ORIGINAL RESEARCH



Understanding Frege's notion of presupposition

Thorsten Sander¹

Received: 28 January 2021 / Accepted: 2 August 2021 © The Author(s) 2021

Abstract

Why did Frege offer only proper names as examples of presupposition triggers? Some scholars claim that Frege simply did not care about the full range of presuppositional phenomena. This paper argues, in contrast, that he had good reasons for employing an extremely narrow notion of 'Voraussetzung'. On Frege's view, many devices that are now construed as presupposition triggers either express several thoughts at once or merely 'illuminate' a thought in a particular way. Fregean presuppositions, in contrast, are essentially tied to names.

Keywords Fregean Voraussetzung · Presupposition · Projection · Fregean colouring

1 Introduction

A striking thing about Frege's account of presupposition is this: while the modern notion of presupposition has become the habitat for a veritable 'zoo' of presupposition triggers, Frege's precursor notion of 'Voraussetzung' (henceforth: F-presupposition) seems more like a small glass bowl in which a single fish, bearing the strange name 'Proper Name', is solitarily swimming around. Why is that so? This question has received surprisingly little attention. As far as I see, only two scholars, Soames and Kripke, have raised it. On Soames's (1976, p. 15) view, Frege did not attempt to 'determine all of the different kinds of presupposition that there might be' because 'natural language was not his central concern'. So the small number of

Published online: 12 August 2021

Fakultät für Geisteswissenschaften, Institut für Philosophie, Universität Duisburg-Essen, 45117 Essen, Germany



¹ The 'zoo' metaphor is due to Karttunen (2016, p. 705). The term 'F-presupposition' is modelled on Horn's (2009, 2013) notion of 'F-implicature', a Frege-inspired counterpart to the notion of conventional implicature.

² In earlier work (Sander, 2021, Section 6), I offered a brief sketch on how F-presuppositions are related to other Fregean categories.

[☐] Thorsten Sander thorsten.sander@uni-due.de

presupposition triggers Frege discusses would be due to a lack of interest on Frege's part.³ Kripke's treatment (2009) is more nuanced: after having offered a fairly orthodox list of triggers, including the usual suspects such as 'regret', 'stop' and clefts, he continues thus:

Frege ... described [presupposition] in such a way that the [existential presupposition carried by descriptions] is the paradigmatic case. It is not clear whether he thought that presuppositions went beyond this sort of example. His theory was that the presupposition fails precisely when there is a truth-value gap. For him, all such failure came from failure of reference. This might be made to extend to some of the other cases as well. (Kripke, 2009, p. 368)

In what follows I will argue that, contrary to Kripke's suggestion at the end of this passage, the existential presuppositions carried by names are indeed the only examples of F-presupposition, and the reason for that is briefly mentioned by Kripke: on Frege's view, the notion of *Voraussetzung* is essentially tied to possible truth-value gaps, and such gaps can only occur when names (very broadly construed) fail to refer. We shall see, however, that a full defence of that claim requires a substantial amount of preliminary work.

There is, though, a much easier route to partially the same expository insight. Frege's 'Über Sinn und Bedeutung' not only contains his most detailed treatment of F-presupposition but also some remarks on the semantic contribution of 'know', which is now usually considered a typical presupposition trigger. Now Frege clearly does *not* claim that sentences involving 'know' F-presuppose anything, though they have, for him, some interesting linguistic properties (more on which below). As a second example, consider 'still', which has also been construed as a presupposition trigger. For Frege, in contrast, 'still' rather 'illuminates' a thought in a particular way: by uttering 'Alfred has still not come' you 'hint' but do not F-presuppose that Alfred's arrival is expected (Ged 64). So it seems clear that Frege's concept of F-presupposition is narrower than its modern descendant.

Given that presuppositions have attracted a lot of attention since the 1970s, I should note right at the beginning that the aim of this paper is essentially expository. So I will not attempt to defend Frege's account against alternative approaches. However, since the modern notion of presupposition is a highly contested concept, I also think that Frege's account may have some theoretical virtues. For instance, while contemporary theorists are often unsure about how to distinguish presupposition from conventional implicature, Frege's precursor notions offer a very neat classification. The linguistic items that are now treated either as presupposition triggers or

⁴ It is well known that the presuppositions triggered by that verb are quite easily blocked. This may be a reason for denying that 'know' is a presupposition trigger in the first place (as a referee suggests), but one might also claim that 'know' is part of a larger class of 'soft' triggers (Abbott, 2006, §3). Since I am concerned here with what distinguishes F-presuppositions from presuppositions as ordinarily conceived, I will assume that 'know' is indeed a presupposition trigger (which is still the textbook view; cf. Levinson, 1983, p. 181; Potts, 2015, p. 171).



³ In subsequent work, Soames (1989, p. 559) has repeated this claim. He notes, however, that Frege's ignoring of 'sortal presuppositions' is grounded in his requirement that concepts must be total functions. I shall come back to this issue in Sects. 7 and 8.

as items carrying conventional implicatures are, on Frege's view, examples of three different phenomena (F-presupposition, illumination, and multi-propositionality).

I shall proceed as follows: After having a brief look at the locus classicus on F-pre-supposition (in Sect. 2), I then argue, in Sect. 3, that there is no textual evidence that Frege acknowledged any presupposition triggers besides proper names. I then turn, in Sect. 4, to the two accounts of vacuous names Frege considered. In Sect. 5, I explain why, on Frege's view, items such as 'know' or 'stop' do not give rise to F-presuppositions (but instead express several thoughts at once). Section 6 draws on Yablo's notion of 'catastrophic' failures and shows that items such as 'still' aren't F-presupposition triggers either (but instead add 'colouration' to a sentence). In Sect. 7, I show why there cannot possibly be F-presupposition triggers that aren't proper names, and in Sect. 8, I briefly turn to a problem raised by what Frege says about the Homerian concept word 'mōly'.

2 Frege's 1892 account

The second part of Frege's seminal 1892 paper (SB 36-50) is devoted to some exceptions to Frege's general claim that truth-values are the *Bedeutungen* of clauses (SB 36).⁶ Frege's overall strategy is to concede that there are indeed such exceptions in ordinary language and to offer a brief explanation for them. For instance, in the case of.

(1) He who discovered the elliptical form of the planetary orbits died in misery. (SB 39)

he claims that the noun clause of (1) does not refer to a truth-value but instead to a person, i.e. Kepler. The notion of presupposition comes into play when Frege considers a possible objection:

[i] One might object that the sense of the whole does contain a thought as part, viz. that there was one person who first discovered the elliptic form of the planetary orbits; for whoever takes the whole to be true cannot deny this part. [ii] This is undoubtedly so; but only because otherwise the dependent clause 'he who discovered the elliptic form of the planetary orbits' would have no *Bedeutung*. [iii] If one asserts something, the presupposition is always self-evident (*selbstverständlich*) that the simple or compound proper names used have a *Bedeutung*. [iv] If therefore one asserts 'Kepler died in misery', there is a presupposition that the name 'Kepler' designates something; but it does not follow that the sense of the sentence 'Kepler died in misery' contains the



⁵ Frege employs several metaphors for describing alethically irrelevant aspects of content. I what follows, I shall treat 'illumination' (*Beleuchtung*) and 'colouring' (*Färbung*) as synonyms.

⁶ Since Frege's two key terms 'Sinn' and 'Bedeutung' (pl. 'Bedeutungen') are notoriously difficult to translate, I shall frequently use Frege's original terms. Sometimes, I shall use 'sense' and 'reference' as their English counterparts.

thought that the name 'Kepler' designates something. (SB 39-40; FR 162, partly my translation, roman numerals added)⁷

This passage contains, on my reading, an exegetical problem, a rather obvious lacuna, and two essential claims concerning presuppositions.

