

FACTS, FACTIVES AND CONTRA-FACTIVES¹
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TO BEGIN, AS IS MEET AND RIGHT, WITH FREGE

Towards the end of 'On Sense and Reference' we find the following:

In the sentence:

Bebel fancies that the return of Alsace-Lorraine would appease
France's desire for revenge

two thoughts are expressed ... *viz.*:

(1) Bebel believes that the return of Alsace-Lorraine would appease
France's desire for revenge

(2) the return of Alsace-Lorraine would not appease France's desire
for revenge

... Similar considerations apply to expressions such as 'know', 'discover', 'it is known that'.²

Thus Frege starts what is perhaps the first discussion of factives with a putative contra-factive. But there is something wrong, at least with the translation. Clearly 'fancy' doesn't really require the falsity of the complement: one can fancy something to be the case that turns out to be true. At most there is some kind of conversational implicature that what is fancied to be true is in fact false, an implicature that can easily be cancelled.

One's first thought is that Max Black, the translator, has simply made a bad choice for Frege's original German term, which is 'wähnen'. But when one tries to find an alternative English term that would indeed semantically entail or presuppose (2), none comes to mind. (Feigl gives 'imagines', but that is no better.) Indeed it is unclear

¹ This paper has spent an unduly long time in the writing. Earlier versions were given at the 2009 AAP in Melbourne, at the Moral Sciences Club in Cambridge in 2012, at the Propositions and Propositional Attitudes workshop in Paris in 2012, and at seminars at MIT, Bristol, Oxford and Chapel Hill. I am grateful for the excellent discussion it received on those occasions, and to Kai von Fintel, Justin Khoo, Jennifer Nagel, Alex Oliver, Jonathan Schaffer and Tim Williamson for comments on the written version. Comments from an unconvinced referee for another journal led to many improvements. Special thanks to Steve Yablo, who not only provided much inspiration and discussion, but also trusted me with teaching the undergraduate philosophy of language class that got me thinking about these topics.

² G. Frege, *Collected Papers* ed. B. McGuinness (Oxford: Basil Blackwell, 1984) pp. 174–5.

whether Frege was right about the German. ‘Wähnen’ is now obsolete, and native speakers lack clear intuitions about whether it entails the falsity of the complement, or merely pragmatically implicates it.³ This is in stark contrast to the positive factives that Frege cites: ‘know’/‘discover’ and ‘it is known’, and their equivalents in German, clearly do require the truth of their complement clauses in some robust, non-cancellable way.

So, in teaching ‘On Sense and Reference’ one tries to find other examples of the kind of thing that Frege was after: of something that stands to falsehood as ‘knows’ stands to truth. Or at least, since Frege himself said little about how core factives like ‘knows’ should be characterized, let me be clear about what I would like to find. A suitable contra-factive would need to express a mental attitude (so ‘It is false that ...’ doesn’t count); the attitude would need to be to something expressed by a sentential complement, i.e. by a *that*-clause (so ‘I misremembered *what* he told me’ doesn’t count); the attitude would need to be a mental *state*, expressed by a verb that is stative, one that does not take the progressive; and the verb would need to be atomic, not composed out of parts (so ‘I falsely believed that ...’ doesn’t count). Most centrally, it would need to stand to the falsity of its complement as factives stand to the truth of theirs. Quite what that relationship is—whether it is a form of presupposition or a form of entailment—is an issue that we can postpone. We have a good enough grip to undertake the task of looking for examples: that is, of looking for *contra-factive mental state operators*, or as I shall often simply call them, *contra-factives*.

Remarkably enough, I have drawn a blank. Although the semantic role is perfectly clear and useful, one just doesn’t find such verbs in English. Frequently one finds that those one turns up don’t take sentential complements, even when their contraries do (one establishes that *p*, but one doesn’t refute *that p*; one knows that *p*, but one isn’t deceived *that p*; one perceives that *p*, but one isn’t deluded *that p*; one reveals that *p* but one doesn’t lie *that p*). Other plausible candidates (‘pretend that’; ‘wish that’; ‘hallucinate that’—the last of dubious grammaticality anyway) aren’t stative and don’t require the falsity of their complements; at most they implicate it in ways that can be easily cancelled (‘I wished that I had been chosen, and it turned out that I had’). One generally finds that one cannot add negating prefixes to propositional attitude factives to obtain contra-factives, not even when the same prefixes can be affixed to related constructions that don’t take *that*-clauses. So, though from

