

ABSTRACT OBJECTS AS CONSTITUENTS OF EXTERNAL REALITY:  
A DEFENSE OF THE FREGEAN ACCOUNT  
AGAINST DUMMETT'S OBJECTIONS

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## DECLARATION OF ORIGINALITY

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## ABSTRACT

### Abstract Objects as Constituents of External Reality:

#### A Defense of the Fregean Account against Dummett's Objections

In his *Foundations of Arithmetic* (1980) Gottlob Frege sets out to give an account of the existence of some types of abstract objects by means of justifying ascription of reference to singular terms purporting to refer to these objects. To this end he employs his Context Principle (CP), which states that “it is only in the context of a sentence that a word has any meaning” (§62, p. 73; §60, p. 71). Michael Dummett contends that Frege’s CP and his realism are in conflict, and hence that the account of reference given by means of CP makes it implausible to think of the references of names for abstract objects as external objects, i.e. as constituents of reality. In this study, an attempt is made to respond to Dummett’s three objections to Frege’s account, by pointing out the similarities between the assumptions lying behind Dummett’s criticisms and those of the nominalist view in regard to the existence of abstract objects. It is concluded that Dummett’s assumptions suffer from similar criticisms directed by Frege to the nominalist view, and that the Fregean account has the answers to Dummett’s objections.

## ÖZET

### Dışsal Gerçekliğin Yapıtaşları Olarak Soyut Nesnelere: Fregeci İzahatın Dummett'in İtirazlarına Karşı Savunması

Gottlob Frege *Foundations of Arithmetic*'te (1980) bazı tür soyut nesnelere gönderme yapma iddiasındaki tekil terimlere gönderim atfedilmesini gerekçelendirme yoluyla, bu nesnelere varlığına dair bir izahat vermeye koyulmaktadır. Bu amaçla “yalnızca bir cümlenin bağlamında bir kelime herhangi bir anlama sahiptir” diyen Bağlam Prensibi'ni kullanmaktadır. Michael Dummett, Frege'nin Bağlam Prensibi'nin ve gerçekçiliğinin uyuşmadığını, ve bu nedenle Bağlam Prensibi yoluyla verilen gönderme izahatının, soyut nesne isimlerinin gönderimlerini dışsal nesnelere olarak, yani gerçekliğin yapıtaşları olarak, düşünmeyi nâmakul kıldığını iddia etmektedir. Bu çalışmada, Dummett'in itirazlarının ve soyut nesnelere varlığıyla ilgili nominalist görüşün itirazlarının arkasında yatan varsayımlar arasındaki benzerliklere işaret edilerek, Dummett'in Frege'nin izahatına yönelik üç itirazına yanıt verilmeye çalışılmaktadır. Dummett'in varsayımlarının nominalist görüşün varsayımlarına Frege tarafından yöneltilen eleştirilerin benzerinden muzdarip olduğu ve Fregeci izahatın Dummett'in itirazlarına yanıtlarının olduğu sonucuna varılmaktadır.

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*To the memory of my father*

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## CHAPTER 1

### INTRODUCTION

In his *Foundations of Arithmetic* (1980) Gottlob Frege sets out to give an account of the existence of some types of abstract objects<sup>1</sup> by means of justifying ascription of reference to singular terms purporting to refer to these objects. To this end he employs his Context Principle (CP), which he initially introduces as a warning against ‘psychologism’, the view that the meaning (*Bedeutung*) of a word or any other subsentential expression consists in the idea (*Vorstellung*) it evokes in the mind of an individual speaker. For Frege, psychologism involves the error of asking for the meaning of a word in isolation from the context of the sentences in which it occurs or may possibly occur (Frege, 1980, §60, p. 71). Against this view, which cannot account for the objectivity of content (*Inhalt*), Frege’s CP states that “it is only in the context of a sentence that a word has any meaning” (Frege, 1980, §62, p. 73; §60, p. 71). The meaning of a complete sentence consists in its truth-conditions, and the meaning of any subsentential expression consists in the contribution that it makes towards determining these truth-conditions. In this way, meaning is explained as something neither subjective nor private, but objective. On one reading (CP<sub>r</sub>), CP concerns reference. It implies that the ascription of reference to a name requires the specification of (i) the syntactic role of the expression, and (ii) the truth-conditions of the sentences in which it occurs, provided that one such sentence be true. Thus Frege employs CP<sub>r</sub> to defend the use of—and to justify ascribing reference to—names for abstract objects, e.g. numerical singular terms.

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<sup>1</sup> I.e. those objects which can be referred to only by means of a functional expression like ‘the direction of  $\xi$ ’ or ‘the number of  $\Phi$ ’ (cf. Dummett, 1981, ch. 14).

In his discussion of  $CP_r$ , Michael Dummett (1981, pp. 494-8; 1956) assesses it as a valid response to not only psychologism but also nominalism. He contends, however, that Frege's CP and his realism are in conflict, and that although  $CP_r$  can be taken as a legitimate way of explaining the use of abstract names (i.e. names for abstract objects), the explanation thus given does not invoke the notion of reference in the way in which it does in the case of the use of concrete names (i.e. names for concrete objects). Dummett contends that for a name whose sense is defined contextually, reference does not seem to contribute to determining the truth-conditions of the sentence (as it seems to do in the case of a name whose sense is defined ostensively, i.e. a concrete name); and this makes it problematic to ascribe to abstract names a reference that is realistically construed. This seemingly single objection of Dummett's divides into two distinct—though related—objections. The first one is concerned with the allegedly non-compositional character of names for abstract objects, whereas the second one is concerned with the difficulties with a realistic construal of references of those names.

Dummett directs another objection specifically against abstract objects whose existence is necessary. He argues that these objects, having no connection to contingent objects, cannot be regarded as belonging to external reality, but merely as things that are created by the use of language.

My aim in this thesis is to defend a Fregean account of reference to abstract objects against Dummett's three above-mentioned objections. In Chapter 2, I discuss Frege's CP: first, as a criticism of nominalism; and next, as it is employed by Frege to justify the ascription of reference to abstract names (though most of the discussion will again be built upon the criticism of nominalism). Chapter 3 deals with

Dummett's objections. There I attempt to show that all three of Dummett's objections to Frege's account are unwarranted, due to different reasons. I argue, against his first objection, that the Fregean way of accounting for the reference of abstract names indeed appeals to the notion of reference in specifying the truth-conditions of the corresponding sentences. I argue that Dummett's objection stems from ignoring the appropriate place where CP is intended to be employed. Then I argue, against his second and third objections, that what Dummett takes to be Frege's (or the) realistic notion of reference is one that imposes restrictions similar to nominalist assumptions for regarding the reference of a name as a constituent of external reality, and that therefore it must be abandoned in favor of a more generic notion (in order not to suffer from Frege's apparently conclusive objections against nominalism). This response is supposed to take care of both the second and the third objections generally, though I shall have more to say specifically for the third one.

Towards such a generic notion as mentioned above, I suggest, towards the end of Chapter 3, that we adopt a 'truth-value realism', meaning that we should solely be concerned with whether a sentence is true independently of our (means of) knowing it to be true, and then ask what must exist in order that such a sentence become true. I further argue that when the truth-value realism is adopted, there remain no difficulties (at least none of the form posed by Dummett) for the recognition of an object whose existence is necessary as a constituent of external reality.

