ between truth and thought. Evans’ criterion, on the other hand, is based on the fact that truth is somehow still related to the form in which human understanding grasps thoughts. Although, merely by grasping a thought, one is not necessarily able to join a definite truth value to it, still, if one *recognizes* or *merely thinks* — perhaps even erroneously — that two sentences express the same thought, then he — it might be held — cannot believe that the sentences differ in truth value. And this is so even if the person does not know which *particular* truth value belongs to the thought expressed by the sentences. Conversely, if one *believes* — correctly or not — that two sentences differ in truth values, he is to *think* that they are not synonymous.

So the possibility of error is based on the ‘epistemic gap’ between truth and thought, while Evans’ criterion is based on the fact that, still, there is an ‘indefinite determination of truth’ in the notion of meaning. Both of these

²⁸ [4, S. 127 /p. 79.]

theses are important. They make precise two features of the Fregean notion of sense which are independent of each other, but which, at first sight, seemed to be contradictory. The latter thesis is all that can be found at the basis of Frege's thesis that 'thought determines truth', or even at the basis of the more general thesis that sense determines reference. The 'determination' expressed by this thesis does not mean that merely on the basis of grasping a thought (or sense) one can assign a *particular* truth value (or reference) to an expression; not even that sense would *ensure* reference for an expression, but only that the same sense guarantees the same referent.²⁹ As I have tried to show here, this much can be clear purely on the basis of grasping what the Fregean sense of an expression is. Such an indefinite or empty determination of reference is all that belongs to the Fregean concept of meaning.

All this implies that, after all, Evans' criterion is at least consistent with Frege's thoughts. However, we have also seen, that Frege's argument for sense does not actually apply this criterion. This is no coincidence, since the criterion is not really a criterion which can be applied. To be a *real criterion* of difference, a principle should yield a practically applicable means by which one can decide if two thoughts are different. To apply Evans' Intuitive Criterion we should know if it is possible for someone to accept a sentence expressing the first thought, while refusing another expressing the second one. But for this, as we have seen, it is necessary to know in advance that the test-person has not misunderstood the sentences, and it is not possible to decide this without any recourse to the expressed thoughts themselves. Thus, to apply the criterion, we need to be able to identify somehow the thoughts in advance, independently of the criterion. But if we are able to do this, we do not need the criterion any more.

4.4. *The second premise: the contribution of names to thoughts*

The second main premise of Frege's argument, like the first one, is based on concepts which are undifferentiated in the beginning and become clearer only later on. The main thought behind the second premise was that names 'contribute something' to the cognitive value of the statements in which they participate. This thesis is usually interpreted as if it were identical to the so called 'principle of compositionality' for senses, which says that the senses of sentences — or of any complex expression — are composed of the senses of their parts. This way this principle would be a presupposition of Frege's argument. Consequently, the argument would *presuppose* that names do

²⁹In the case of sentences, for instance, this thesis does not yield *excluded middle* only *non-contradiction*.

have sense, and its aim would only be to show that the sense of a name is different from its reference.³⁰

But how could Frege's argument for the *existence* of the concept of sense — or, at least, for the sense of proper names — presuppose a principle which is crucially based on the very same concept? What Frege presupposes is that names have reference, and that they contribute *something* to the cognitive values of sentences. The latter is one of the two main premises of the Fregean argument which I have outlined. *After* proving that this something can be neither the referred object, nor the name itself, he *baptizes* this indeterminate element 'sense'. This means that in the main argument of *Über Sinn und Bedeutung* 'sense' will be an artificially introduced concept, i.e., a technical term. It will be 'whatever a name contributes to the cognitive value of a sentence'. Then, in a next step, Frege connects this notion with an intuitive one which, as we shall see, he has already used in *Begriffsschrift*, that is, he suggests that the 'different ways' in which an object can be referred to are able to fulfill the role for which he introduced the name 'sense'.