The exegetical problem is whether Frege's talk of assertions (in [iii] and [iv]) is to be understood as the innocuous claim that assertions may carry presuppositions or as the stronger claim that presupposition is necessarily tied to assertive force. I think we ought to opt for the first reading. Frege, after all, notes that 'Kepler did not die in misery' carries the same presupposition as its unnegated counterpart (SB 40). So the same should go for other connectives. For instance, by uttering a conditional such as 'If Kepler died in misery, ...' one also seems to presuppose Kepler's existence, but assertive force clearly does not cover the antecedents of conditionals. (And given Frege's claims about how assertions are related to yes/no questions (Ged 62), I don't think he would have denied that the question 'Did Kepler die in misery?' also presupposes Kepler's existence.) Presuppositions then seem to be independent of assertive force.

Crucially, Frege is also not concerned with the conditions for making (felicitous) assertions, contrary to what has been claimed by Black. In the case of (1), Black (1962, p. 50) claims, no 'assertion is made unless there was once somebody called "Kepler". This is a surprising exegetical claim that comes close to transmogrifying Gottlob Frege into Pettlob Frawson. In one of his papers, Strawson indeed claimed that presupposition failures may 'wreck' the 'whole assertive enterprise' (1964, p. 106), but there is no textual evidence whatsoever that Frege saw utterances involving vacuous terms as pseudo-assertions. For Frege, assertions are the outward manifestations of inner judgments, and a judgment is the acknowledgment of the truth of a thought (Ged 62). So as long as there is a thought one may acknowledge as true (even when it is, in fact, neither true nor false), one may assert it, and that appears intuitively correct: the sentence 'The largest prime number is larger than 42' is clearly defective in that it involves an existential presupposition that cannot be satisfied, but an utterance of it would still count as an assertion. The catastrophe caused by F-presupposition failures is cognitive, not communicational.

The lacuna concerns the exact nature of the phenomenon Frege is describing here. He just notes (in [iii] and [iv]) that, whenever we use a name, there is the self-evident presupposition that the name has a *Bedeutung*. Frege tells us neither whether

⁸ It seems as though Frawson, distantly related to the Schmearthian philosopher Gotrand Fressell (cf. Schiffer, 1981), has exerted quite an influence on some scholars. Yablo (2006, p. 167) writes that the theories of Frege and Strawson 'more or less *define* a sentence's presuppositions as preconditions of its making an evaluable claim', and Glock (2015, p. 112) claims that, on Frege's and Strawson's view, a sentence involving a vacuous term 'does not express a truth-apt proposition or statement'. But Frege is not concerned with making *claims*, and he also wouldn't deny the truth-*aptness* of, say, 'Odysseus killed the suitors' (Odysseus, after all, might turn out to be real).



⁷ Frege's account in that passage is clearly reminiscent of Sigwart's (1873, pp. 123–124) treatment of *Voraussetzungen* (cf. Horn, 2007, pp. 41–42). Since Frege's *Nachlass* contained an excerpt from Sigwart's book (cf. Veraart, 1976, p. 103), Frege may have been inspired by Sigwart here.

it is speakers or sentences that presuppose something⁹; nor does he say anything about the mechanism that generates presuppositions. Everything he does tell us is compatible with a lexical as well as with a pragmatic account of presupposition.

In a somewhat similar vein, Atlas (1975, pp. 29–31) has claimed that one may 'extract' three distinguishable notions of presupposition from Frege's (SB): a semantical, a pragmatic and an assertoric notion. Whether this is true depends on what is meant by 'extract'. Frege's non-committal notion of F-presupposition may of course serve as an inspiration for devising more specific notions, but Atlas seems to advance the stronger exegetical claim that Frege uses the term 'Voraussetzung' ambiguously, which strikes me as uncharitable. Moreover, I don't think that Atlas has presented conclusive textual evidence for his claim. So I think Frege's notion of presupposition is best characterized as an unspecific notion.

Finally, I think that Frege's official account of *Voraussetzung* may be boiled down to two claims:

- (a) Presuppositions are alethically relevant. If what is presupposed by some sentence S is, in fact, not the case, then S will be neither true nor false ([i], [ii]).
- (b) What is conveyed by a presupposition is not contained in the sense of the sentence carrying the presupposition ([iv]). 10

There are two minor points about these claims that are worth stressing here.

The first point is that, contrary to what one might think, claim (b) does not exclude the existence of lexical presuppositions. On the assumption that *Sinn* is not linguistic meaning, a presupposition might be carried by the meaning of a sentence S without being contained in its sense. ¹¹ (I cannot offer a full defence of that assumption here, but there are at least two types of example that speak against an identification of these two notions. First, a sentence such as 'He was wounded' is generally thought to have a stable meaning, or 'character', but as Frege insists, the sense of such a sentence may shift with context (Ged 64; cf. Burge, 1979). Second, there are pairs of words such as 'cur' and 'dog' (Logik 152) that plausibly differ in meaning while expressing the same sense. And in Sect. 7, I will argue that vague terms may be yet another example.)

Second, Frege's two claims do not yet appear to rule out Kripke's suggestion that the Fregean account of existential presupposition might be extended to some other cases. Depending on how, exactly, Frege's claims are understood, some other

meaning of particular items.



⁹ When discussing the idealist objection that 'the moon' may not have a *Bedeutung* (SB 31), Frege characterizes the F-presuppositions of that name in terms of our communicative intentions; but he also appeals to the difference in sense between 'the moon' and 'my idea of the moon'.

¹⁰ See also Frege's distinction between 'being part of what was meant' (*mitmeinen*) and 'being presupposed as having been admitted' (*als zugestanden voraussetzen*) in one of his letters to Husserl (BW 106; PMC 71). In this letter, Frege concedes that one *might* construe existential import as a matter of presupposition, but ultimately opts for a treatment in terms of side-thoughts (see Horn, 2007, §2; Sander, 2021).
¹¹ Frege's claim that it is the 'grammatical form' of some expressions that seems to qualify them for the purpose of designating an object (SB 40; FR 163) may indeed be construed as claim about the linguistic

items may turn out to be F-presupposition triggers as well. So let us start by asking whether Frege did officially acknowledge some other triggers.

3 Are temporal clauses F-presupposition triggers?

In the introduction, I claimed that only proper names are F-presupposition triggers. Now some scholars have assumed, in contrast, that Frege explicitly acknowledges at least one further kind of trigger, i.e. temporal clauses (Levinson, 1983, p. 182; Karttunen, 2016, p. 707). Consider the two sentences Frege briefly discusses in footnote 10 of his seminal 1892 paper (SB 43-4; FR 165) and a proposition they may presuppose:

- (2a) After the separation of Schleswig-Holstein from Denmark, Prussia and Austria quarrelled.
- (2b) After Schleswig-Holstein was separated from Denmark, Prussia and Austria quarrelled.
- (2c) Schleswig-Holstein was separated from Denmark.

Karttunen (2016, p. 707) has claimed that the temporal clause of (2a) F-presupposes (2c), and in a certain sense this is true, but, for Frege, the F-presupposition trigger in this case is not the temporal clause as such but rather the proper name contained in it. 'The separation of Schleswig-Holstein from Denmark' is, after all, a definite description that refers to an event. What about (2b)? In this case, Frege adds his usual caveat that ordinary language sentences admit of 'various interpretations' (SB 43, fn. 10; FR 165). On one salient interpretation of (2b), that sentence expresses and thus does *not* F-presuppose the thought (2c) (see SB 49; FR 170). On the second interpretation, (2a) and (2b) would be just rhetorical variants with essentially the same content. Accordingly, (2b) would indeed F-presuppose (2c), and that might be taken to show that Frege does in fact acknowledge the existence of F-presupposition triggers that aren't proper names. The temporal clause of (2b), after all, does not seem to contain a name that might carry the presupposition (2c).