I remembered her phone number
we can get

³ English-German dictionaries are no clearer: PONS and Beolingus both give ‘to believe (wrongly)’; Collins gives ‘to imagine (wrongly)’; and Duden gives ‘to think [mistakenly]’. Presumably the parentheses are marking the lexicographers’ uncertainty about the status of the mistake. Monolingual German dictionaries are similarly unclear. In contemporary German the word is most commonly used in the reflexive expression ‘sich sicher wähnen’—to imagine oneself to be safe—and most informants take any imputed mistake to be cancellable.

I misremembered her phone number
from the form that takes a sentential complement

I remembered that she had a phone
we cannot, or at least cannot easily, get

*I misremembered that she had a phone.

Likewise from

Jenkins estimated the size of the crowd
we can get

Jenkins misestimated the size of the crowd;
whereas from the non-factive

Jenkins estimated that the crowd was extensive
we cannot easily get something that would be contra-factive were it well-formed:

*Jenkins misestimated that the crowd was extensive.⁴

The problem here doesn't just stem from a general prohibition on adding negating prefixes to propositional attitude verbs. There are fairly clear examples of propositional attitude verbs that can be successfully negated in this way, but crucially they do not give rise to contra-factives:

Because modest is the character of woman, I misinferred that no
woman must be shown without it (*OED*)

We cannot disown that it has one fault (*OED*)

These are not contra-factives, since to misinfer is to mistakenly infer, not to infer something false; and likewise, to disown is to fail to admit, not to admit something false.

One possible candidate for a contra-factive is 'to be mistaken that', as in:

At first I thought I was mistaken that the clerk was ignoring me
(from racerchicks.com)

⁴ There is a whole list of verbs that behave like this: calculate/miscalculate; judge/misjudge; understand/misunderstand; report/misreport; state/misstate. I have ordered this list in terms of decreasing unacceptability; one can find on the web plenty of instances of the later terms used with *that*-complements, but they still strike me as bad. Even if they are not bad, they are not counter-examples to my conjecture, since (i) they are plausibly compound, (ii) they are typically not stative, and (iii) they do not typically presuppose the falsity of the complement: for example, to misreport is to get one's report wrong; if one was mistaken in the first place, the report might end up true.

Herne was mistaken that the elevator fell 12 stories (from elevator-expert.com)

But these are of borderline acceptability, and anyway involve not a straightforward atomic propositional attitude verb but a compound made up from an adjective and the copula. When 'mistake' really works as a verb it cannot take a sentential complement. Contrast the acceptable

I mistook the clerk for a customer

with the unacceptable

*I mistook that the clerk was ignoring me.

As a final group of possible candidates consider the constructions 'to fool (deceive, delude) oneself' as in:

I fooled myself that I could do it.

These aren't examples of what we seek since they are not stative; but in case that seems like an arbitrary condition, let's examine its relevance here. Note that similar constructions don't work without the reflexive pronoun:

*I fooled Boris that I could do it.

In this case a reasonable suggestion about what goes wrong is that there are really two operators in play: there is what I am doing (fooling Boris), which is not a stative; and then there is the attitude that Boris gains as a result (believing that I could do it) which is stative. For the construction to work these need their own separate realization:

I fooled Boris into thinking that I could do it.

An attempt to squash them into one results in ungrammaticality. In the case of 'to fool oneself' of course both of these roles are played by the same person, and that makes it easy to elide the distinction, and makes the construction seem acceptable (I take no stand on whether it is truly grammatical). But the fact that 'to fool' is not a stative brings out that it is not really characterizing a mental state.

It is easy to get lost in the complexities of some of these cases. What remains striking is the contrast with the factive case. There are a host of obvious mental factives in English. In contrast, there is no nice, clear, example of a contra-factive mental state operator. So, at the end of the search, I arrive at the

No Contra-factives Conjecture

There are no contra-factive mental state operators in English.

Surprisingly, the same appears to hold true of contemporary Spanish, French and German (which gives further reason for being sceptical of Frege's account of 'wähnen' even for 19th century German). Indeed I have yet to find a clear contra-factive in any

Indo-European language.⁵ Given the wealth of propositional attitude factives, such a finding calls for some explanation.