## CHAPTER 2

### THE FREGEAN ACCOUNT OF REFERENCE TO ABSTRACT OBJECTS

#### 2.1 Abstract objects: objective versus concrete

One important task Frege set himself in *Foundations* is to justify the existence (or reality) of objects with which arithmetic (and analysis) deals—objects such as natural numbers, integers, fractions, real numbers, etc. These are all abstract objects. An abstract object is usually taken to lack the two main features that a concrete object (i.e. a material or physical object) possesses. These are: (i) being spatio-temporal, i.e. being subject to the laws of space and time; and (ii) having causal powers.<sup>2</sup>

Frege's characterization of abstract objects (and also his argument for their existence) seems intimately related to his distinction between 'objective' and 'concrete' (or 'actual'<sup>3</sup>). In *Foundations* §26 he argues that objects such as the axis of the Earth, the center of mass of the Solar System, the Equator, etc. are not concrete objects, and yet they are as much objects as the concrete ones (Frege, 1980, §26, p. 35). The point is that, though not concrete, they are nevertheless objective. Frege characterizes 'objective' as "what is independent of our sensation, intuition and imagination, and of all construction of mental pictures out of memories of earlier sensations" (Frege, 1980, §26, p. 36). So, what he means by an object's being objective is that it exists independently of anyone's thinking it (or of any other mental activity directed to it). As Dummett remarks as an exposition of Frege's view,

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<sup>2</sup> For the time being, the concrete/abstract object distinction should suffice as it stands. Dummett (1981, ch. 14) develops perhaps the most sophisticated version of the distinction, which we shall make use of below.

<sup>3</sup> Here I shall use these terms interchangeably. Frege's original term is '*wirklich*', whose usual meaning in ordinary German is best rendered as 'real', but Frege uses it to mean something like 'concrete' or 'actual'.

‘concreteness’ (or ‘actuality’) is not an essential property of an object; the predicate ‘concrete’ (or ‘actual’) may be applicable to an object or it may not be applicable to it<sup>4</sup> (Dummett, 1991b, p. 120). That something is not concrete, i.e. not spatio-temporal or causally efficacious, by no means entails that it does not exist or that it is not an object. Whether something is an object or not is not to be decided in accordance with whether it is concrete or not, but only in accordance with whether it is objective or not, i.e. whether it can exist independently of being thought. As Dummett states, what Frege stresses here is that the intelligibility of the existence of abstract objects requires “the recognition that there is no reason why what has an existence independent of anyone making judgements about it must be actual [i.e. concrete], that is, capable of directly or indirectly acting on the senses” (Dummett, 1991a, p. 81).

## 2.2 CP as a criticism of nominalism

Frege’s argument for the existence of abstract objects<sup>5</sup> takes its departure from his criticism of psychologism.<sup>6</sup> Nevertheless, as Dummett contends, his criticism might as well be applied to nominalism, which can be regarded as the modern counterpart of psychologism. I am more interested in the nominalist objection to the existence of abstract objects because of two reasons. First, the main thesis of CP seems to make

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<sup>4</sup> Dummett also remarks that let alone actuality, “not even objectivity is to be equated with existence: there are ideas, even though they are subjective” (Dummett, 1991b, p. 120). Of course, the sense in which we should understand the existence of ideas cannot be clear enough without settling the issue of whether an account of their ontological status can be given in terms of their reduction to physical things—similarly for the mind, soul, etc. Ideas may be subjective in the sense that an idea is presumably always an idea of some individual or one in her mind (as opposed to a thought which need not be so, for Frege anyway), they may perhaps be thought of as enjoying some objectivity regarding their existence: an idea can be said to be existing somewhere in the mind of the thinker.

<sup>5</sup> Or, as seems to come to the same thing in his case, his argument for how we can refer to them (or how they can be referred to).

<sup>6</sup> It would be a tedious digression to discuss Frege’s criticism of psychologism; for the purpose of explicating how CP is used to provide an account of ascribing reference to abstract names, the criticism of nominalism should suffice.

more sense when contrasted with the nominalist objection; and secondly, as I shall argue below, Dummett's objections to Frege's account have similar motivations with nominalism, and hence suffer from similar criticisms which Frege develops for nominalism.

Nominalism may roughly be expressed as the view that only those things that are in space and time and are causally efficacious can be said to exist, and that therefore abstract objects, as things that are (thought of as being) non-spatio-temporal and causally inert cannot be said to exist. Their not being spatio-temporal (and/or not being causally efficacious) amounts to it not being possible to confront them<sup>7</sup>, and in default of any such object, the nominalist concludes that the term for such an object is meaningless or contentless.

This above characterization of nominalism can be further delineated, and thereby can be transformed into a more solid objection to the existence of abstract objects, by making the distinction between concrete objects and abstract ones as follows.<sup>8</sup> Dummett contends that the distinction, though not of fundamental importance from a logical point of view, is still of importance "because of the different ways in which the notion of reference applies to names of different kinds." (Dummett, 1981, p. 494) On the one hand, there is the type of (proper) names the sense (*Sinn*)<sup>9</sup> of which is equated with the means by which an object is recognized—or identified—as the bearer of that name; and this recognition is effected by an

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<sup>7</sup> It may be less obvious why causal inertia (or inefficacy) is supposed to make something unfrontable. The reason is that in order to be confrontable something must presumably be the cause of some effect on the senses. Thus, aptness for confrontation is understood as something like 'perceivability by the senses'.

<sup>8</sup> Here the whole discussion is due to Dummett (1981, p. 494).

<sup>9</sup> Here it seems appropriate to characterize the notion of 'sense' as distinct from the equivocal notions of 'meaning' and 'content'. (In the course of the whole paper I adopt a Fregean framework, so I acknowledge the distinction between sense (*Sinn*) and reference (*Bedeutung*) (cf. Frege, 1948)). One significant point about 'sense' is that it is what determines reference, which, on one interpretation of it, entails that reference is always 'given to us' (or represents itself to us) in a particular way, which way constituting the sense of the term standing for the object.

ostensive definition of the sense of the name, that is, by the use of a demonstrative accompanied (that is, in most cases) by a pointing gesture. On the other hand, there is the type of names in the case of which the equation of the sense with such means of recognition is not possible; that is, the objects for names of this type do not permit themselves to be referred to by means of ostension, save as the value of a function like ‘the shape of  $\xi$ ’, or ‘the number of  $\Phi$ ’ (the argument for which may or may not be an object that can be referred to by means of ostension). Note that an object’s being a possible object of ostension amounts to its being one with which a confrontation is possible (or one that can be shown to us), i.e. its being accessible to the senses. So if it is not a possible object of ostension, no such confrontation with it is possible. Hence, in accordance with this criterion, the objects of the former kind are said to be concrete, and those of the latter kind abstract. And it is the claim of the nominalist that only the former kind of objects can be said to exist; or alternatively, that there are only objects of the former kind.<sup>10</sup>

Against this, Frege’s CP (or context doctrine) states that, since it is only in the context of a sentence that a word has any meaning, we should be concerned with the meaning (or judgeable content) of a complete sentence as a whole, and conceive the meaning (or content) of the subsentential expressions as conferred upon them by the meanings of the sentences in which they occur (Frege, 1980, §62, p. 73; §60, p. 71).<sup>11</sup> Frege seems to be thinking that this account of the content or meaning of

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<sup>10</sup> There are of course possible objections to the distinction. For an abstract object like the center of mass of the Solar System, for instance, it is not necessary, in order to be able to refer to it, to use a functional expression such as ‘the center of  $\xi$ ’: the centre of mass the Solar System is a point, and a point need not be referred to as the point of something. As one can also think of exceptions to the distinction from the concrete object front, the criterion for the distinction is hardly thorough. (The example is due to Dummett, 1981, pp. 487-8. For a praiseworthy search for a criterion for the distinction, cf. Dummett, 1981, pp. 480-94.) Nevertheless, with regard to the role played by the notion of reference, it is hardly possible to ignore the distinction as thus characterized, either.