However, such a reading of Frege would be based on a misconstrual of his notion of proper name. For Frege, *Eigenname* is (in contrast to 'noun phrase') not a grammatical category but a logical one, which is in turn grounded in his metaphysical distinction between objects and functions (see FB 18; GGA I, 7). Any linguistic item that purports to refer to an object is, on his view, a proper name (GGA I, 43), and Frege's notion of object is not restricted to 'medium-sized dry goods', but includes things such as numbers, value-ranges or points of time (see SB 42).

Consider, for a start, one of Frege's examples:

(3) He who discovered the elliptical form of the planetary orbits died in misery. (SB 39)

Though (3) does not contain any word we would ordinarily call a 'name', Frege claims that the dependent clause of (3) refers to Kepler and is thus (logically) a



proper name. This is not yet particularly surprising since 'he who discovered the elliptical form of the planetary orbits' may plausibly be construed as a definite description and so as something functionally equivalent to a name. Indeed, in Frege's terminology, it *is* a name (though not a simple one). ¹²

Next consider what Frege says about demonstratives such as 'that person'. On his view, the *Eigenname* in such cases does not just consist of these two words. The proper name is rather 'the whole consisting of the concept-word, the demonstrative pronoun and the accompanying circumstances' (LM 230; PW 213). Frege's wording suggests that there are names that are partially non-linguistic, which sounds so odd that one may ask whether he means what he says here (cf. Künne, 1992, p. 721). But there are several passages in his works where the contribution of indexicals is characterized exactly in the same way (see Logik 146; Ged 64), and so we should take this remark at face value (see Künne, 1992; Kripke, 2008; Textor, 2015). On Frege's view, there are *Eigennamen* that actually contain persons, gestures, places or the like, which makes his notion considerably different from the intuitive notion of a name.

What may be even more surprising is Frege's claim that 'adverbial clauses of place or time' (SB 43; FR 164) may function as names for places and points of time, just as the noun clause (*Nennsatz*) in (3) functions as the name of a person. Accordingly, on the second reading of (2b), the sentence would also presuppose (2c) since the dependent clause of (2b) would have to be read as the logical name of an event or a point of time. And this claim of Frege's seems quite plausible: the *Bedeutung* of (2b) seems to be the same as the *Bedeutung* of 'After 1864, Prussia and Austria quarrelled.' Thus, the mere fact that the dependent clause of (2b) contains a finite verb and thus *seems* to express a thought is, for Frege, not yet a reason to assume that it is not a proper name. Accordingly, there are two salient analyses of (2b):

(2d) At some point of time t_1 Schleswig-Holstein was separated from Denmark & at some point of time t_2 Prussia and Austria quarrelled & $t_2 > t_1$ (cf. SB 48) (2e) Happened-after (the quarrel between Prussia and Austria, the separation of Schleswig-Holstein from Denmark)

If (2b) is understood according to (2d), there is no presupposition that Schleswig–Holstein was separated from Denmark. On that reading, (2b) is a multipropositional sentence that expresses three entangled thoughts (more on which in Sect. 5). On the second reading of (2b), rendered above as (2e), the dependent clause does function as an F-presupposition trigger, but only since it contains *or is* a proper name. So I think it is safe to assume that Frege offered only proper names as examples of F-presupposition, and in Sect. 7 we shall see that there are some Fregean tenets that actually commit him to such an account.

¹² For the distinction between simple (einfach) and complex (zusammengesetzt) proper names, cf. (SB 40), (GGA I, §26).



4 Vacuous names: the early and the mature view

Before turning to Frege's reasons for employing a radically narrow notion of F-pre-supposition, we should note that Frege advanced two different theories as to what happens when the existential presupposition triggered by a name is not met. There is, first, a theory most scholars take to be Frege's considered view and which I shall call the 'mature view'. On that view, a sentence containing a vacuous singular term does express a thought – a thought however that is neither true nor false. This view is advanced in some of his writings after 1891, most notably in his 'Über Sinn und Bedeutung'. Frege claims, for instance, that the sentence 'Odysseus was set ashore in Ithaca while sound asleep' 'obviously has a sense' (SB 32; FR 152) but probably lacks *Bedeutung* (see also Logik 141-2; FR 229-30).

Second, there is a theory Frege clearly held in some of his pre-1891 writings, might have held still around 1906¹³ and ought to have held throughout his career if Evans (1982, p. 33) is right. On this second view, the 'early view' in what follows, sentences containing empty singular terms not only lack *Bedeutung* but do not even express thoughts in the first place. The sentence 'Leo Sachse is a man' wouldn't express a thought if there weren't a person to whom that name refers (17KS 190, PW 174; cf. DPE 67, PW 60).

The question of which of these two views is systematically more attractive is tricky, but fortunately it does not matter for present purposes. We shall see that there is on both accounts a clear difference between F-presuppositions and presuppositions as ordinarily conceived.

Let us start by comparing names to factives. Consider the following examples:

- (4) The German emperor wears whiskers.
- (5) Hamlet knows that Rosencrantz is a spy.

(4) contains a definite description and thus would be a clear instance of F-presupposition. In uttering (4), you F-presuppose, and also presuppose, that there is a German emperor (or, more precisely, that there is exactly one German emperor, but I will ignore the 'at most one' condition in what follows). ¹⁴ (5) contains the verb 'knows', which has served as a standard example of a presupposition trigger since the 1970s. When uttering (5), you presuppose that Rosencrantz is a spy.

¹⁴ In (SB), Frege rarely mentions that condition (but see SB 41–42) and clearly does not construe it as a *Voraussetzung*, but I would assume that this is just for expositional reasons. When providing his (nameless) 'backslash' function as a formal replacement for the definite article in his *Grundgesetze* (I, §11), he explicitly claims that not only vacuous, but also ambiguous (*zweideutig*) names lack *Bedeutung*. On that view, 'The prime number between 1 and 4' is as catastrophic as 'The prime number between 8 and 10'. Cf. (GLA, § 82). Compare also Horn (2009, §4) who argues that, whereas the existence condition is relevant to questions of truth or falsity, the uniqueness condition is not.



According to the editors of the *Nachlass*, Frege's (17KS), in which the early view appears for the last time, was written around 1906 or earlier. Hovens (1997) argues convincingly that the manuscript was written in the early 1880s.

Now there are two fairly uncontroversial facts about these two sentences. First, explicitly denying what is (F-)presupposed by them will result in utterances that are particularly odd:

- (4a) The German emperor wears whiskers, but, as matter of fact, there isn't a German emperor.
- (5a) Hamlet knows that Rosencrantz is a spy, but Rosencrantz is actually not a spy.

Second, as noted by Frege (SB 40), the negation of (4) triggers exactly the same F-presupposition as (4) itself. Similarly, an utterance of the negation of (5) will typically be understood as the claim that Hamlet is ignorant of the fact that Rosencrantz is a spy. As the subsequent discussion made clear, there are quite a few other linguistic contexts, now known as the 'family of sentences' (Chierchia & McConnell-Ginet, 1990, p. 281), that allow presuppositions to 'scope out', while blocking entailments. For example, prefixing 'perhaps' to a sentence vastly reduces the speaker's commitments, but presuppositions appear to be immune to that adverb. Consider an example: 'Perhaps he [=Richie Rich] realized how hollow the pursuit of money really is and took his own life' (*The Simpsons*, 7F21) is non-committal about Richie's death and about his attitude towards money, but still 'implies' that Richie exists and that the pursuit of money is hollow. Following the standard terminology in linguistics, I will use the term 'projection' to refer to that phenomenon of 'scoping out'.