ANOTHER SURPRISING FINDING, FROM WILLIAMSON'S ACCOUNT OF KNOWLEDGE

Readers familiar with Timothy Williamson's account of knowledge will have been struck by the parallels between my characterization of the contra-factives that I seek, and his characterization of *factive mental state operators* (FMSOs). On Williamson's account, an FMSO is:

- (i) factive (which Williamson glosses in terms of entailment; we'll return to this);
- (ii) mental;
- (iii) stative;
- (iv) unanalyzable.⁶

Of course this is no coincidence; I have modelled my definition after his. Williamson makes the claim that 'to know' is the weakest FMSO. Like my claim about contra-factives, that is a non-existence claim: the claim that there are no FMSOs weaker than 'to know'. In particular—and this will be my focus—his claim entails that there are no FMSOs that require of the subject only that they believe what is expressed by the complement (together with whatever other information the factive adds: that the subject deplores it, welcomes it, derives it from a certain source etc.). And that too is a surprising claim. We can make perfectly good sense of, and see a perfectly good use

⁵ One possible exception in the literature comes from Puerto Rican Spanish, where the addition of a reflexive converts the ordinary belief verb into one that expresses scepticism about the thing believed: 'Juan se cree que todo está muy barato en el mercado' suggests that everything at the market isn't cheap. See Marilyn Shatz, Gil Diesendruck, Ivelisse Martinez-Beck, and Didar Akar, 'The Influence of Language and Socioeconomic Status on Children's Understanding of False Belief', *Developmental Psychology* 39, (2003). I am not sure what to make of this case; subjects I have consulted are unsure whether it requires falsehood or simply lack of knowledge on the ascriber's part. It is striking that again it involves a reflexive.

⁶ Williamson, *Knowledge and Its Limits* (Oxford: Clarendon Press, 2000) pp. 34–5. Of course we can create a new verb, 'to wrongthink that p', but our grip on that would be through our understanding of thinking and of negation; it would not be unanalyzable.

for, a factive that only required belief. Again then this seems to be something in need of an explanation, ideally of more explanation than Williamson gives.⁷

TWO BIRDS, ONE STONE

We have two surprising findings. I propose to explain them together, by means of:

The *Facts-for-factives conjecture*

The *that*-complements of factive mental state operators refer to facts.

On this view, factives, or at least FMSOs, are aptly named; their complements refer to facts.⁸ Mental state factives thus differ from both non-factive mental state operators (e.g. ‘believes that’), and from contra-factive non-mental state operators (e.g. ‘It is false that’), both of whose complements refer to propositions.

The Facts-for-factives conjecture is not new. It was endorsed, at least for ‘know’, by Vendler; and more recently for factives in general by Ginzburg.⁹ But I am proposing the conjecture for different reasons: for the work it does in explaining the absence of contra-factives, and in explaining Williamson’s observation. So let’s start by seeing how it might do that.

⁷ The request that Williamson say more is also pressed by John Hyman in ‘Knowledge and Evidence’, *Mind* 115 (2006) 891–916, and ‘The Most General Factive Stative Attitude’ *Analysis* 74 (2014) 561–5. Hyman argues that the relevant explanation is given once we think that knowledge is an ability, the ability to be guided by the facts. This account is consistent with what I say here, though not entailed by it. I remain neutral. I do, however, agree with Hyman that the relation of knowledge to the other factive mental states should not be understood as like that of genus to species. I want to understand it, at the linguistic level, in terms of presupposition—see below.

⁸ The aptness of the term seems to be fortuitous; so far as I know, the contemporary usage was introduced by the Kiparskys who were committed to no such view. See Paul Kiparsky and Carol Kiparsky ‘Fact’ in *Progress in Linguistics* ed. Manfred Bierwisch & Karl Erich Heidolph (The Hague & Paris: Mouton, 1970), pp. 143–73; reprinted in *Semantics* ed. Danny Steinberg and Leon Jakobovitz (Cambridge: Cambridge University Press, 1971) pp. 345–69. Page references will be to the reprint. Earlier uses of the term give it a different sense: Robert Lees wrote of ‘factive nominals’ in *The Grammar of English Nominalizations* (The Hague: Mouton, 1960), and the *OED* gives cases in which it meant ‘factive’.