<sup>11</sup> Below, in section 2.4, we shall speak of two different interpretations that CP may be taken to admit, namely *weak* and *strong interpretations*. The distinction between the two is supposed to make things clearer.

expressions is the only one that can ensure that we speak of an objective reality. If we identify the meaning of each word with the idea that it evokes in the mind, and the relation between the object and our idea of it as a correspondence relation, we can only speak of the adequacy or accuracy of the idea, but never of an exact ‘coincidence’ between the idea and the object. For, as Frege remarks in Frege (1956), for two things to ‘coincide’ they must be of the same kind. For instance, we can compare a ten-dollar banknote with another (authentic) ten-dollar banknote to verify whether the former is also an authentic one, but we can never compare it with a coin or gold. Similarly, we can never compare an idea with the corresponding object to find out whether they are ‘the same’ or coincide. (Frege, 1956, pp. 290-2) In the case of a complete sentence, however, we can explain the content of the sentence (which is objective) in terms of the conditions under which the sentence in question is true. And the meaning of each subsentential expression can be determined in terms of the contribution that it makes towards determining these truth-conditions. Hence Frege argues that it is a misconception to think of the meaning or content of an expression in isolation from the context of the sentence of which it forms a part, for it falls short of accounting for the objective content of the expression, and hence of accounting for the relation between language (and thus, ultimately, thought) and reality.

Especially in the case of names of abstract objects, this misconception leads us into thinking either (i) that a term for an abstract object is meaningless, and hence that there is nothing corresponding to the term we are using, which means no less than that the alleged object does not exist (the nominalist conclusion), (ii) or that its meaning consists in an idea (the psychologist conclusion)—in which case everybody would have, say, her own number 3 (and presumably her own axioms, theorems, propositions, etc.), and arithmetic would be no different from psychology (in the

sense of the science concerned with the (subjective) content of the minds of particular individuals).

Therefore, Frege's  $CP_r$  implies that "for a name introduced by contextual definition [e.g. a name for an abstract object], there simply is no answer to the question what its reference is on its own; all we have is a method of explaining the truth-conditions of any sentence in which it occurs, and Frege is saying that that is all we have a right to demand" (Dummett, 1981, p. 496). Hence "it is illegitimate to suppose that we may always ask to be *shown* the object which is the bearer of a name" (Dummett, 1981, p. 496).

### 2.3 CP as a justification for ascribing reference

As Dummett understands it,  $CP_r$  amounts to two things: first, that we need to determine the syntactic role of a name for an abstract object, i.e. that we need to determine whether it is a proper name (or any other singular term) or not;<sup>12</sup> and secondly, that we need to be able to specify the truth-conditions of the possible sentences in which that name occurs.<sup>13</sup> The syntactic role and truth-conditions together give us the sense of the name. As for the reference Dummett says the following:

Any further question about whether any such name has a reference or not can be, at most, a question about the truth of an existential statement... The truth of the relevant existential statement is to be determined by the methods proper to that realm of discourse, i.e. in accordance with the truth-conditions that we are supposing have been stipulated for sentences of that kind. There is no further, philosophical, question about whether there *really* exists an object to be the referent of the name (Dummett, 1981, p. 497).

As I understand it, the above passage amounts to the following. It is preposterous to

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<sup>12</sup> This is not related to the sense of the name but to its logical role in sentences and certain inferences. This role is to be determined by some criteria for being a proper name, which Dummett attempts to formulate in Dummett (1981, ch. 4).

<sup>13</sup> Obviously, not all sentences, for we may simply not know the meanings of other words in all of these sentences in which our word occurs.

assume a univocal method of specifying the truth-conditions of sentences belonging to different realms of discourse. The reason is that the states of affairs that make the sentences of different realms of discourse true may be of different natures: an empirical state of affair and a non-empirical one—e.g. a mathematical one—differ from one another in that, for instance, the truth-conditions (and consequently, the truth-values) of the former are determined by the observation of contingent phenomena, whereas those of the latter need not (even perhaps cannot) be so determined. Furthermore, the question of the existence of objects in some domain is to be settled solely in terms of the truth of corresponding existential statements.<sup>14</sup>

The idea, which is considerably reminiscent of Carnap's view,<sup>15</sup> seems to be that questions of existence are *internal questions*, in the sense that, e.g., whether numbers exist is to be answered within a mathematical framework or by the mathematician. No philosopher (or anyone else) is entitled to retort that there really exist no numbers, since this is to be decided in accordance with the methods proper to mathematics.

And yet, we should be careful not to put much weight on the similarity between Carnap's view and the Fregean's, for there are also significant differences between the two. For Carnap, the existence of kinds of object is relative to the framework adopted. Once a framework is adopted (say, the framework which takes numbers as objects or that which embraces 'number-talk'), the existence of numbers becomes analytic to the extent of triviality. If the statements that "3 is a prime number" or that "There are four even numbers between 5 and 13" are true, then prime numbers exist, as do even numbers and the number 3, etc., according to the

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<sup>14</sup> This view is disputed with interesting arguments by Kit Fine in his Fine (2009), but in order to address Dummett's objections in Chapter 3, we need to stick to this view, which seems to be adopted by Dummett too.

<sup>15</sup> Cf. Carnap (1950), especially pp. 21-5, 31-2, 35-8.

framework which embraces number-talk. But the determinants of the adoption of the framework embracing numbers-talk are not *objective* in the sense of having to do with matters of fact, but rather *pragmatic*—a particular framework may be more useful than others in scientific purposes or it may have more explanatory power in explaining various phenomena we encounter. So we adopt that framework and not another one. This pragmatic aspect of the choice of framework implies that the existence of the objects whose talk is embraced by the chosen framework has no real ontological significance, but merely indicates what we thought to be convenient. Hence, questions of existence have trivial truth-conditions from within the framework (i.e. as internal questions), but they are meaningless from without (i.e. as external questions).

We should note, however, that the truth-values of the internal existence-questions, and hence the existence of the things with which those questions are concerned, may also be determined by empirical methods, if the framework is factual. For instance, once a framework is adopted that embraces table-talk, the question whether tables exist is one whose truth-value is to be determined by the observation of the concrete world. Here, again it is of no use asking whether there really are tables—i.e. the question is not a substantial one when taken externally, that is, from without the framework.

Now the Fregean would not at all agree with Carnap over the significance of the external questions, or the significance of those existence questions from an external point of view. As opposed to Carnap, the Fregean would equate their significance with the necessity of having to recognize them as true as soon as their content is grasped. That is, he would argue that truths of arithmetic are truths which, once understood, defy suspicion. This is intended to mean that the justification for

the truths of arithmetic is to be sought in logical truths.<sup>16</sup> What he would emphasize is not that it is pointless to object to the existence of certain kinds of objects because whether they exist or not is a matter of which framework is adopted, but rather that it is a mistake to evaluate the existence claims from a narrow point of view, which is the concrete object point of view, adopted by the nominalist, among others.

Mathematical objects or other abstracta are shown to exist according to the methods peculiar to the investigation of the realm to which they belong. But, for the Fregean, whether they exist or not is not a matter of which framework is adopted. (And if that were so, that would be the case for all kinds of objects, both concrete and abstract.)

The point is rather that, though the ways in which they are shown to exist differ from those in which, say, concrete objects are shown to exist, the former exist as much as the latter (or the former are as real as the latter).

Let us now return to our main point. According to Dummett, the reason why the Fregean argument above is difficult for the nominalist to accept is due to the nominalist's exaggeration of the role of ostension in effecting reference to objects.

Dummett remarks:

The idea that the lack of ostension is fatal to the status of an expression as a proper name, and therefore to the status of its referent as an object, is due to a false picture of the concrete object as something, which can, as it were, be given to us on its own, independently of any use of language (Dummett, 1981, pp. 497-8).