Now in spite of these similarities, there is, on Frege's view, a crucial difference between (4) and (5). While (4) is indeed an instance of F-presupposition, (5) is an example of what might be called a multi-propositional sentence. This is, obviously, not a term Frege himself used, but he says explicitly that the sentences he discusses towards the end of 'Über Sinn und Bedeutung' express 'several thoughts' at once (SB 48; FR 169). This is the case with linguistic devices such as 'know', 'because', temporal adverbs and counterfactuals.¹⁵

5 Frege's theoretical motive

To see why Frege never took such words to F-presuppose anything, it is essential to recognize his theoretical motive for paying attention to *Voraussetzungen*. Contemporary discussions of presuppositions have been especially concerned about the projection behaviour of sentences containing presupposition triggers, which is somewhat chaotic and thus gave rise to a rather large debate on the 'projection problem'. What sparked Frege's interest in F-presuppositions, in contrast, was not projection, though he was aware of that phenomenon (SB 40). For Frege, the main problem is rather

¹⁵ Alternatively, such devices may be characterized as involving 'double-barreled' assertions (Geach 1965, p. 456). More recently, the idea that many sentences express sequences of propositions has been defended by Bach (1999) and Neale (1999). It is not clear whether Frege is committed here to a distinction between main-thoughts and side-thoughts (see Dummett 2007, p. 524; Künne 2010, p. 447; Sander 2021, §4), but I shall ignore that issue in what follows.



generated by what might be called his anti-Russellian insight¹⁶: by using a description of the form 'the F' you do not express the thought that there is exactly one F, you only F-presuppose it (SB 40). If a Russell-style analysis faithfully represented the actual content of sentences of the form 'The F is G', then every sentence of that kind would express a thought that is true or false, depending on whether there is exactly one F. Since, on Frege's view, this is not how language actually works, some sentences merely F-presuppose that there are certain objects. So there are sentences, in ordinary language but also in mathematics, that lack a truth-value (or do not even express thoughts in the first place). Thus, Frege's interest in F-presuppositions is sparked primarily by the fact that some languages, being unlike his Begriffsschrift, suffer from a certain kind of semantic 'imperfection' (SB 41) and not by the fact that presupposed contents project.¹⁷

What spurred his interest in items such as 'know' or 'because' was a different problem. If truth-values are the *Bedeutungen* of clauses, then the substitution of coreferential items shouldn't change a clause's truth-value. But in the case of the above items this does not seem to be the case. In a sentence such as 'The fire broke out because there was a short circuit' one plainly cannot replace 'there was a short circuit' by an arbitrary sentence of the same truth-value. Frege's explanation of this substitution problem is simple: a sentence of the form 'p because q' involves three thoughts, (i) if q, then p, (ii) p, and (iii) q, but since there are only two clauses, the thoughts obviously do not 'correspond separately to the original clauses' (SB 48; FR 168).

Since 'because' is not commonly treated as an example of presupposition, let us move to another example. Change of state verbs are paradigmatic presupposition triggers, and they seem amenable to a multi-propositional analysis. Consider a well-worn example of a sentence involving such a verb¹⁸:

(6) Bertrand quit smoking.

On a Fregean account, (6) contains two thoughts: that Bertrand used to smoke (up to a particular point of time t) and that he has not been smoking since t.

I have already pointed out that Frege's chief reason for paying attention to F-presuppositions was the problem of truth-value gaps. If the existential F-presupposition

¹⁸ Change of state verbs were one of the standard examples of the traditional fallacy of many questions, and Frege's multi-propositional analysis may have been inspired by discussions of that fallacy. Cf. two examples handed down by Aulus Gellius and Seneca. a) 'Tell me whether you have stopped committing adultery or not' ('Postulo, uti respondeas, desierisne facere adulterium an non', A. Gellius, *Noctes Atticae* XVI, 2), b) 'What you have not lost, you have. But you have not lost (any) horns. Therefore, you have horns' ('Quod non perdidisti, habes. Cornua autem non perdidisti; cornua ergo habes', Seneca, *Epistulae Morales*, 49,8).



¹⁶ If the Russell of 1957 was not mistaken about the aims of his earlier self, then his 1905 account was intended as a 'replacement' (1957, p. 388), not as an analysis, and Frege would not have objected to such 'conceptual engineering'. Indeed, in (GG I, §11) he himself offers a logical substitute for the definite article.

¹⁷ For that reason, recent proposals for distinguishing factive and semi-factive items (or, alternatively, hard and soft triggers) are irrelevant from a Fregean point of view since these distinctions concern projection *variability*.

carried by (6) is not met, then, for Frege, this amounts to a semantic catastrophe: (6) will either lack *Sinn* (on his early view) or *Bedeutung* (on the mature view). In contrast, if the presupposition triggered by 'quit' is not met, no catastrophe will occur. If (6) is indeed analysable as a two-part sequence, then (provided that a sequence is, logically, a conjunction; cf. SB 44) (6) will be false if Bertrand has never been a smoker. Now one might claim that the complex predicate '... quit smoking' can only be applied to past smokers: uttering (6) if Bertrand has always been a non-smoker would thus involve a kind of category mistake that results in a truth-value gap (cf. Sellars, 1954, p. 202). On Frege's logical view, however, there aren't sortal constraints of this kind. The predicate '... quit smoking' is either a genuine concept word that maps *any* argument to a truth-value (including bizarre arguments such as 'the smallest prime number') or it altogether lacks a sense. (In Sect. 7, I shall say more about these issues.)

From a Fregean point of view, then, we ought to distinguish F-presupposition triggers from multi-propositional items. This is not to deny that factives, change of state verbs and proper names have something in common. In all of these cases, there is a projective content that is generally undeniable and alethically relevant. There are, however, two observations that speak in favour of the Fregean account.

First, consider (6) again. Somebody uttering (6) will usually take it for granted that Bertrand did smoke in the past. So what is at-issue in this case is, plausibly, the *present* smoking status of Bertrand. But now consider a case in which (6) has been transformed into a question (and in which a little more contextual information is supplied):

(6a) I notice that Bertrand keeps chewing on his pencil. Has he recently stopped smoking?¹⁹

What is at-issue in (6a) is the smoking status of Bertrand *in the past*, while it is taken for granted that he does not smoke at present. In gestalt theoretical terms, the 'figure' of (6) is the 'ground' of (6a), and vice versa. Frege's multi-propositional account offers a possible explanation for this symmetry, and his idea that F-presuppositions have a peculiar status is supported by the observation that no such contextually induced gestalt shift can happen in the case of existential presuppositions (if they are triggered by names or indexicals). There is no imaginable context in which the second sentence of (6a) might be used to ask whether Bertrand, or 'he', exists.²⁰

The second point is this: if a sentence contains two independent thoughts, then if we subtract one of these thoughts, there is a thought left that may be expressed separately. Consider, again, sentence (6) and ask yourself what you get when you think away the presupposition that Bertrand used to smoke. What you get is a thought

²⁰ The idea that descriptions (as opposed to names and indexicals) may carry 'new' information is familiar from the debate on accommodation, and in some cases, sentences involving descriptions may even be uttered with the main intention of informing an addressee about somebody's existence. Consider an example due to Horn (1996, p. 306): 'A: John is very attractive / B: Yes, and his wife is lovely too.'.



¹⁹ I have borrowed the example (with slight modifications) from Abbott (2006, p. 11). As a referee informed me, examples of that kind were first offered by Karttunen (in an unpublished 1973 paper).

that can easily be expressed by a sentence: 'Bertrand does not smoke at present'. In contrast, there is no, or at least no straightforward, way of expressing *precisely* the content of (6) minus its existential presupposition: 'Bertrand, who (perhaps) doesn't exist, quit smoking' does not sound felicitous. Of course, there are means of 'bracketing' existential commitments: you might say, for instance, 'Sherlock Holmes lives in Baker Street' (when it is contextually clear that you are talking about the denizens of a fictional universe) or 'According to the Canon, Holmes lives in Baker Street' (where the relativization to such a universe is made explicit), but it appears difficult to surgically remove the thought that Bertrand exists from a sentence such as (6).