⁹ Zeno Vendler, *Res Cogitans* (Ithaca: Cornell University Press, 1972); Jonathan Ginzburg, ‘Resolving Questions I’ *Linguistics and Philosophy* 18 (1995) 459–527; ‘Resolving Questions II’ *Linguistics and Philosophy* 18 (1995) 567–609.

HOW DOES THE CONJECTURE EXPLAIN THE LACK OF MENTAL STATE CONTRA-FACTIVES?

My argument works by means of an assumption of similarity of domain for factives and contra-factives: if there were any contra-factives the referents of their complement clauses would be of the same type as the referents of the complement clauses of factives. That means that they would have to be things like facts, only false; or, as we might put it, contra-facts. But so far as I know, no one has seriously suggested that there are such things. The whole point about facts is that they involve an asymmetry in this respect: a theory of facts is a theory that there are things that correspond to the true sentences, but no things that correspond to the false. So the reason that there aren't any contra-factives is that there aren't any contra-facts to be their referents.

HOW DOES THE CONJECTURE HELP EXPLAIN THE LACK OF AN FMSO THAT ONLY REQUIRES BELIEF?

The central idea is this: belief is possible in the absence of truth, so the objects of belief cannot in general be facts. Let us say, traditionally but as noncommittally as possible, that they are propositions. A mental state operator that is constructed out of the notion of belief will not be factive just in virtue of that construction. It will need to have the truth requirement added as an extra element. But then the attitude will not be unanalyzable: it will involve the synthesis of two elements, as when we say that someone truly believes. Now this perhaps involves a deeper sense of unanalyzability than might be expected from a focus just on the surface form of English: we are talking about whether things are conceptually atomic. I take it though that that is what is really at issue. Fundamentally we are after a conceptual thesis; the linguistic facts reflect this.

These considerations entail then that there will be no FMSO—no *unanalyzable* factive—that requires only belief as its mental component. They don't, however, give us the conclusion that 'to know' will be the weakest FMSO. It seems unlikely that there could be an infinite sequence of ever weaker FMSOs, but from all we have said so far there might be parallel orderings, not all of which terminate in knowledge; or there might be an unanalyzable factive state that is weaker than knowledge, though one, unlike belief, that takes facts as its object. Indeed, it may be that the relation of 'registering', as used by contemporary psychologists, provides an FMSO that is weaker than 'knows'—for instance, one can perhaps register that something is present without knowing that it is. So it may be contingent that (or whether) 'know' is the weakest—there is some plausibility to the idea that knowing is the most fundamental way of grasping a fact, but it would be good to have an argument for that.

HOW DOES KNOWLEDGE RELATE TO BELIEF?

I have explained two surprising findings by suggesting that knowledge and belief take different objects. But that might seem to be an even more surprising conclusion

than the findings it accommodated. At the very least, we need some explanation of how knowledge relates to belief. My suggestion is a version of the approach that Williamson advocates, under the slogan ‘Knowledge First’ (though as we shall see, he rejects the idea that the complements of factives are facts). Let me start with a Just-So story.

There was once a community who never spoke of beliefs, but only of the knowledge of facts. However, there were reformers in their midst. The reformers noticed that sometimes attempts at knowledge went wrong: sometimes people spoke as though they had grasped a fact when they hadn’t. The reformers wanted to describe the psychology of these mistaken people in ways parallel to the ways they described the psychology of people who did know things. They could say that they were mistaken *about* certain domains. But they wanted to go further than that: they wanted to characterize the precise ways in which the mistaken went wrong. So they started to talk *as if* there were things like facts that the mistaken ones were on to, even though there weren’t. That was a convenient way of keeping track of their mental states. And then it made sense to try for a common account of those who knew things and those who were mistaken. So rather than talking of facts known by the knowers, and things like facts that the mistaken thought they knew, they introduced a new term (‘believe’) which applied both to those who knew and to those who were mistaken. That worked well, and the community took up the reformers’ way since it was indeed very useful. But then the sticklers came along and asked whether the things that were believed by the knowers really were the same kind of things as the things believed by those who were mistaken; and they asked what were these things were, things that were a bit like facts but weren’t. And the people were hard pressed to say. They kept coming up with various proposals—sentences, structured propositions, classes of possible worlds and so on—but nothing worked perfectly. Still by and large things continued without trouble, since the sentences that occurred in the complements of their belief ascriptions worked pretty well to describe the things believed, and the practice was so terribly useful that no one seriously thought about giving it up.