It is not that Frege presupposes some notion of sense, and then proves that it is different from the object designated by the name. The premise under discussion presupposes two things: that sentences have 'cognitive values', and that names designate objects. On the basis of these two intuitively true principles, he uses some kind of indefinite principle of compositionality, which claims that names — or perhaps elements of sentences in general — contribute something to the cognitive values of sentences. But in the beginning this 'something' can be either the name itself or the designated object or anything else.

The second main premise cannot be identified with the principle of compositionality without some form of circularity. Frege can formulate such a principle only after the presentation of the argument which is now under discussion.

We have given two main principles behind Frege's notion of nominal sense. The first claimed that the sense of a name is the special way in which its reference is given, while the second claimed that this sense is what names contribute to the cognitive values of sentences. There is another element involved in the latter principle, namely, that the 'cognitive value' or the thought expressed by a sentence is composed exclusively out of elements which are contributed by its parts. It is this problem toward which we shall turn now.

Frege does not separately formulate this thesis, but the so far reconstructed argument presupposes it. Furthermore, when he extends the use of the word 'sense' from names to sentences, he again relies on it.

³⁰ Cf. for example [21, pp. 173–174.], the argument for point (3). The conclusion of the argument in this reconstruction is: "The sense of 'The Evening Star' is not the same as the referent of 'The Evening Star'."

Having drawn the distinction between sense and reference of proper names, in *Über Sinn und Bedeutung* Frege seems to extend this distinction to the case of sentences without any further reasoning. What he tries to argue for first is that the thought is the sense and not the reference of a sentence. It must be kept in mind that in this reasoning his point is partly terminological. Frege does not *introduce* the notion of sense for sentences, — as he did for names — but only shows that an element which was presupposed all through his previous argument for the existence of nominal meaning, namely the 'cognitive value' of, or the thought expressed by sentences, can justifiably be called 'sense'.

So far we have considered the sense and reference only of such expressions, words, or signs as we have called proper names. We now inquire concerning the sense and reference of an entire assertoric sentence. Such sentence contains a thought. Is this thought, now, to be regarded as its sense or its reference? Let us assume for the time being that the sentence does have a reference. If we now replace one word of the sentence by another having the same reference, but a different sense, this can have no effect upon the reference of the sentence. Yet we can see that in such a case the thought changes; since, e.g., the thought in the sentence 'The morning star is a body illuminated by the sun' differs from that in the sentence 'The evening star is a body illuminated by the sun'. Anybody who did not know that the evening star is the morning star might hold the one thought to be true, the other false. The thought, accordingly, cannot be the reference of the sentence, but must rather be considered as its sense.³¹

First, presupposing the principle of compositionality *for reference*, Frege claims that the reference of a sentence does not change if one substitutes a name in it by another designating the same object.³² Then comes the part where Frege apparently proves that the sentence 'The evening star is a body illuminated by the sun' expresses different thought than the sentence 'The morning star is a body illuminated by the sun'. As I tried to show, here he does not really prove this, he only applies the result of his first argument, namely that the elements what the names 'evening star' and 'morning star' contribute to the two sentences are different.

³¹ [9, S. 46. / p. 162.]

³² It is worth mentioning that together with compositionality Frege here does not presuppose that the reference of a sentence is its truth value. For this he explicitly argues later in the work. Accordingly, the applied principle is not identical to Leibniz's principle.

There should be a part in this argument which somehow is missing from *Über Sinn und Bedeutung*. Strictly speaking so far Frege showed only that if we suppose that sentences, similarly to names, also have reference, then the cognitive values of, or the thoughts expressed by sentences *are not their reference*. But he did not really motivate the claim that the thought should also be called 'sense', i.e., he did not explain what the relation precisely is between the thought and the element which the constituting parts contribute to it.