Note finally that a Fregean account of factives and change of state verbs also makes correct predictions on what is at issue when such words are used. Potts (2015, p. 172) has claimed that a sentence such as (6) 'has the at-issue content that [Bertrand] does not smoke at present ... and the presupposition that he smoked in the past', and that is arguably correct if the term 'at-issue content' is defined as a content that does not project. In another, and more intuitive, sense of that word, however, Potts's claim seems clearly false. What is at-issue in an unembedded sentence involving the verb 'quit' is, trivially, a change, and if a change is analysed as a compound thought, then the two thoughts intertwined in such a sentence seem to stand on a par. (Similarly, we wouldn't want to say that a sentence of the form 'A knows that p' has the at-issue content that A believes that p, though that is the non-projective content.)

6 Catastrophes and colouring

In the last section, I explained why change of state verbs and factives are not examples of F-presupposition. According to the Fregean analysis, words such as 'stop' rather express several thoughts at once. Let us now turn to another kind of example.

Yablo has claimed that there are cases in which presupposition failures are 'non-catastrophic', where a non-catastrophic failure is 'the phenomenon of a sentence still making an evaluable claim despite presupposing a falsehood' (2006, p. 164). Yablo notes (correctly, I think) that Frege is committed to the claim that presupposition failures are generally catastrophic.²² In the next step, he mentions a possible counterexample:

(7) Alfred has still not come (Ged 64; FR 331).

Now suppose, following Yablo (2006, p. 169), that 'still' is, 'by the usual tests', a presupposition trigger that conveys the idea that the speaker has been expecting Alfred's coming. Even if that condition is not met, (7) will express a truth-evaluable thought, i.e. the thought that Alfred has not come. Accordingly, on Yablo's view,

But recall from Sect. 2 that Frege is not concerned with felicity constraints on claims.



²¹ Note that Potts (2015, p. 168) does *not* define 'at-issue content' in that way (as far as I see, he has never offered a definition); he rather notes that that term 'corresponds' to Fregean sense and to Grice's notion of 'what is said', and he also explains at-issueness in terms of the 'speaker's central message'.

Frege ought to have said that there are at least some non-catastrophic presupposition failures.

Now some scholars construe 'still' not as a presupposition trigger but instead as a device that carries a conventional implicature (see, e.g., Horn, 2007, p. 49). However, what is at issue here is not the distinction between these two contemporary notions but rather the difference between the modern notions and Frege's. So let us suppose, for the sake of argument, that 'still' is indeed an example of presupposition. For Frege, in contrast, 'still' is not an F-presupposition trigger but rather an example of what he calls 'colouring' or 'hinting'.²³ On Frege's view, there are at least three phenomena that ought to be distinguished here:

- (a) F-presuppositions (proper names) convey an alethically relevant content that is not part of the *Sinn* of a sentence.
- (b) Multi-propositional sentences ('know', 'because', 'after' etc.) convey several alethically relevant contents that are part of the *Sinn* of a sentence.
- (c) Colourings or hints ('still', 'cur, 'alas', 'but' and many other words) convey a content that is alethically irrelevant.

Note that all of these phenomena involve devices that convey projective contents and that may thus look similar when you apply the 'usual tests' to them, but from a Fregean perspective this is not a particularly good reason for lumping them together. Frege's reason for treating 'still' not as an example of F-presupposition is precisely that 'still' neither affects the thought expressed by the rest of the sentence nor conveys a separate thought. The thought expressed by (7) is simply the proposition that Alfred has not come. Thus, what distinguishes such cases of colouring from F-presuppositions is the very fact that, in the case of colouring, failures cannot possibly be catastrophic. For illustration, consider another example: when a speaker S utters.

(8) The cur howled the whole night (Logik 152; FR 240),

S thereby conveys a negative attitude towards a certain dog. However, the thought expressed by (8) is simply the thought *that the dog howled the whole night*, and if this is the case, then (8) expresses a true thought quite independently of S's actual attitudes. (If S has a positive or a neutral attitude towards the dog, S's utterance will be infelicitous but still true.)²⁴ F-presupposition failures, on the other hand, may be catastrophic; that is exactly what is constitutive of a *Voraussetzung*.

So, contrary to Yablo's suggestion, 'still' is not a counterexample to Frege's account. Nevertheless, Frege's claim that the use of singular terms *always*

²⁴ Since items such as 'still' or 'but' are alethically irrelevant, they cannot give rise to substitution problems. If 'She is poor, but she is honest' is true, then 'She is poor, but 3 is prime' is true as well, although, as Frege (SB 44) notes, the 'illumination' of the latter sentence seems inappropriate.



²³ For Frege, 'colouring' is a term that covers any kind of 'information' that is part of a sentence's content (*Inhalt*) but which has nothing to do with the expression of thoughts (KÜ 214; FR 300). Cf. Neale (1999), Horn (2007, 2013), Künne (2010, pp. 444–454), Sander (2019, 2021).

presupposes a *Bedeutung* (SB 39) is, if taken at face value, clearly too strong.²⁵ For example, it has long been known that predicative uses of descriptions ('Macron isn't the king of France') are frequently non-catastrophic (Geach, 1950, p. 85; Strawson, 1964, p. 112). And there also non-catastrophic sentences such as 'The king of France has his hand on your shoulder' (Fodor, 1979, p. 201) where a vacuous term appears in subject position. But note that such counterexamples pose no threat to Frege's general idea. One may still claim that it is only proper names that *may* have catastrophic consequences, whereas items such as 'know' or 'still' are guaranteed to be non-catastrophic.

7 The asymmetry between concept words and names

In Sect. 2, I showed that Frege never officially acknowledged F-presupposition triggers that aren't proper names, and in the last two sections I discussed Frege's reasons for not treating items such as 'know' or 'still' as examples of F-presupposition, but instead as examples of multi-propositionality or colouration. Now is there is a reason why only proper names can lead to the semantic 'catastrophe' Frege was concerned with? Frege is committed to a general distinction between proper names and functions, and it is clear why names can cause such problems: a proper name may be vacuous such that the sentence it is part of will fail to refer to a truth-value (or, on his early view, fail to express a thought).

Can the same problem arise for concepts or functions in general? I don't think so. What, at first glance, may seem like a counterpart to empty terms in the realm of concepts, i.e. empty predicates, clearly does not generate problems of that kind. Whatever you substitute for ξ in ' ξ is different from itself' or ' ξ is a unicorn', the resulting sentence will, as Frege repeatedly insists, express a false thought (cf. ASB 133, LPM 193; GLA, § 74, FA 87).

What about concept words that express partial functions or that are semantically defective in other ways (ill-defined, vague, etc.)? For instance, one might argue that the sentence '5 is a unicorn' is neither true nor false since the notion of unicorn hasn't been defined for abstract objects. It seems clear, however, that on Frege's view sentences involving defective concept words not only lack *Bedeutung* but also *Sinn*. That concepts must have clear boundaries is a recurrent leitmotif in Frege's works:

A definition of a concept (a possible predicate) must be complete; it has to determine unambiguously for every object whether it falls under the concept or not (whether the predicate can be applied to it truly). Thus, there must be no object for which, after the definition, it remains doubtful whether it falls under the concept, even though it may not always be possible, for us humans, with our deficient knowledge, to decide the question. Figuratively, we can also

²⁵ Frege clearly would not claim that names occurring in indirect speech carry existential presuppositions. So the word 'always' should be taken with a grain of salt.



express it like this: a concept must have sharp boundaries. (GGA II, § 56; BLA II, 69)

Predicates that do not meet this constraint of having 'sharp boundaries' are just 'concept-like constructions' (*begriffsartige Bildungen*) and sentences containing such predicates will not express 'any graspable sense'. This does not mean, of course, that the word 'Christian', which is one of Frege's examples of such a predicate (GGA II, § 56; BLA II, 69), is as non-sensical as the pseudo-sentence 'Every anej bazes at least two ellah' (cf. GLG 297; CP 297), but it lacks *Sinn* nonetheless. Accordingly, neither empty predicates nor ill-defined predicates may result in sentences expressing a thought without having a truth-value (cf. LPM: 193-4, PW 178-9). Such a 'catastrophe' may happen only as a result of vacuous terms. (There is one passage in Frege's works that seems to suggest otherwise; I shall defer discussion of it until the next section.) On Frege's mature view of F-presupposition failure, there is then indeed only one kind of presupposition trigger, i.e. names.