Argument-by-analogy-to-fairy-tale is not the strongest in the philosopher’s toolbox, but I think that this can shed some light. I’m not claiming that it bears any resemblance to the historical truth, though a parallel has some plausibility as a developmental thesis: there is some evidence that, at least in their explicit, language-based understanding, children start out by grasping knowledge ascriptions, and only

later come to grasp belief ascriptions¹⁰, and that certain non-human primates can only understand knowledge, and not belief.¹¹ Nevertheless I suggest that how things ended up in the Just-So story is rather like how things are for us. Some statements about the relation between facts and propositions are clearly true. Wherever there is a fact there is a true proposition (and, plausibly, *vice versa*). Whenever someone knows that *p*, they believe that *p*; but sometimes people believe that *p* without knowing that *p*. However, as in the story, there just isn't enough specificity in our practice to go much beyond that. In particular, I doubt that our practice provides answers to an obvious set of questions that remain. Should we say that belief never takes a fact as the referent of its complement clause, but always a proposition? I have assumed that position so far. Or should we rather say that it takes a fact when it is true, and so there is one to be had, and otherwise takes a proposition? And if we take the latter course, in cases where there is a fact to be had, should we say that the believer also has a relation to a distinct proposition, or that the proposition is identical to the fact?

I can see some appeal in each of these options, though if I were to say that belief is sometimes a relation to a fact I would need to rephrase my argument as to why there are no FMSOs that require only belief. (I would restate it in terms of the relation to the fact not being fundamental.) I submit though that any choice, trading off considerations of theoretical elegance and adequacy, would have little to do with the underlying reality. The case is unlike that of, say, the physicist who posits the existence of some sub-atomic particle. If the Just-So story has some similarity to the truth, then talk of beliefs has come in as a convenient way of explaining human mental activity. Whilst there is surely a good neurological story to be told about the activity, what reason do we have for thinking that there must be an equally good story about the true nature of the objects of belief?

I suggest then that we should rest content with the idea, forcefully defended by Williamson, that knowledge is fundamental, adding that belief enters the scene to describe what happens when things go wrong, an idea that can take support from Williamson's contention that 'Believing *p* is treating *p* as if one knew *p*.' The situation

¹⁰ For an excellent symposium on the role of knowledge in psychological theory, see Jennifer Nagel 'Knowledge as a Mental State' in Tamar Gendler and John Hawthorne (eds.) *Oxford Studies in Epistemology* Vol 4, pp. 273–308, and the responses there. The literature on false belief ascriptions is complex and contested. For many years it had been the orthodoxy that children could not understand false belief ascriptions before the age of around four; for a representative summary of this approach see J. Perner, *Understanding the Representational Mind* (Cambridge: MIT Press, 1993) pp. 145–203. But recent research on visual attention has shown that even very young children (under a year) anticipate others' behaviour in a way that seems to require that they at least implicitly impute false beliefs. For a review see Renée Baillargeon, Rose M. Scott, and Zijiang He, 'False-belief understanding in infants' *Trends in Cognitive Science* 14 (2010) 210–18.

¹¹ Drew Marticorena, et al., 'Monkeys represent others' knowledge but not their beliefs' *Developmental Science* 14 (2011), 1406–16.

is rather similar to that with ontological commitment to objects. When people believe in something that doesn't exist, there is a tendency to reify the thing (there, I just did it) to simplify exposition:

Clara is outside looking for Santa Claus. If she finds him she's going to complain about the presents she got.

For neither belief nor Santa Claus should we take the reification too seriously.

Williamson himself rejects the Facts-for-factives approach.¹² One of his reasons for this turns on issues that are relevant here (we shall address his second in the next section). Williamson asks how the approach will handle sentences like

I always believed that you were a good friend; now I know it.