One way to reach this conclusion is suggested in the letter fragment which I have already quoted. If the cognitive values of sentences consist *exclusively* of elements which Frege baptized 'sense', then it seems reasonable to call the cognitive value itself sense. If thought is something which is composed only of senses such a move is not entirely arbitrary. Thus, one might say that the 'senses' of sentences which are different only in respect of co-referring but otherwise different names will be also different. Naturally this does not really constitute a *proof*, it only gives a motivation for why Frege *calls* the thought also 'sense'.

Of course a more convincing way to motivate this decision would be to show that the role of the cognitive value of a sentence is similar to that of the sense of a name, i.e., that it is the way in which its reference is given. At the present phase of the argument this reasoning is not open for Frege, since here he has not yet explained what the reference of a sentence is. Even when he argues that the reference of a sentence is its truth value, he does not attempt to draw such parallelism. It is only in *Der Gedanke* where he tries to extend the picture to sentences by suggesting that different sentences present truth in different ways. However, this is not a really convincing picture. A real argument is not given at any particular place in Frege's works, but the picture penetrates the whole of his writings, especially the later ones. For example, as I have already analyzed, he depicted thoughts as different ways in which truth can be approached, similarly to senses of names which are ways of determination of objects.³³

5. *Sense in Begriffsschrift*

Beside demonstrating that Frege did not introduce his notion of sense as a cognitive notion, the most important result of our investigations has been so far the formulation of two principles which determine Frege's concept of sense. Sense on the one hand was identified with the 'way of reference',

³³ Of course this tendency of Frege's thinking culminates in the thesis that sentences are nothing but names of truth values. Dummett, for instance, takes this thesis as a sign of decline in Frege's thinking. Cf. for instance [13, pp. 644–645]

and on the other with 'the contributed element to the thought expressed by a sentence'. A short look back to the reconstructed argument will show that it is only the second principle which had a real function in it. The whole argument can be reconstructed by using exclusively the empty form of 'whatever a name contributes to the thought'. Frege introduced the 'way of reference' terminology only to give some content to the otherwise purely technical notion of sense. To demonstrate the independence of the two principles I will now show that in *Begriffsschrift* Frege gives a kind of argument for the notion of sense in which — in opposition to *Über Sinn und Bedeutung* — only the *first* principle has a role.

Frege starts the relevant paragraph of *Begriffsschrift* by contrasting identity with the other signs of his conceptual notation.

Identity of content differs from conditionality and negation by relating names, not contents. Although symbols are usually only representatives of their contents — so that each combination [of symbols usually] expresses only a relation between their contents — they at once appear *in propria persona* as soon as they are combined by the symbol for identity of content, for this signifies that the two names have the same content.³⁴

Frege's view leads to a question which is not easy to answer on the basis of the conception found in *Begriffsschrift*. He himself is well aware of this problem when he claims that his view "gives the impression, at first, . . . that we have absolutely no need for different symbols of the same content, and thus no need for a symbol for identity of content either." (ibid.)

The problem is the following: if the different signs flanking the sign of equality in a true statement of identity only stand for the same content, i.e., for the same object, then, it seems, "we have absolutely no need for different symbols. . . , and thus no need for a symbol for identity of content either."

Frege at this point of *Begriffsschrift* thinks that by referring to the difference of the involved signs he managed to explain the difference of the

³⁴ [8, S. 13–14. / p. 124.] Let me highlight a minor point here. His view that identity is a relation between signs did not mean that an equation of the form ' $a = b$ ' states the identity of the signs ' a ' and ' b '. Both from the previous quote and from his retrospective summary given in *Über Sinn und Bedeutung* it is clear that he understood the relation as one which "would hold between the names or signs only in so far as they named or designated something. It would be mediated by the connection of each of the two signs with the same designated thing." [9, S. 40. / p. 157.] Here identity appears as a *special relation* between signs which is *not identical* to the identity of the signs themselves. Although it is not simply the identity of the designated objects, still, it is *defined* by the aid of it. This is why Frege here calls identity a *mediated* relation. Even if it expresses a relation *between signs*, this relation is defined by the 'mediation' of other relations, namely, the usual relation of identity which holds between the designated objects, and the relation of designation, which holds between the signs and the designated objects.

cognitive values of different statements of identity, but now, by asking *why* we need different signs for the same content at all, he poses a new question.