On Frege's early view, in contrast, a sentence involving a vacuous name won't express a thought in the first place. Accordingly, a definition of presupposition failure in terms of reference failure would not make much sense on such a view. All that is available to proponents of the early view is a general notion of nonsense, which may be due either to employing a non-referring name or to using an ill-defined concept-word.

8 Final interlude: Christians, square roots, and mythical plants

In the previous section I claimed that, on Frege's mature view, there is a fundamental asymmetry between names and concept words: names may have a sense while lacking *Bedeutung* whereas concept words may lack a *Bedeutung* only if they do not express a graspable sense. Accordingly, an indeterminate concept word may result in some kind of nonsense but not in a genuine truth-value gap. There is, however, a passage in one of Frege's posthumous works that may suggest that there are also concept words that have *Sinn* while lacking *Bedeutung*. If that were Frege's considered view, it would be hard to explain why Frege mentions only proper names as F-presupposition triggers. If presupposition failures

²⁶ Couldn't one argue (as a referee did) that Frege's 'concept-like constructions' are not *terms* such as 'heap', but instead 'unsharp predicative entitities', i.e. the *Bedeutungen* of such expressions? First, such a reading does not fit well with Frege's using the term 'construction' (*Bildung*), which he uses frequently when talking about the formation of symbols or the products of such formations (see, e.g., SB 42; FR 164, LPM 195; CP 180). Second, a defence of such a reading would require explaining away several passages (see, e.g., ASB 133; FR 178) in which Frege appears to deny that vague terms have a *Bedeutung* in the first place. For a detailed attempt to that effect, see Puryear who argues that, for Frege, 'unsharp concept-words lack a *Bedeutung from the logical point of view*' (2013, p. 129), but not a *Bedeutung* (full stop). See also Künne (2010, pp. 262–3) who considers (but rejects) the claim that vague concept-words may have a *Bedeutung* that is dependent on the sentential context. For reasons of space, I shall here assume that the near consensus view (according to which vague terms lack a *Bedeutung*) is right.



are, ultimately, failures of reference, then why don't we also F-presuppose that the concept words we use refer to concepts?

So let us take a closer look at the passage mentioned above. Here is what Frege ASB 133; FR 178) says:

(ASB) It must be determinate for every object whether it falls under a concept or not; a concept word which does not meet this requirement on its *Bedeutung* is *bedeutungslos*. E.g. the word 'μῶλυ' (Homer, Odyssey X, 305) belongs to this class, although it is true that certain marks are supplied. For this reason, the context cited need not lack a sense (*braucht jene Stelle noch nicht sinnlos zu sein*), any more than other contexts in which the name 'Nausicaa', which probably does not stand for (*bedeutet*) or name (*benennt*) anything, occurs. But it behaves as if it names a girl, and it is thus assured of a sense.

There is a discernible tension between this passage and other post-1891 writings mentioned in the last section. In his 'Logik in der Mathematik', Frege clearly says that expressions defined by conditional definitions or by 'implicit definitions' do not have a sense (LM 248, PW 230; LM 230, PW 213), and in his *Grundgesetze* he asks two rhetorical questions:

(GGA) [1] Would, for example, the proposition, 'Every square root of 9 is odd', have any graspable sense if *square root of* 9 were a concept without sharp boundaries? [2] Does the question, 'Are we still Christians?', indeed have a sense if it is not determined to whom the predicate *Christian* can be truly applied and from whom it must be withheld? (GGA II, § 56; BLA II, 69-70; numerals added).

How might we deal with that tension? There are two salient options. First, one may claim that Frege seriously considered both accounts, opting eventually for the radical view of denying *Sinn* as well as *Bedeutung* to sentences containing vague terms (cf. Williamson, 1994, p. 46). This, however, seems to entail that Frege failed to give a definite content to his own technical terms. If *Sinn* is a legitimate and clear notion, shouldn't it have been more or less obvious to Frege whether vague concept words do have a sense? Given the principle of charity, this is exegetically a less-than-ideal solution. Second, one may offer a reading of (ASB) and (GGA) which shows that the tension between these two passages is only apparent.

On the one hand, one may claim that (ASB) presents Frege's official account while (GGA) only appears to say that vague terms do not have a sense. This is the reading favoured by Künne (2010, p. 265). Künne claims that, in (GGA) [2], Frege uses 'Sinn' not as a technical term but more colloquially. Accordingly, Frege's question ought to be rendered thus: 'Does it make sense to ask the question whether we are still Christians?' But Künne's proposal does not appear to work for (GGA) [1], which is about the content of an assertive utterance. Moreover, we would also need an explanation for why Frege, in his 'Logik in der Mathematik', claimed that conditional definitions do not confer a sense to their definienda (while also claiming that the fictional name 'Scylla' does have a sense; LM 243, PW 225).



Accordingly, I think the best way to maximize coherence is to take (GGA) at face value and to show that (ASB) is less committal than it may appear. So how might we reconcile these two passages? The first thing to note is that Frege, in (ASB), does not claim that 'moly' indeed has a sense. His wording is much more careful: he says that the passage involving 'moly' need not lack a sense. The second important thing is that Frege's treatment of 'moly' is part of a discussion of the difference between extensional and intensional accounts of logic (Umfangslogik vs. Inhaltslogik). Here Frege partially sides with the extensional approach. What intensional logicians overlook, on his view, is that in logic, as in science in general, mere sense is not enough: we ought to take the step from sense to reference (ASB 133; FR 178). Now when talking about such a step, Frege frequently uses fiction as an example where such a step obviously cannot be taken (cf. SB 33): in contrast to scientific terms such as 'the celestial body most distant from the earth' (SB 28; FR 153) that may have a Bedeutung, fictional terms such as 'Sherlock Holmes' obviously lack Bedeutung. And if Frege is primarily interested in that contrast, his claim that 'moly' need not lack sense ought not to be understood as asserting that that term does have a sense but rather as a mere concession that it might have.²⁷ What is dialectically important for Frege is only that it plainly lacks *Bedeutung*. ²⁸

So I think that Frege's considered post-1891 view is that a concept word may only lack *Bedeutung* if it also lacks sense, and, given some Fregean assumptions, such a view may also be systematically more attractive than the alternative. First, compare the Homerian example to the description 'the largest prime number'. Since Euclid, it has been known that this description does not pick out a number, but this can only be known because the complex concept word 'x is a prime number & x is larger than any other prime number' has a graspable sense. In contrast, a term such as 'moly' lacks clear boundaries: the *Odyssey* tells us only that moly is a plant with black roots and petals white as milk. Of course, there are such plants, but we don't know which (if any) of these plants is meant. Accordingly, one might say that a sentence such as

(9) This plant (which has black roots and white petals) is moly.

does not only lack *Bedeutung*. Things are actually worse here than in the case of 'the largest prime number', which is provably a non-referring term. We cannot know whether (9) is true or false, and this is plausibly due to a lack of graspable sense.²⁹

The second point is this: as far as I see, nearly all Frege scholars assume that Frege's notion of sense is subject to a particular cognitive criterion, which is most clearly articulated in one of his posthumous writings:

²⁹ For essentially the same reasons, fictional names may, at best, have only a 'partial sense'. As Dummett (1981, p. 160) has noted, 'there is no saying what would warrant identifying actual people as their bearers'.



²⁷ More specifically, Frege's dialectical move here may not be a genuine concession but rather a mere 'transeat', i.e. an 'admission of the irrelevant' (see Angelelli 1970, p. 808).

²⁸ Cf. Diamond (1995, p. 159) who similarly claims that Frege ascribes sense to 'mōly' 'only in an attenuated way'.