His worry is that if belief and knowledge take different things as the referents of their complement clauses, it is hard to see how the anaphoric 'it' that ends the sentence can inherit its referent from the earlier *that*-clause. I have just sketched, without endorsing, one approach that would dissolve the worry: take the objects of *true* belief, like the objects of knowledge, to be facts, so that the pronoun here can straightforwardly inherit the referent of the antecedent. A broader response is to say that the problem is one that we are going to face anyway, so the existence of the problem is not by itself a reason to reject the Facts-for-factives approach. Thus consider the sentence:

He had always imagined such a house, and now he had found it.

Here again we have an anaphoric pronoun that has a straightforward referent, but whose antecedent does not seem to share that referent. I am not sure how such a sentence should be treated. Perhaps we can understand it in such a way that the two expressions do share a referent; more likely, I think, we will not. If so we will need some of way understanding apparent anaphoric dependence that does not involve coreference. And what is good enough for houses should work for the objects of propositional attitudes.

ENTAILING OR PRESUPPOSING?

Evaluating Williamson's second argument against the Facts-for-factives approach will require that we say a little more about the relation of a factive sentence to the truth of its complement.

There are two obvious ways of construing that relation. One, favoured by Williamson, is in terms of entailment:

Entailment

An FMSO sentence 'S Φ s that p' *entails* the truth of 'p'.

¹² Williamson, *op. cit.*, p. 43

A second, favoured by most linguists, is in terms of presupposition:

Presupposition

An FMSO sentence 'S Φ s that p' presupposes the truth of 'p'.¹³

On the classic understanding, one that derives from Frege, the difference between these two comes out in cases where the complement sentence, p, is false. If p were entailed by the factive sentence, then where p is false one would expect the factive sentence in turn to be false. In contrast if p were presupposed by the factive sentence, then where p is false the factive sentence would suffer from a presuppositional failure: on the classic understanding, it would be neither true nor false.

On the basis of such considerations, Williamson thinks that *Entailment* is clearly the better account. In cases in which 'p' is false, he holds that an otherwise felicitous instance of 'S knows that p' is clearly false, and 'S doesn't know that p' is clearly true; they don't suffer from presuppositional failure as the presupposition account would predict.¹⁴

This in turn he takes to provide the second argument against the Facts-for-factives thesis. For the standard view is that a sentence containing a singular term presupposes the existence of a referent for that term. Likewise then, if the complement of a propositional attitude factive has a fact as its referent, we would expect it to presuppose the existence of that fact. If *Presupposition* is false, then the Facts-for-factives view is hard to maintain.

But should we accept the classic understanding of presuppositional failure as always giving rise to truth value gaps? As discussion from Strawson on has shown, there are at least *apparent* counterexamples. If there is no such person as Perseus, then perhaps 'Perseus is bald' lacks a truth value. But consider

My sister had breakfast with Perseus this morning.

Isn't that false? Perhaps in some deep sense I could be convinced that it isn't, but as an ordinary untheoretical first response it certainly seems natural to say that it is. And if it's natural to say that's false, isn't it equally natural to say that

My sister didn't have breakfast with Perseus this morning

¹³ For instance, by the Kiparskys, *op. cit.*, pp. 348–9. Recent work has argued convincingly that the relevant notion here is really better described as supposition than presupposition. It does not require anything like the prior introduction of the content into the conversation or background assumptions (unlike, say, anaphoric dependence); rather it just requires that the presupposed content *not be at issue*. For a presentation of the distinction, and references to the cross-linguistic studies, see Craige Roberts 'Accommodation in a language game' in Barry Loewer and Jonathan Schaffer eds *A Companion to David Lewis* (Chichester: Wiley-Blackwell, 2015) pp. 355–66, §2.

¹⁴ Williamson, *op. cit.*, p. 43

is true? Again, I don't want to insist that such a sentence is really deeply true; just that it strikes one as true, that it's a natural thing to say. It is only judgments at this level that we need to accommodate.