A slightly different problem, namely the question *why*, in our language, we need a sign expressing identity, Frege again answers by referring to the presence of different signs for the same content: Since $a = b$ expresses the fact that two different signs stand for the same object, we need the sign of identity to express that *we use different names* for the same content. This yields an answer to the question *why* we need the sign of identity *if* our language already contains different signs for the same content, but, again, it does not explain *why* it is necessary *to have different signs for the same content at all*. In the framework used in *Begriffsschrift* if we cannot explain the need for co-designating names, we cannot explain the need for the sign of identity either.

Frege's next task is to answer this problem. After demonstrating on the basis of a geometrical example how one can determine the same point of a circle in two different ways, and name the point by two different names corresponding to these ways, he concludes:

Thus, the need of a symbol for identity of contents rests upon the following fact: the same content can be fully determined in different ways; but that the *same content*, in a particular case, is actually given by *two different modes of determination* is the content of a *judgement*. Before this judgement can be made, we must supply two different names corresponding to the two different modes of determination, for the thing thus determined. But the judgement requires for its expression a symbol for identity of content to combine the two names. It follows from this that different names for the same content are not always merely an indifferent matter of form; but rather, if they are associated with different modes of determination, they concern the very heart of the matter"³⁵.

The need for the symbol of identity rests on the fact that we have different names for the same content. And the need of different names rests on the possibility of determining the same content in different ways. Thus, to explain the use of the sign of identity Frege introduces an element which is the same as the one which he later calls 'the sense of a name'. This is the 'mode of determination' by which the content of a name, i.e., the designated object, is given. From this it must be clear that, contrary to the traditionally accepted view, names are somehow associated with specific modes of determination — with 'senses' in Frege's later terminology — even in *Begriffsschrift*.³⁶

³⁵ [8, S. 14–15. / p. 125–126]

³⁶ Actually, by claiming in the above quote that the content of a statement of identity is "that the *same content*, in a particular case, is actually given by *two different modes of*

These passages contain Frege's first and simplest argument for the notion of sense, at least for senses of names. Frege argues that without the introduction of such an element we cannot explain why we need in our language many names for the same content. This is a completely different argument than the one which he gave later in *Über Sinn und Bedeutung*.

Beside this difference in the argumentation is there any real difference between the two works? Both of them assume three elements: the sign, the designated object or content and its mode of determination. In both works all these elements have a role in the explanation of statements of identity. None of the works states that identity is a straightforward relation between signs, and to explain certain problems both introduce the 'mode of determination' of the content. How could Frege himself see a radical change in his views by the time of *Über Sinn und Bedeutung*?

A minor difference is that in the earlier work the 'sense' of a name or the 'mode of determination' was not part of the content of a sign, while later it is precisely the content which Frege divides into sense and reference. This means that in *Begriffsschrift* 'mode of determination' does not have a role in the relation of identity itself, since identity is identity of *contents*. The mode of determination is somehow externally associated with the signs, but is not identical to, or part of the elements related to by the sign of identity. Although it would seem reasonable to argue that we need different names because in statements of identity they *stand for* different modes of determinations, Frege here does not go that far. Signs in statements of identity stand for their *content*, and the content of a name is only the designated object.