What the nominalist overlooks is that referring to something as an object requires the mastery of a language or some fragment thereof. The amount of language that needs to be mastered may vary according to the kind of object that is going to be referred to, but all the same, we have to be able to use language to refer to it as an object, that

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<sup>16</sup> Although Frege's conception, which consisted in an attempt to identify numbers with the extensions of sets, was torpedoed by Russell's Paradox, the way is still open for his conception if, with the neo-Fregeans, we reject his explicit definition of numbers in terms of extensions, and remain content with implicit definitions only.

is, to slice the bulk of things before us into objects as clearly distinguished from their surrounding environment.

The nominalist may indeed be mistaken. But how does Frege actually give an account of our reference to abstract objects? In this case, since we do not have the possibility of a confrontation with the alleged object, there is no recognition statement of the form ‘This is X’ (which we have in the case of a concrete object), but only an identity statement, which gives a criterion of identity for the object named, but at the same time is to be regarded as playing the role of a recognition statement (in that the grasp of its sense is prior to the grasp of the sense of the name). Here the sense of the name in question is given by providing a criterion of identity for the kind of object the name stands for, in terms of an equivalence relation<sup>17</sup> obtaining between objects which are already given. One example (due to Frege) is as follows:

$$D(a) = D(b) \leftrightarrow a \parallel b$$

(which reads “the direction of line a is the same as the direction of line b if and only if line a and line b are parallel to each other”) (Frege, 1980, §64, p. 74). Now the truth-conditions of the left-hand side of the equivalence are explained by those of the right-hand side. Thus, whenever it is true that lines a and b are parallel, it must also be true that the direction of line a is the same as the direction of line b. Then, if the syntactic structure of the left-hand side is correct, then the names in it (i.e. ‘the direction of line a’ and ‘the direction of line b’) must have reference. In sum, reference to an abstract object is effected by specifying the truth-conditions of the sentences in which the name for it occurs, provided that the name is syntactically a proper name (or any singular term in general) and that one such sentence

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<sup>17</sup> A relation R is said to be an equivalence relation if R is reflexive, symmetric and transitive.

(presumably an existential sentence, or in any case, one that entails the truth of a relevant existential sentence) whose truth-conditions are thus specified is true.<sup>18</sup>

The overall conclusion is that each kind of object is dependent upon language (or linguistic framework) for being picked out as such. And Frege's point seems to be that the sense of the name is explained by means of a suitable criterion of identity, and the syntactic role and truth together give us reference. The insistence on the requirement that the object be given to us directly, i.e. be shown to us, is to miss altogether what it is to be picked out as an object.

#### 2.4 Two different interpretations of CP

In Section 2.2, where I have given the formulation of Frege's CP, I have remarked that CP tells us to be concerned with the meaning of a complete sentence as a whole and to conceive the meaning of its parts as conferred upon them by the meaning of the sentence in which they occur (or the meanings of the sentences in which they occur). This methodological maxim requires explanation. The explanation will be particularly pertinent to our discussion of Dummett's first objection to the Fregean account.

As explicated above, CP involves repudiating the conception according to which the meaning or content of an expression consists in the idea evoked in the mind of the speaker by the expression. This conception leads us into viewing the meaning of an expression as subjective. That is why, CP warns us, we must evaluate the meaning of the subsentential expression in terms of the meaning of the sentence in which it occurs. As the meaning of the latter consists in its truth-conditions, we can be assured that the contribution made by the subsentential expression to the

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<sup>18</sup> In explaining this account, as in many other discussions, I have benefited enormously from Dummett (especially Dummett, 1956, p. 494; Dummett, 1981, p. 497). A similar discussion is due to Crispin Wright (1983, pp. 8, 14, 51-2).

meaning (and hence to the truth-conditions) of the sentence in which it occurs is objective. For if the whole is objective the part or the parts must be objective as well. Although this sounds quite plausible, as it stands it is somewhat programmatic. How are we supposed to understand the contribution of the part to the whole if not by first determining the content of the part? After all, is this not the point of regarding the one as part and the other as whole, as composed of parts? What does it mean that the content of the part is to be determined in terms of the content of the whole, let alone the claim that appears to be even stronger, i.e. that the content of the part is to be seen as conferred upon it by the content of the whole?

The following distinction appears to be a good candidate for answering the above questions—or at least for clarifying the perplexities that effect the questions. The distinction, which is due to Dummett (1991b, p. 230) is between the two interpretations that CP may be taken to admit: *the weak interpretation* and *the strong interpretation*.

*The Weak Interpretation of CP (CP<sub>WI</sub>)*

The meaning of expressions less than a complete sentence (i.e. subsentential expressions) must be determined by the contribution that they make towards determining the meanings (i.e. truth-conditions) of the sentences in which they occur.

*The Strong Interpretation of CP (CP<sub>SI</sub>)*

A subsentential expression has been given a meaning once the truth-conditions of all the (or all the relevant) sentences in which it occurs are determined.

CP<sub>WI</sub> may be taken to be saying that since sentences have a special role in language, namely that of being the most basic linguistic units with which anything can be said or any other linguistic act can be performed, and hence, in the case of a declarative sentence, only linguistic units that can possibly have a truth-value, the meaning of expressions less than a complete sentence must be determined by the contribution that they make towards determining the meanings (i.e. truth-conditions) of the sentences in which they occur. In this way, and only in this way, subsentential expressions can be granted an objective—and hence conveyable—content, since their content is now explained in terms of their contribution to truth(-conditions).<sup>19</sup> CP<sub>SI</sub>, however, appears to say more than that. It seems to be saying that first the meaning of the whole sentence is to be determined, and only then can we ascribe meaning to its parts. When Frege says in *Foundations* that the meaning of subsentential expressions is conferred upon them by the meanings of the sentences in which they occur, he seems to have in mind this interpretation, i.e. CP<sub>SI</sub>.

This would of course be too much a cost to secure the objectivity of the content of a subsentential expression, if only because it would violate the principle of compositionality, which says that the meaning of a complex expression is compounded out of the meaning of its constituents. The nominalist view seems to have a strong hand here. For in the case of a concrete name, ostension gives us a way to confer meaning to the name, whereas there does not seem to be any such way available in the case of an abstract name: we do not know how to explain the contribution of the name to the truth-conditions of the sentence. In order to respond to the nominalist, and, as we shall see, also to Dummett's first objection below, we

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<sup>19</sup> Cf. Dummett (1981, pp. 194-6, 495).

need another distinction. In view of that distinction, we will be able to locate the appropriate places to apply both interpretations of CP. For the time being, however, we have to leave the matters in their inchoate form.

## CHAPTER 3

### DUMMETT'S OBJECTIONS TO THE FREGEAN ACCOUNT

In this chapter I shall attempt to respond to Dummett's three objections to Frege's method of justifying ascription of reference to abstract names by means of CP.

Dummett intends to argue that his objections give us reasons to conclude that abstract names do not have reference in the way in which concrete names do, and hence that these reasons pose problems in regarding their references as constituents of external reality—with some additional difficulties involved in so conceiving what he calls 'pure abstract objects'. In what follows I shall, in the case of each objection, explicate it and develop my response to it.

#### 3.1 Dummett's compositionality objection

Dummett's first objection, which we may call the 'compositionality objection', goes as follows. Although the use of abstract names can only be accounted for by stressing their role in the context of sentences, Dummett argues, nowhere in specifying the truth-conditions of those sentences is any appeal whatever made to the reference (or to the notion of reference) (Dummett, 1981, pp. 498-9). According to Dummett, if we take CP as advocating the contextual definitions, "then truth-conditions for sentences containing names for abstract objects can be specified by giving a rule for transforming those sentences into ones which contain no even apparent reference to or quantification over abstract objects of that kind: we can interpret [say] sentences about directions in terms of sentences only about lines" (Dummett, 1981, pp. 499-500). Dummett interprets this as an indication of the fact that this may be regarded "as a way of explaining their use without ascribing

reference to them.” (Dummett, 1981, p. 500). He ultimately takes this as providing a way of dispensing with reference altogether, in the case of abstract names whose uses are so explained (Dummett, 1981, p. 500). In other words, he thinks that what is being used here is  $CP_{S1}$ .