Now two sentences A and B can stand in such a relation that anyone who recognizes the content of A as true must straightaway (ohne weiteres) also recognize the content of B as true and, conversely, that anyone who accepts the content of B must immediately (unmittelbar) accept that of A (equipollence). ... So one has to separate off from the content of a sentence that part that alone can be accepted as true or rejected as false. I call this part the thought expressed by the sentence. It is the same in equipollent sentences of the kind given above. (KÜ 213, FR 299f)

This criterion, which is clearly not without its problems (see Sander, 2016; Textor, 2018), suggests that sense is 'transparent': you cannot possibly know the sense of two words w₁ and w₂ without knowing immediately whether w₁ and w₂ express the same sense, and if sense is indeed transparent, then the same should go for other semantic relations such as incompatibility (think, for instance, of 'rich' and 'poor').³⁰ Now it seems as though the content conveyed by vague concept words is not transparent: you can grasp the content of two vague expressions without knowing how exactly they are semantically related. Think, for instance, of the two words 'burger' and 'sandwich': ordinary speakers can successfully apply these two words to prototypical burgers and paradigmatic sandwiches, but as soon as questions such as 'Is a hamburger a kind of sandwich?' arise, they are in a quandary, and this may be a reason for denying sense to such terms. Such a view might appear 'ruthless' (Williamson, 1994, p. 46), but on closer inspection it may turn out to be rather innocuous: Sinn, after all, is a specific kind of cognitive content that, as Burge has argued again (1979) and again (1990), ought not to be confused with linguistic meaning, and while denying meaning to such words as 'heap' would indeed be hopeless, denying sense to them is a defendable view.

9 Conclusion

Some scholars have claimed that certain misreadings of Frege are due to our projecting current concepts and current research interests onto Frege's works. For instance, as mentioned in the last section, Burge has argued that we shouldn't confuse Frege's notion of *Sinn* with the contemporary notion of meaning. Similarly, Harcourt (1999) claims that Frege's account of indexicals has been frequently misunderstood because scholars have failed to ask why Frege was interested in words such as 'I' or 'here', and Smith (2000) has argued that the prevailing scepticism concerning Frege's judgment-stroke is due to a particular modern conception of logic, not shared by Frege.

What I've been attempting to show in this paper is, similarly, that Frege's notion of *Voraussetzung* is not to be confounded with the current notion of presupposition. Thus, Frege's focus on *Eigennamen* is not due to a lack of interest in the 'full range' of presuppositional phenomena. Since Frege's interest in what he called 'Voraussetzungen' was primarily sparked by the problem of truth-value gaps, his notion of

³⁰ This is rarely acknowledged in the literature, but see Horty (2007, p. 9).



F-presupposition covers considerably fewer phenomena than its modern descendant. Sentences containing proper names may fail to have a truth-value. Sentences containing presupposition triggers such as 'know' or 'still' may not (or, more exactly, not for the reason that they do contain such triggers); they rather express sequences of entangled thoughts or merely imbue a sentence with some kind of colouring.

Now should we care about Frege's idiosyncratic notion of F-presupposition? We probably shouldn't if the descendant notion were an essential part of a largely successful and generally accepted theory of presupposition. Exaggerating somewhat, there is, however, no such theory. There are, more specifically, at least two significant problems surrounding presuppositions that have not yet been solved. First, the status of semantic presuppositions is uncertain: while many, perhaps most, contemporary theorists think that presuppositions do come in two flavours, semantic and pragmatic, some others have argued that semantic presupposition is a myth (Boër & Lycan, 1976; Grice, 1989, pp. 269–282; Bach, 1999, pp. 328–329). Second, the borderline between presupposition and its 'close neighbor' (Abbott, 2006, p. 2), conventional implicature, has proven to be rather permeable: many linguistic devices such as appositives, clefts, expressives, words such as 'even' etc. have appeared on either side of the border. More generally still, there are several mutually incompatible theories and taxonomies of 'non-at-issue', 'procedural' or 'use-conditional' contents (see, e.g., Horn, 2007, 2013; Predelli, 2013; Gutzmann, 2015; Wilson, 2016), and some scholars have explicitly proposed to abandon traditional categories such as presupposition in favour of more fine-grained successor notions (Tonhauser et al., 2013; Potts, 2015, pp. 191–193). In such a theoretical predicament, Frege's original notion of Voraussetzung deserves more attention as a theoretical competitor. More specifically, Frege's idea that existential presupposition is a phenomenon sui generis may be worth a closer look.

Acknowledgements Thanks for comments on different versions of this paper go to Lars Dänzer, Miguel Hoeltje, Lukas Schwengerer, and to two anonymous referees for *Synthese*.

Funding Open Access funding enabled and organized by Projekt DEAL. Funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)—439302327.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.



References

Works by Frege (with abbreviations)

Frege, G. (1884). Dialog mit Pünjer über Existenz. In (NS), 60–75. (=DPE)

Frege, G. (1892a). Über Sinn und Bedeutung. Zeitschrift für Philosophie und Philosophische Kritik, 100, 25–50. (=SB)

Frege, G. (1892b). Über Begriff und Gegenstand. Vierteljahresschrift für wissenschaftliche Philosophie, 16, 192–205. (=BG)

Frege, G. (1892–5). Ausführungen über Sinn und Bedeutung. In (NS), 128–36. (=ASB)

Frege, G. (1893/1903). Grundgesetze der Arithmetik. Begriffsschriftlich abgeleitet. Jena: Hermann Pohle. (=GGA)

Frege, G. (1897). Logik. In (NS), 137-163. (=Logik)

Frege, G. (1906). 17 Kernsätze zur Logik. In (NS), 189–90. (=17KS)

Frege, G. (1906a). Über Schoenflies: Die logischen Paradoxien der Mengenlehre. In (NS), 191-9. (=LPM)

Frege, G. (1906b). Über die Grundlagen der Geometrie. *Jahresberichte der Deutschen Mathematiker*-Vereinigung, 15, 293–309; 377–403; 423–30. (=GLG)

Frege, G. (1906c). Kurze Übersicht meiner logischen Lehren. In (NS), 213–8. (=KÜ)

Frege, G. (1918). Der Gedanke. Beiträge zur Philosophie des deutschen Idealismus, 1, 58–77. (=Ged)

Frege, G. (1976). Wissenschaftlicher Briefwechsel. (Ed. G. Gabriel et al.) Hamburg: Meiner. (=WB)

Frege, G. (1979). Posthumous Writings. (Ed. H. Hermes et al.) Oxford: Blackwell 1979. (=PW)

Frege, G. (1980). *Philosophical and Mathematical Correspondence*. (Ed. G. Gabriel et al.) Oxford: Blackwell 1979. (=PMC)

Frege, G. (1983). Nachgelassene Schriften. (Ed. H. Hermes et al.) Hamburg: Meiner 1983. (=NS)

Frege, G. (1984). Collected Papers on Mathematics, Logic, and Philosophy. (Ed. B. McGuinness.) Oxford: Blackwell. (=CP)

Frege, G. (1997). The Frege Reader. (Ed. M. Beaney.) Oxford: Blackwell 1997. (=FR)

Frege, G. (2013). Basic Laws of Arithmetic. Derived using concept-script. (Ed. P. Ebert & M. Rossberg.) Oxford: OUP 2013. (=BLA)

Other works

Abbott, B. (2006). Where have some of the presuppositions gone? In B. J. Birner & G. Ward (Eds.), *Drawing the boundaries of meaning* (pp. 21–30). John Benjamins.

Angelelli, I. (1970). The techniques of disputation in the history of logic. *The Journal of Philosophy*, 67, 800–815.

A. Gellii noctium atticarum libri XX (1903), ed. C. Hosius, Leipzig: Teubner.

Bach, K. (1999). The myth of conventional implicature. *Linguistics and Philosophy*, 22, 327–366. https://doi.org/10.1023/A:1005466020243

Black, M. (1962). Models and metaphors. Cornell University Press.