Another, more important difference is that in *Begriffsschrift* sense, under the name of 'mode of determination', is connected only with names, and there is no sign that Frege intends to apply the expression also to the thoughts expressed by sentences. The basic argument by the aid of which he introduces this rudimentary form of sense in this work does not make it possible to extend the use of this expression also to cognitive values of sentences. This is so, because here Frege explains the cognitive difference of statements of identity and the difference of the involved names in two completely different ways. The former difference rests simply on the difference of the involved signs, while the latter on the different modes of presentations which are associated with the relevant signs. At the moment when in the explanation of the difference of the cognitive values of identities he uses the senses of the involved names, i.e., their contribution to the cognitive values of sentences, it will be reasonable to call cognitive value also 'sense'.

determination" he seems simply to contradict the view which he later attributed to himself, namely, that the content of such a statement is simply that the same object is designated by two different names.

This second dissimilarity leads us to the most important difference between the two points of view. By the time of *Über Sinn und Bedeutung* it is the *relation* of nominal and sentential sense which has been changed. In *Begriffsschrift*, as we have just seen, the need for the sign of identity and the need for statements of identity in general rested on the need for different signs for the same nominal content: we needed the sign of identity *because* we had different signs for the same content. Thus here it was nominal sense which played the most fundamental role in the argument.

In the later work the introduction of nominal sense depends on the need for the differentiation of the 'cognitive values' of certain statements of identity. Thus here 'cognitive values', that is, sentential senses or, as Frege calls them, 'thoughts' play the most fundamental role: different names must have different senses *because* otherwise we cannot give an account how the cognitive values of statements of identity involving the names in question differ. The most important consequence of this difference in the introduction of the notion of sense is that in *Über Sinn und Bedeutung* sense is *not* primarily the 'mode of determination' of the content. Here sense is based on two fundamental principles, and the more fundamental principle will not be the one which identifies sense with the 'mode of determination'.

Usually it is held that, at the time of *Über Sinn und Bedeutung*, the appearance of sense is the most important novelty in Frege's thinking. I think that this is only partially true. First, although the extension of the applicability of the expression from nominal to sentential components is an important change, it is only a verbal generalization. The concept of sense — both nominal and sentential, i.e., 'cognitive value' — had some role even in Frege's earlier works. Second, this improvement is only the result of a more important modification which is related to the *significance* of nominal sense. While in *Begriffsschrift* this was the more fundamental form, in *Über Sinn und Bedeutung* it is sentential sense which occupies the central place. What lurks behind this change is the appearance of the principle of contextuality. Because of this change, the notion of sense, beside being the way in which content is given, will be determined by a second principle which claims that it is the contribution an expression makes to the sense of a larger expression. This principle makes the sense of simple expressions dependent on that of the complex ones, for instance, on thoughts.

6. Conclusion

Thus far we have mainly discussed the textual question what kind of role cognitive notions play in some of Frege's works, and in particular in his argument for sense. This question, however, has a broader significance. As already mentioned, it has been claimed that by virtue of his cognitive notion

of sense Frege can be seen as a forerunner of the linguistic turn. Underlying this suggestion two theses have been identified. First, that Frege's notion of sense is a cognitive one, and second, that this does not necessarily mean reverting to traditional epistemology, but, on the contrary, can indicate that theory of meaning should take over the central role in philosophy.

I agree with none of these theses. To undermine the first has been the primary goal of the preceding textual investigations, which were meant to pave the way for an 'objective' or non-cognitive notion of sense. In Frege's work, I think, the first outlines of such a notion begin to appear. This, and nothing more, has been demonstrated in the preceding interpretation. However, I also want to suggest that it is possible to give positive content to such an objective notion and that, specified in this manner, such a notion would be much more in harmony with Frege's own intentions than the one usually ascribed to him.