Thus our question is whether in the case of abstract names no appeal is made to the reference in specifying the truth-conditions of the sentences in which they occur. As we have seen, Frege’s account of reference for abstract names involved explaining the truth-conditions of sentences containing the name in question by means of finding a sentence with equivalent truth-conditions, which are already specified without any appeal to the truth-conditions of some other sentence.<sup>20</sup> In this way, the truth-conditions of the former sentence were specified, and with the determination of the syntactic role of the expression and the truth of at least one such sentence, the reference was given to us (that is, it is accounted for). The problem Dummett poses is that in specifying the truth-conditions, reference does not play any role whatsoever; and if we can explain the truth-conditions in that way, what reason do we have to ascribe reference to the name? Furthermore, even though we may ascribe reference to it, how can we see the reference as an external object, when we are not equating the sense of the name with a way of recognizing the object as its bearer (Dummett, 1981, p. 498)?<sup>21</sup>

Now it is true that in specifying the truth-conditions no appeal is made to the reference of the name. But this is true only for sentences the grasp of whose sense is prior to the grasp of the sense of the name (or any other subsentential expression).

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<sup>20</sup> Consider, for instance, the truth-conditions of the sentence about parallel lines, which are used in the explanation of the truth-conditions of the sentence about directions. The sentence “line a and line b are parallel” is true iff “line a” refers to some line, i.e. line a, and “line b” to another, i.e. line b, and the referents of “line a” and of “line b” stand to each other in the relation of being parallel, which is denoted by the (binary) relational expression “ $\xi$  is parallel to  $\zeta$ ”; the sentence is false iff otherwise.

<sup>21</sup> This last question will be dealt with in my response to Dummett’s second objection.

And this is the case not only for the determination of the sense of abstract names but for all kinds of names, including the concrete ones. Thus we need to distinguish between two types of sentences. The *first type* consists in the set of sentences the grasp of whose sense is a requirement for (or is prior to) the grasp of the sense of the name, and the sense of which the sense of the name does not constitute; whereas the *second type* consists in the set of sentences the grasp of whose sense is posterior to the grasp of the sense of its constituents, and the sense of which all the subsentential expressions forming its part constitute (cf. Dummett, 1991c, p. 224). With the first type of sentences belong what we above called the recognition statements.

Our example for a first type of sentence in the case of a concrete name was a recognition statement of the form of ostension, i.e. of the form ‘This is X’. The grasp of the sense of the name which is to replace the letter X requires (or is preceded by) the grasp of a sentence of that form, where the demonstrative refers to the object. Of course, it is expected of the context to supply some suitable criterion of identity; that is, the question ‘This what?’ is to be answered, for instance, ‘This man’ or ‘This chair’, etc. In the case of an abstract name our example for a first type of sentence was an identity statement of the form ‘x is identical with the y such that Fy’. In this case there was no possibility of a recognition statement, this being unsurprisingly so, due to the fact that abstract objects are characteristically incapable of being recognized ostensively: one cannot refer to such an object by the use of a demonstrative—not directly anyway.

Dummett’s objection was that reference does not seem to contribute to the truth-conditions of the sentences in which abstract names occur. But now, is this not true for all kinds of names with respect to the first type of sentences, by means of which the sense of the name in question is specified? Just as in the case of a concrete

name, where the sense of the name does not constitute the sense of a recognition statement, but, on the contrary, the grasp of whose sense consists in the grasp of such a sentence; similarly, in the case of an abstract name, e.g. a numerical singular term, the sense of the name does not constitute, but requires the grasp of the sense of, an identity statement. Dummett's idea was that, since the sense of the name does not constitute the truth-conditions, Frege's contextual method dispenses with reference in explaining the use of the expression. It seems that what could prove Dummett right would be the observation that, even once the content of the abstract name has been specified by the use of a first type of sentence (e.g. an identity statement), it does not constitute the content of the sentences of the second type, thereby violating the principle of compositionality which we have alluded to above (i.e. the principle that the sense—and/or reference—of a complex expression is compounded out of the sense—and/or reference—of its constituents) (cf. Frege, 1948; Dummett, 1981, pp. 152-7).

Then let us say that we have explained the content (meaning both 'specifying the sense' and 'determining the reference') of a numerical singular term, say, '3' by means of a suitable contextual definition. When we then form a sentence complex enough to belong to the second type, does the content of '3' constitute the truth-conditions of the sentence? We may think that for some range of sentences, which belong to the first type, the content of the numeral '3' does not contribute to their truth-conditions. These presumably are the most basic arithmetical statements informing us about the most essential properties of the number 3. But in sentences which do not inform us about any essential properties of 3, the content of '3' is supposed to contribute to the truth-conditions of the sentence. The examples for the first type would be sentences like

- (1) 3 is the first prime number greater than 2,
- (2) 3 is one of the factors of 15;

and those for the second type would be sentences like,

- (3) 3 is the number of pencils in my pencil case,
- (4) My daughter is only 3 years old,
- (5) A triangle has exactly three sides.

The grasp of the content of ‘3’ seems to require grasping things like 3’s being odd, its being the first prime greater than 2, etc.; but not other things like its being the number of pencils in my pencil case or its being my daughter’s age. The conclusion to be drawn from this distinction between the two types of sentences (or statements) appears to be that Dummett’s compositionality objection does not apply to the Fregean way of accounting for the reference of abstract names.

At this point, we shall bring into the scene our distinction between the two interpretations of CP. I argue that  $CP_{SI}$  works in explaining the determination of the meaning<sup>22</sup> of a subsentential expression by means of the meanings of first type of sentences; and that  $CP_{WI}$  works in explaining the determination of the meaning of a subsentential expression by means of (its contribution to) the meanings of second type of sentences. For all kinds of names, concrete or abstract,  $CP_{SI}$  implies that the meaning is conferred upon the name by the sentence, i.e. the first type of sentence. Similarly, for all kinds of name, concrete or abstract,  $CP_{WI}$  implies that the meaning of the name consists in its contribution to the meaning of the sentence, i.e. the second type of sentence. With these distinctions in view, it may be seen that CP does not make ‘reference to numbers’ (or to other abstract objects) dispensable. For it has two

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<sup>22</sup> As these two interpretations of CP may be taken to be intended as concerning both ‘sense’ and ‘reference’, we may read throughout ‘meaning’ both as ‘sense’ and as ‘reference’. So ‘content’ might be better to look neutral. In responding to Dummett’s objection, nonetheless, I am primarily interested in the two interpretations, i.e.  $CP_{SI}$  and  $CP_{WI}$ , as principles concerning ‘reference’.

different interpretations, each put to work in different contexts.

Although our discussion so far should suffice as a response to Dummett's compositionality objection, perhaps the Fregean case would be understood in a clearer way by the help of the following point, which is inspired by Dummett (1956, pp. 494-5). Contextual definition, at least in the case of numerical singular terms, does not provide the content of one particular numerical term or the content of each one separately. Rather, it provides the use or grasp of a concept (or a general term or a sortal<sup>23</sup>) to someone who was not acquainted with that concept before—a concept the extension of which comprises all the objects falling under it. For instance, by a contextual definition one is introduced to the concept of 'number', and thus a contextual definition tells one about the content of the general term 'number', but not that of '3' or '27', etc. specifically. CP<sub>r</sub>, then, is supposed to show whether, say, all numerical singular terms purporting to refer to natural numbers do actually refer, and not whether a particular numerical singular term like '3' does.<sup>24</sup> And the answer to the question whether natural numbers exist (or whether numerical singular terms like 1, 2, 27, etc. refer to objects) is given by a specification of the truth-conditions of the sentences in which such numerical singular terms occur. Asking for more explanation stems from the misplaced expectation to be shown a particular object that the particular abstract name stands for, in isolation from the context of the sentences in which it occurs or without any specification of a suitable criterion of identity associated with the name in question.