Boër, S., & Lycan, W. (1976). The Myth of Semantic Presupposition. Working Papers in Linguistics, 21, 1–90. https://kb.osu.edu/handle/1811/81405

Burge, T. (1979). Sinning against Frege. The Philosophical Review, 88(3), 398–432. https://doi.org/ 10.2307/2184957

Burge, T. (1990). Frege on sense and linguistic meaning. In his *Truth, Thought, Reason* (pp. 242–269), Oxford: Clarendon Press.

Chierchia, G., & McConnell-Ginet, S. (1990). *Meaning and grammar: an introduction to semantics*. The MIT Press.

Diamond, C. (1995). The realistic spirit: Wittgenstein, philosophy, and the mind. The MIT Press.

Dummett, M. (1981). Frege: Philosophy of language (2nd ed.). Harvard University Press.

Dummett, M. (2007). Reply to Eva Picardi. In R. E. Auxier & L. E. Hahn (Eds.), *The philosophy of Michael Dummett* (pp. 521–529). Open Court.

Evans, G. (1982). The varieties of reference. OUP.



- Fodor, J. D. (1979). In Defense of the truth value gap. In C.-K. Oh & D. A. Dinneen (Eds.), *Syntax and semantics* (Vol. 11: Presupposition, pp. 199–224). Academic Press.
- Geach, P. T. (1950). Russell's theory of descriptions. *Analysis*, 10, 84–88. https://doi.org/10.2307/3326446
- Geach, P. T. (1965). Assertion. The Philosophical Review, 74, 449–465. https://doi.org/10.2307/ 2183123
- Glock, H.-J. (2015). Nonsense made intelligible. *Erkenntnis*, 80, 111–136. https://doi.org/10.1007/s10670-014-9662-5
- Grice, H. P. (1989). Studies in the ways of words. Harvard University Press.
- Gutzmann, D. (2015). Use-conditional meaning: Studies in multidimensional semantics. OUP.
- Harcourt, E. (1999). Frege on 'I', 'Now', 'Today' and some other linguistic devices. *Synthese*, 121, 329–356. https://doi.org/10.1023/A:1005161620492
- Horn, L. (1996). Presupposition and implicature. In S. Lappin (Ed.), *The handbook of contemporary semantic theory* (pp. 299–319). Wiley Blackwell.
- Horn, L. (2007). Toward a Fregean Pragmatics: Voraussetzung, Nebengedanke, Andeutung. In E. Kecskes & L. Horn (Eds.), Explorations in pragmatics (pp. 39–69). de Gruyter.
- Horn, L. (2009). On F-implicature: Myth-analysis and Rehabilitation. Retrieved July 28, 2021, from https://web.eecs.umich.edu/~rthomaso/lpw08/Horn_LPW.pdf.
- Horn, L. (2013). I love me some datives: Expressive meaning, free datives, and F-implicature. In D. Gutzmann & H.-M. Gärtner (Eds.), Beyond expressives: Explorations in use-conditional meaning (pp. 151–199). Brill.
- Hovens, F. (1997). Lotze and Frege: The dating of the 'Kernsätze.' History and Philosophy of Logic, 18, 17–31. https://doi.org/10.1080/01445349708837270
- Horty, J. (2007). Frege on definitions: A case study of semantic content. Oxford University Press.
- Karttunen, L. (2016). Presupposition: What went wrong? Proceedings of SALT, 26, 705–731. https://doi.org/10.3765/salt.v26i0.3954
- Kripke, S. (2008). Frege's theory of sense and reference: Some exegetical notes. *Theoria*, 74, 181–218. https://doi.org/10.1111/j.1755-2567.2008.00018.x
- Kripke, S. (2009). Presupposition and anaphora: Remarks on the formulation of the projection problem. *Linguistic Inquiry*, 40, 367–386.
- Künne, W. (1992). Hybrid proper names. *Mind*, 101, 721–731. https://doi.org/10.1093/mind/101.404.
- Künne, W. (2010). Die Philosophische Logik Gottlob Freges. Klostermann.
- Levinson, S. (1983). Pragmatics. Cambridge University Press.
- Neale, S. (1999). Coloring and composition. In K. Murasugi & R. Stainton (Eds.), *Philosophy and linguistics* (pp. 35–82). Westview Press.
- Potts, C. (2015). Presupposition and implicature. In S. Lappin & C. Fox (Eds.), *The handbook of contemporary semantic theory* (2nd ed., pp. 168–202). Wiley Blackwell.
- Predelli, S. (2013). Meaning without truth. Oxford University Press.
- Puryear, S. (2013). Frege on vagueness and ordinary language. *The Philosophical Quarterly, 63*, 120–140. https://doi.org/10.1111/j.1467-9213.2012.00103.x
- Russell, B. (1957). Mr. Strawson on referring. *Mind*, 66, 385–389. https://doi.org/10.1093/mind/LXVI.263.385
- Sander, T. (2016). Freges Kriterien der Sinngleichheit. Archiv für Geschichte der Philosophie, 98, 395–432. https://doi.org/10.1515/agph-2016-0019
- Sander, T. (2019). Two misconstruals of Frege's theory of colouring. *The Philosophical Quarterly*, 69, 374–392. https://doi.org/10.1093/pq/pqy054
- Sander, T. (2021). Fregean side-thoughts. *Australasian Journal of Philosophy*, 99(3), 455–471. https://doi.org/10.1080/00048402.2020.1795216
- Schiffer, S. (1981). Indexicals and the theory of reference. Synthese, 49, 43–100. https://doi.org/10. 1007/BF01063915
- Sellars, W. (1954). Presupposing. The Philosophical Review, 63, 197–215. https://doi.org/10.2307/2182346
- Seneca (1925). Ad Lucilium epistulae morales. (Ed. R.M. Gummere.) Heinemann.
- Sigwart, C. (1873). Logik. Erster Band: Die Lehre vom Urtheil, vom Begriff und vom Schluβ. H. Laupp.
- Smith, N. (2000). Frege's judgement stroke. Australasian Journal of Philosophy, 78, 153–175. https://doi.org/10.1080/00048400012349451



- Soames, S. (1976) A critical examination of Frege's theory of presupposition and contemporary alternatives. PhD diss., MIT, 1976. https://dspace.mit.edu/handle/1721.1/38231
- Soames, S. (1989). Presupposition. In D. Gabbay & F. Guenthner (Eds.), *Handbook of philosophical logic* (Vol. IV, pp. 533–616). Reidel.
- Strawson, P. (1964). Identifying reference and truth-values. *Theoria*, 30, 96–118. https://doi.org/10. 1111/j.1755-2567.1964.tb00404.x
- Textor, M. (2015). Frege's theory of hybrid proper names extended. *Mind*, 124, 823–847. https://doi.org/10.1093/mind/fzv032
- Textor, M. (2018). Frege's recognition criterion for thoughts and its problems. *Synthese*, 195, 2677–2696. https://doi.org/10.1007/s11229-017-1345-8
- Tonhauser, J., Beaver, D., Roberts, C., & Simons, M. (2013). Toward a taxonomy of projective content. *Language*, 89, 66–109. https://doi.org/10.1353/lan.2013.0001
- Veraart, A. (1976). Geschichte des wissenschaftlichen Nachlasses Gottlob Freges und seiner Edition. In M. Schirn (Ed.), *Studien zu Frege I* (pp. 49–106). Frommann-Holzboog.
- Williamson, T. (1994). Vagueness. Routledge.
- Wilson, D. (2016). Reassessing the conceptual-procedural distinction. *Lingua*, 175–176, 5–19. https://doi.org/10.1016/j.lingua.2015.12.005
- Yablo, S. (2006). Non-catastrophic presupposition failure. In J. Thomson & A. Byrne (Eds.), *Content and modality: Themes from the philosophy of Robert Stalnaker* (pp. 164–190). Clarendon Press.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