Nonetheless, it still remains necessary to forge a link between sense and understanding or between sense and other cognitive notions. The Fregean notion of sense, however, is not capable to offer indications regarding these connections. Although this issue has not been treated here at all, I doubt that it could be solved on the sole basis of a 'theory of meaning', if such a theory is understood as an internal affair of linguistic philosophy. The connection between sense and understanding constitutes only a partial problem within the complex problematic of the relation between language and experience. In my opinion, the ascription of an exclusive foundational role to either language or experience cannot take us very far in clarifying this difficult issue. Neither the traditional, epistemologically oriented approach nor the perspective inaugurated by the linguistic turn seems to be adequate in itself to the basic problem concerning the relation of language and experience.³⁷

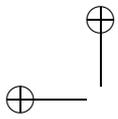
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REFERENCES

- [1] Gottlob Frege, *Collected Papers on Mathematics, Logic, and Philosophy*, Blackwell, 1984, Oxford, (trans. Max Black at all.).
- [2] Gottlob Frege, *The Foundations of Arithmetic*, Blackwell, 1980, Oxford, (trans. J.L. Austin).

³⁷ I am grateful to Leon Horsten and to an unknown referee for their useful comments.

- [3] Gottlob Frege, *Philosophical and Mathematical Correspondance*, Blackwell, 1980, Oxford, (trans. H. Kaal.).
- [4] Gottlob Frege, *Wissenschaftlicher Briefwechsel*, Felix Meiner, 1976, Hamburg, Hrsg. Gottfried Gabriel at all. (English translation [3]).
- [5] Gottlob Frege, *Funktion, Begriff, Bedeutung*, Vanderhoeck & Ruprecht, 1994, Göttingen.
- [6] Gottlob Frege, *Logische Untersuchungen*, Vanderhoeck & Ruprecht, 1993, Göttingen.
- [7] Gottlob Frege, *Conceptual Notation and Related Articles*, The Clarendon Press, 1972, Oxford, (trans. Terrell Ward Bynum).
- [8] Gottlob Frege, *Begriffsschrift und Andere Aufsätze*, Georg Olms, 1964, Hildesheim, Hrsg. Ignacio Angelelli, (English translation [7]).
- [9] Gottlob Frege, Über Sinn und Bedeutung, *Funktion, Begriff, Bedeutung*, in [5], 40–65, (English translation in [1]).
- [10] Gottlob Frege, Über Begriff und Gegenstand, *Funktion, Begriff, Bedeutung*, in [5], 66–80, (English translation in [1]).
- [11] Gottlob Frege, Funktion und Begriff, *Funktion, Begriff, Bedeutung*, in [5], 17–49, (English translation in [1]).
- [12] Gottlob Frege, Der Gedanke, *Logische Untersuchungen*, in [6], 30–53, (English translation in [1]).
- [13] Michael Dummett, *Frege: Philosophy of Language*, Duckworth, 1981, London.
- [14] Michael Dummett, *Frege: Philosophy of Mathematics*, Duckworth, 1991, London.
- [15] Michael Dummett, *Origins of Analytical Philosophy*, Duckworth, 1993, London.
- [16] Michael Dummett, *The Logical Basis of Metaphysics*, Duckworth, 1991, London.
- [17] Michael Dummett, *The Seas of Language*, Clarendon Press, 1993, Oxford.
- [18] Michael Dummett, What is a Theory of Meaning (I), *The Seas of Language*, in [17], 1–33.
- [19] Gareth Evans, *The Varieties of Reference*, Clarendon Press, 1982, Oxford.
- [20] Hans D. Sluga, *Gottlob Frege*, Routledge and Kegan Paul, 1980, London, Boston, Henley.
- [21] Harold W. Noonan, *Frege: A Critical Introduction*, Polity, 2001, Cambridge.
- [22] Saul A. Kripke, *Naming and Necessity*, Basil Blackwell, 1980, Oxford.
- [23] Christian Thiel, *Sinn und Bedeutung in der Logik Gottlob Freges*, Verlag Anton Hain, 1965, Meisenheim am Glan.
- [24] *Husserl, Intentionality and Cognitive Science*, The MIT Press, 1982, ed. Hubert L. Dreyfus, Cambridge, Massachusetts, London.



- [25] John Searle, What is an Intentional State, *Husserl, Intentionality and Cognitive Science*, in [24], 259–276.