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<sup>23</sup> A sortal can be defined as a substantival expression which has a criterion of identity.

<sup>24</sup> By analogy with the use of concrete names, we may say that the level (or place) at which CP is meant to be applied is the one where we explain the use of the general term, say, 'person' and not that of 'John' or 'Mary' (with the difference that the use of these names is given by not contextual but ostensive definition).

### 3.2 Dummett's objection from the realistic notion of reference

Dummett argues that explaining the use of names by means of contextual definition is incompatible with regarding their references as external objects. For, he argues, Frege's realism is embodied in "the use of the name/bearer relation as the prototype of reference" and "the principle that the referents of our words are what we talk about" (Dummett, 1981, p. 499); and these suggest that what names (or any term) refer to are external objects, constituents of external reality.

Our task, then, is to find out whether contextual method or CP makes it implausible to conceive the references of abstract names as constituents of external reality, that is, whether or not their references can be construed realistically.<sup>25</sup> And to do this, we need to expound on Dummett's claim that Frege's realistic notion of reference is built upon what Dummett calls the name/bearer relation as the prototype of reference.<sup>26 27</sup>

The name/bearer relation as the prototype of reference may be expressed as the relation between a proper name and the object which is the bearer of the name. Dummett argues that Frege, by establishing an analogy between this relation and the relation between expressions other than proper names such as predicates, relational and functional expressions and what corresponds to them in reality, made it plausible to ascribe reference to them as well. However, here 'reference' was to be understood,

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<sup>25</sup> This second issue will also be pertinent to the evaluation of Dummett's third objection.

<sup>26</sup> Dummett makes use of this conception of the name/bearer relation as prototype throughout Dummett (1981); cf., e.g., p. 171. For the contrast between the name/bearer relation as prototype and the conception of semantic role, cf. pp. 196-203.

<sup>27</sup> It will perhaps be argued that Dummett's characterization of the name/bearer prototype is only a picture, so it may be a bit misleading to construe it as strictly requiring that the reference be a possible object of ostension. In that case he would have to put forward reasons for taking this prototypical relation between a name and its reference as requiring the possibility of recognition of the referent by confrontation, or for thinking that no other analog of the name/bearer might be available. As far as I can see, Dummett takes the prototype very seriously, and seems to think that the characterization as it stands is enough to convince us of the requirement of the possibility of ostension, in order to be able to regard the referent as external. Whether it is convincing enough to rule out the possibility of another analog of the name/bearer, I do not know. I shall attempt to give reasons to abandon it, nevertheless.

according to Dummett, not as an object that the corresponding name stands for, but merely as the contribution of that for which the expression is a sign to the truth-value of the sentence in which the expression occurs. The contribution thus made is called by Dummett the semantic role (or as in his later usage, the semantic value<sup>28</sup>) of the expression. Hence, every kind of expression has reference understood as semantic role, whereas only singular terms have reference understood as referent or bearer (i.e. the actual object the name stands for).<sup>29</sup>

The name/bearer relation as prototype is derived from the relation between a name and an actual (or concrete) object it stands for, and thus unsurprisingly does not fit the relation between an abstract name and its reference: the object is conceived as something that can be recognized as the bearer of the name, which implies that it be a possible object of ostension. As this makes it impossible to ascribe reference to abstract names, Dummett considers instead the option of ascribing a semantic role to them, but rightly remarks that this is no real option because, since abstract names (in question) are singular terms, their reference must be none other than objects. Thus Dummett concludes that ultimately the analogy breaks down and we are left without any way of ascribing reference to abstract names realistically construed; that is to say, there is no way of conceiving them as having references that can be regarded as constituents of external reality (Dummett, 1981, p. 499).

Now we may ask: How legitimate is the view that the notion of reference that is built upon the name/bearer relation as prototype is 'the' realistic notion of

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<sup>28</sup> Cf. Dummett (1975).

<sup>29</sup> According to Dummett, this construal makes it possible for Frege (or at least, only on this construal it would be possible for Frege) to assign 'reference' to expressions other than singular terms, references such as concepts (i.e. properties or qualities in contemporary usage), truth-values, etc. But it does not seem so obvious that in assigning reference to such expressions Frege relies on such a construal.

reference: that it is a necessary condition for a name of any kind to be ascribed a reference which is a constituent of external reality, that the sense of the name is to be explicable in accordance with the name/bearer relation? What the name/bearer relation model of reference requires is that the grasp of the sense of a name be given in the form of a criterion for identifying the object as the bearer of the name. Thus formulated, it seems to require that the object be a possible object of ostension (for, Dummett appears to say, if it is not possible to refer to it by means of ostension, how can it be regarded as a bearer of a name?); and this is precisely what the nominalist demanded of a name for it to have reference. If the purported object is not a possible object of ostension, argues the nominalist and also apparently does Dummett, there does not seem to be any way of providing the sense of the name purporting to refer to it in the form of a criterion for identifying the object as the bearer of the name. Therefore, the conclusion goes, if there is no bearer, then neither is there a referent.

However, Dummett's uneasiness about Frege's account is not exactly that of the nominalist; rather, it is that if we cannot explain the sense in the form of a criterion for identifying the object as the bearer, then we seem not to be able to show that it complies with the compositionality principle, that is, it does not seem to contribute to truth-conditions as it is usually accounted for in standard semantics. If my above response to Dummett in terms of the distinction between two types of sentences is sound, then it seems that his uneasiness about the Fregean account concerning compositionality is groundless.

And yet, his laying so much stress upon the name/bearer relation implies that his uneasiness about Frege's account is not restricted to the so-called problem of compositionality. He thinks that the name/bearer relation as prototype is 'the' realistic notion of reference and that therefore if the sense of a name cannot be

explained as built upon the model of this relation, then its reference cannot be regarded as a (real) object—i.e. as a constituent of external reality. I have argued that the name/bearer prototype of reference is more apt for a nominalist conception than for realism—either Fregean or some other sort. If this is true, then we may conclude that Dummett has no justification for his contention. This is because both the name/bearer prototype and the nominalist conception apparently have the same requirement for a name to have reference, namely that the corresponding object be one with which a confrontation is possible—which amounts to its being a possible object of ostension. And we have already seen above the Fregean criticisms of such a requirement.

The suggestion that has to be made, therefore, appears to be that we abandon the name/bearer relation as prototype<sup>30</sup> and seek a notion of reference that is free from the nominalist (or any concretist/actualist) assumptions.

At this point, it seems that instead of seeking an alternative prototype, we should recall Frege's characterization of 'objective': the sufficient condition for something to be objective was, for Frege, that it be able to exist independently of being thought. We may take it as the essence of CP<sub>r</sub> that if a sentence is objectively true, then in accordance with its syntactic structure, we may determine what objects there are (and which properties they possess or which relations they bear to one another). Thus, the direction of inquiry is to be turned towards settling the question whether the sentences in which abstract terms occur have objective truth-values or not. We may call this *truth-value realism*. In fact, Dummett seems to have adopted

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<sup>30</sup> Whether Dummett argues that the name/bearer prototype is Frege's realistic notion of reference or that it is the notion of reference that any coherent realism is to assume, I argue that he is wrong. For the first possibility, the name/bearer prototype does not favor a realism that allows for the rationale of CP; and for the second, the restrictions it imposes on being real are similar to those of the nominalist, and hence either leave room for some form of idealism (cf. Frege's criticism of psychologism in Frege (1980)) or confine the realism it advocates to nominalism or to what we may call 'concretism' (meaning that only concrete things are real).

this very approach in Dummett (1963), where he suggests viewing the dispute between the platonist and the anti-platonist<sup>31</sup> as one not regarding a class of entities but a class of statements. In other words, he suggests taking the objectivity of the truth-values of statements to be the real issue between the platonist (the Fregean) and the anti-platonist (the nominalist) (Dummett, 1963, p. 146). In the same paper he says:

If the statement that there exists a proof of a given proposition possesses a determinate truth-value independently of our knowledge, then the statement that there exists a natural number having a certain definite property must also possess a determinate truth-value independently of whether we either know it or even could know it (Dummett, 1963, p. 164).

Dummett's above remark might be taken to suggest that if a statement about a number is true then it is also true that that number (or all the numbers in the domain to which it belongs) exists. Nevertheless, he denies that this is enough to conclude that numbers are external objects, as concrete objects are. I take it that his denial rests once again on the unwarranted restrictions he imposes. On the one hand, he admits the possibility of the objectivity of the truth of an arithmetical statement, and on the other, he denies that the singular term of such a statement refers to a real, external, object. For in his mind being external seems to require being concrete, whereas actually it should require simply being able to exist independently of being thought—which is the original characterization Frege gives of being objective. Hence the issue must be whether or not a sentence is objectively true: if it is, then Frege's CP<sub>r</sub> says that syntax will lead us to reference.

### 3.3 Dummett's objection to the externality of pure abstract objects

Let us assume that my defense so far of the Fregean account of reference to abstract objects was successful. Still, the question remains as to how the truth of the

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<sup>31</sup> Actually, between the realist and the anti-realist in regard to various realms of discourse.

sentences containing abstract terms themselves is to be determined. In the case of arithmetical truths, Frege's strategy was to demonstrate that they are actually logical truths, and hence that they do not need any justification for being true outside the sphere of logic. These truths Frege takes to be analytically true. Frege's view of analyticity differs from Kant's in that while Kant takes analytic statements to be mere tautologies in the sense that they do not extend our knowledge, Frege thinks that at least some analytic truths are knowledge extending—that is, by understanding an analytic statement, one gains knowledge. Moreover, while Kant takes all existential statements to be synthetic, Frege holds that an existential statement may well be analytic. For instance, arithmetical statements are, for Frege, analytically true, but at the same time, they inform us about genuine objects—e.g. natural numbers. That is to say, they are knowledge extending. And being reducible to logical truths, the objects they inform us about are taken by Frege to be logical objects—i.e. objects whose existence is necessary. This view brings us to Dummett's third objection to Frege, which we may call the 'objection to the externality of pure abstract objects'.

Dummett argues that adopting necessarily true existential statements amounts to admitting that "among the things that exist or may be said to exist, some are not in the world, are not constituents of reality in the same way as concrete objects" (1981, p. 502). He takes the notion of 'being in the world' (or of 'being a constituent of reality') to be an obscure one, and hence to offer us no more than a picture. He claims, nonetheless, that the picture requires that that which is a 'constituent of reality' be something possible to encounter, and that it seems hardly possible to encounter something whose existence is necessary or in any case an analytic truth (Dummett, 1981, pp. 502-3).

In order to better characterize the abstract objects whose existence is analytic or necessary, Dummett makes an analogy between them and pure sets, i.e. sets that have no members other than those that are themselves sets.<sup>32</sup> Pure sets occur in the hierarchy of a set theory of, say, the Zermelo-Fraenkel type, whichever individuals (i.e. *Urelemente* or non-sets) we start with<sup>33</sup> (Dummett, 1981, p. 503). Now the way in which we conceptually divide the world into discrete objects depends on the structure of our language, due to the possibility of our using different criteria of identity. And yet, Dummett contends, some objects will always show up whatever the structure of the language we use may be, that is, in whichever way we conceptually construct the world as containing certain objects. These objects which result from any of the constructions we may possibly make Dummett calls ‘pure abstract objects’ “like the natural numbers, whose existence is analytic” (Dummett, 1981, pp. 504-5). Though the use of the analogy seems hardly obvious, it seems to suggest that any linguistic framework we employ will include identity statements which are analytic, and the syntactic structure of some of these statements will be such that they will have singular terms apparently referring to certain objects. Consequently, since these singular terms will always appear in any linguistic framework we employ, the objects they purport to refer to will likewise always appear to exist; whereas whether the objects that are not pure, i.e. the concrete—or more generally, the contingent—objects, will occur depends upon the different ways we may conceptually divide the world into discrete objects. Dummett argues that just because of this difference pure abstract objects cannot be regarded as constituents of external reality, but merely as reflections of expressions which display the feature of

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<sup>32</sup> Note that the empty set  $\emptyset$  is also among the pure sets: having no members, it has no members which are not sets.

<sup>33</sup> As Dummett remarks, they are actually the sets generated when we start with the empty set  $\emptyset$ , that is, with no individuals (Dummett, 1981, p. 503).

being a singular term, according to some formal criteria (Dummett, 1981, p. 505).

Before discussing Dummett's objection relying on the above argument, it seems appropriate to address a possible worry about his view of conceptual division of reality. The worry is that Dummett's understanding of external objects implies that concrete—or more generally, contingent—objects are subjective (or intersubjective, if we entertain the possibility that the framework is adopted by a linguistic community all members of which share more or less similar conceptual apparatus, that is, if we think of the framework not an 'idiolect-framework' but a 'dialect-framework'). Or rather, the implication may be taken to be that Dummett's understanding makes which objects the external reality is comprised of relative to which conceptual framework is adopted. And if there is no privileged such framework as to claim to accurately represent the real structure of external reality, the way in which we conceptually divide reality into objects will be arbitrary; and consequently, we will lack the justification we would need to regard the objects that we take to be constituting the external reality as the real constituents of it. Moreover, his objection below notwithstanding, Dummett's understanding may be taken to be granting objectivity to pure abstract objects, for they do not seem to be affected by the possible different conceptual divisions of external reality: they will be there regardless of the ways in which we can make the conceptual division.

That kind of arbitrariness in the division of reality is something that Frege would object to before everyone else. Recall Frege's characterization of objectivity. What makes something objective is above all something's being independent of our ways of conceiving it. Of course, Dummett's conception does not deny that reality is there regardless of whether we execute any conceptual operation on it. But still, it renders the determination of its constituents relative to the conceptual framework,

and hence, something less than objective, if not outright subjective. However, perhaps Frege's argument for the view that statements of number contain assertions about concepts may be taken as suggesting that Frege has similar ideas to

Dummett's:

While looking at one and the same external phenomenon, I can say with equal truth both "It is a copse" and "It is five trees", or both "Here are four companies" and "Here are 500 men". Now what changes here from one judgement to the other is neither any individual object, nor the whole, the agglomeration of them, but rather my terminology. But that is itself only a sign that one concept has been substituted for another. This suggests ... that the content of a statement of number is an assertion about a concept (Frege, 1980, p. 59, §46).

Although Frege's concern in the above paragraph is different from the present one, his argument suggests that he would be comfortable with the view that depending on which concepts we use we may see reality in different ways. His point, of course, is to reveal the connection between concepts and numbers. Nevertheless, it seems quite plausible that inasmuch as he argues that a change in the concept being employed may effect a change in the number given as an answer to the question how many objects there are in a contextually relevant segment of reality, he might have thought in a similar way in the case of providing answers to the questions of the form 'what are there?'. For example, he might have allowed both of the sentences to be true of reality:

(6) There are companies in the field.

(7) There are men in the field.

Hence, the same contextually relevant segment of reality might allow us to hold that there are companies but also that there are men.

Perhaps it would not be wrong to sum up as follows how Frege would view the issue. He would hold either (i) that there may be different accurate descriptions of one objective reality; or (ii) that this being so, it should not be taken to suggest

that reality (or which objects it is comprised of) is not objective, but only that it is we who have alternative ways of viewing it. This much of an argument seems to me sufficient to block a possible charge against Dummett with misrepresenting Frege's views (by showing that Dummett is not too distant from Frege's way of seeing things), though presumably not exactly sufficient to block one that might be put against both Frege's and Dummett's conceptions of the objectivity of reality.

So much for the digression. Dummett's objection that is motivated from his argument appears to be this: that the different ways in which we form our conception of contingent objects have no effect on our conception of pure abstract objects, which supposedly demonstrates that the latter have no connection with the former, which Dummett seems to take most naturally to be the constituents of external reality. One motivation for holding the above objection seems to stem from the assumption that the constituents of reality or the world must be subject to the way (or ways) we conceptualize it. But why does this have to be the case? Perhaps reality contains necessary objects (or objects whose existence is analytic) and in every way we think of—or conceptually construct—reality these objects occur as existing. Why should this be problematic, and exactly what makes these necessary objects mere reflections of certain expressions which behave as singular terms? There seems, in Dummett's arguments, to be no satisfactory answers to these questions.

The other motivation (as briefly mentioned above) for Dummett's objection may be as follows. The fact that objects other than pure abstract objects are affected by our different conceptual divisions of reality, whereas pure abstract objects are not, may be indicating that the latter have no connection with the former, and hence do not belong to the reality of which the former are constituents. Whether this view is or is not correct we need not discuss here. The question is, assuming that it is correct,

whether it would show that pure abstract objects are not constituents of external reality. The only way to argue that they are not seems to be by assuming external reality to be the actual reality, i.e. the spatio-temporal reality. If that is indeed the assumption here, then Dummett's this objection is subject to similar criticisms that his second objection faces. It leaves no room for a conception of 'pure abstract objects' as objects, for the assumption lying at its core is that nothing that is not spatio-temporal can be regarded as an object.

Although Dummett argues (and he may well be right in doing so) that pure abstract objects will show up in whichever way we conceptually divide the world into objects, still the names for them have criteria of identity too, whereby we specify their senses. And this may well mean that they too are subject to the differences among the ways in which we conceptually divide reality. It may just be that they happen *to* show up in every way we do it. Perhaps this is the reason why their existence is analytic or necessary after all. In effect, nothing in this seems to suggest that pure abstract objects like natural numbers depend for their existence on the use of certain linguistic expressions. For if the truths are objective (reducible to logical truths) and if the expressions in question are syntactically singular terms, then their references must be self-subsistent objects, which we should take as being external—as the referents of genuine singular terms.

Dummett makes another point by saying that “singular terms of various kinds present a gradation according to the extent to which their use involves a mastery of a fragment of the language” (Dummett, 1981, p. 509). He argues that the mastery required is the least in the case of concrete objects; it is more than that in the case of abstract objects which are still related to concrete (or in any case, contingent) objects (i.e. abstract objects like the direction of line *a* or the shape of this particular desk,

etc.). He then says that in the case of names for pure abstract objects, the mastery of the language is all there is to the use of the name, that is, that the names in question have no external reference. However, showing this requires showing either (i) that the sentences containing these names have no objective truth-values; or (ii) that the names are not really singular terms. In the course of his objection he shows neither of them; rather, as we have discussed, he imposes a restriction for having an external reference, based on the so-called name/bearer prototype.

The fact that we need to have some mastery of the language in order to be able to refer to abstract objects of some sort, e.g. mastery of a sophisticated mathematical notation in order to be able to refer to natural numbers, does not necessarily mean that they come into being by the use of language (or notation), nor does it show that the objects are reflections of certain linguistic expressions.<sup>34</sup> It may well be the case that reference to them becomes possible only by the mastery of a very sophisticated language, which seems perfectly unproblematic. In any case, it is not the existence of those objects that is constituted by our use of language, but merely our reference to them; and this does not entail that they do not have an objective existence.

#### 3.4 The sketch of an alternative conception

Although not exactly an alternative conception of reference, the following idea seems to be in accord with the strategy of adopting the truth-value realism.<sup>35</sup> For a name to be said to have a reference, it is not necessary that the sense of the name can be explained ostensively; or, alternatively put, it is not necessary that the recognition of an object as the referent of the name is to be manifested by ostensive means.

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<sup>34</sup> I should note that I do not suggest that this is actually what Dummett argues.

<sup>35</sup> This conception is originally suggested by Bob Hale (1987, pp. 174-5).

Frege's realism may be taken to suggest that it is sufficient that we determine what has to be the case if such-and-such objects are to be said to have reference.<sup>36</sup>

Translating this conception into Frege's terminology, we may say that there must be such-and-such an object if certain sentences in which the name for that object occurs are true. Here 'such-and-such' is a uniquely identifying description, and the suggestion is that we formulate a uniquely identifying description and determine, in accordance with whether certain sentences containing that description turn out to be true, whether that description has a reference.

Similarly, we may determine whether a certain property is instantiated (or, in Frege's terminology, whether a certain concept has an object or objects falling under it), in accordance with whether certain sentences containing the expression for that property are true. This sketchy conception seems to offer an idea of reference that is more akin to the Fregean realism than the one offered by the name/bearer relation as prototype—a realism that allows for the rationale of CP, which may be summarized as that the ascriptions of content to subsentential expressions are to be made in terms of the content of complete sentences in which they occur.

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<sup>36</sup> What is to be the case is, of course, a state of affairs or a set of states of affairs.

## CHAPTER 4

### CONCLUSION

In this thesis I have attempted to defend the Fregean account of reference to some type of abstract objects against Dummett's three objections. This required an exposition of Frege's account in which one particular construal of CP, i.e. as it concerns reference, plays a crucial role. Thus, I attempted to lay out the background against which, I think, this construal of CP makes more sense. Then I explicated to some extent CP as a positive thesis, i.e. as an explanation of how reference to abstract objects becomes legitimate or intelligible.

This is followed by the three objections raised by Dummett to that account. I presented the objections and attempted to respond to each in turn. Perhaps the most general theme of Dummett's objections was that Frege's CP, which plays a cardinal role in his account of reference to abstract objects, and his realism are in conflict. My responses involved a rejection of this contention. I argued that what Dummett attributes to Frege as being the latter's conception of realism (or realistic notion of reference) is somewhat similar to the conception of reference adopted by the nominalist. Thus, I offered a sketch of an alternative conception, which I argued to be more in accordance with the Fregean realism.

It is arguably the central contention of any traditional mathematical platonism that abstract mathematical objects such as numbers, sets, functions, etc. exist—or are real—as much as concrete objects such as tables, chairs, mountains, etc. do—or are. Although Fregean platonism contains far more sophisticated aspects than any of its traditional cousins do (to name but one, for instance, its emphasis on the significance of the syntactic structure of the language of arithmetic in attributing reference to

numerical singular terms), still this contention as regards mathematical objects—i.e. that they are as real as concrete objects of physical, spatio-temporal reality—remains very important. As it is this contention that is mostly challenged by the foes of any variant of mathematical platonism, it would not be incorrect to say that it is at least one of the themes that must be argued for by the friends of mathematical platonism. This is my justification for writing this thesis.

Perhaps the most significant implication of the discussions in this thesis is that if we can really account for our reference to abstract objects, by which I mean providing a systematic semantics for names or other expressions denoting them, this may be taken to suggest that the truth-makers of our sentences are not restricted to concrete states of affairs. If there is any connection between semantics and metaphysics, whatever that connection may be, this may be taken to suggest, in turn, that reality is not restricted to spatio-temporal objects, but involves abstract ones as well. I do not pretend, of course, to have done little more than arguing that the Fregean conception of reference to abstract objects is not one that can be straightforwardly discarded.

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