There is a fair bit of recent literature trying to explain when it is that sentences that suffer from presuppositional failure nonetheless appear to be true or false—when it is that the presuppositional failure is 'non-catastrophic' as Yablo puts it. Yablo's proposal is, very roughly, that the failure is non-catastrophic in cases in which subtracting the presupposition still leaves us with something to be evaluated. So whilst 'Perseus is bald' leaves us with nothing to get a grip on if there is no Perseus, 'My sister had breakfast with Perseus' does—namely, certain claims about what sister got up to this morning, which turn out to be false.¹⁵

We need not pursue the details of this difficult topic here. We already have enough to give a plausible explanation of why, if *Presupposition* is correct, 'S knows that p' might at least seem false even if there is no fact for 'that p' to refer to: for the failure of the presupposition still leaves standing certain claims about S's state of knowledge, which would then be false. So there are grounds for thinking that we can maintain *Presupposition*, and hence the Facts-for-factives approach.

Indeed, there are other grounds for thinking that *Presupposition* is correct. Once we reject the idea that presuppositional failure always gives rise to truth-value gaps, we need other, independent tests for identifying presuppositions, and *Presupposition* does well on them.

Test One: Projection

A first test involves projection. Although the data—and the theories to explain them—are complex, the presuppositions of sentences are typically inherited by larger sentences in which they are embedded. In particular, presuppositions, unlike entailments, standardly project through negation, through uncertainty operators, into the antecedents of conditionals, and into questions. So, for instance, the presuppositional commitment to the existence of Keith in

Keith was waiting for the bus

is equally inherited by

Keith was not waiting for the bus

Perhaps Keith was waiting for the bus

If Keith was waiting for the bus his car must have broken down again

Is Keith waiting for the bus?

We get similar projections with 'know'. All of the following ordinarily presuppose that Keith is getting the sack:

¹⁵ Stephen Yablo, 'Non-Catastrophic Presupposition Failure' in J. Thomson and A. Byrne, *Content and Modality: Themes from the Philosophy of Robert Stalnaker* (Oxford: Clarendon Press, 2006) pp. 164–90.

Keith doesn't know that he's getting the sack
Perhaps Keith knows that he's getting the sack
If Keith knows that he's getting the sack he'll stay at home
Does Keith know that he's getting the sack?

The fact that this is the normal presupposition of these sentences is quite compatible with the fact that it is possible to cancel it directly. We can say

Keith doesn't know that he's getting the sack because he isn't

There is a lively debate over how to explain such cancellation which we need not enter here.¹⁶ For us it is enough to note that it in no way undermines *Presupposition*, since the same cancellation can be made when the presuppositions of ordinary singular terms fail:

Keith wasn't waiting for the bus because there is no such person as Keith

It is true that there is something mannered about such sentences; there is a sense that the speaker is for some reason setting up expectations in the first part of the sentence, only to knock them down again in the second (perhaps for the drama; perhaps to rub the interlocutors' noses in their prior mistake¹⁷). We can avoid such a process by using a modal. Here again though, factives and singular terms behave in much the same way:

Keith couldn't have known that he's getting the sack because he isn't.

Keith couldn't have been waiting for the bus because there is no such person as Keith.

Test Two: 'Wait a minute'

If a statement has a presupposition that is new to the listener, the listener can interrupt the conversation to highlight it—that is, to underline that the presupposition is new, though not necessarily to contest it. So if speaker says

John was there in his new car

the listener might reply

¹⁶ For a clear summary see David Beaver and Bart Geurts, 'Presupposition' in E. Zalta (ed.) *The Stanford Encyclopedia of Philosophy* (Winter 2014 Edition), <http://plato.stanford.edu/archives/win2014/entries/presupposition/> §4.2.

¹⁷ Alternatively expectations can be defeated from the start by putting stress on 'know': 'He didn't *know* that p since it's not true'. I take it that this works as a metalinguistic device to indicate that the word is inappropriate; compare 'I don't *like* cricket, I love it'. See Laurence Horn 'Metalinguistic Negation and Pragmatic Ambiguity', *Language* 61 (1985), pp. 121–74.

Wait a minute, you never said that John had a new car¹⁸

a response that would have been quite bizarre if speaker had asserted rather than presupposed the relevant content:

John has a new car.

Once again this test marks factives as presupposing the truth of their complements. The following exchange is not in the least bizarre:

S: Hilary knew weeks ago that she was getting the sack

L: Wait a minute, you never said that Hilary was getting the sack.

So I suggest that we put Williamson's argument on its head. Rather than thinking that the Facts-for-factives approach is false because the complement sentences of factives don't behave like singular terms, conclude that the fact they do behave very much like singular terms is good evidence for the approach.

DIVERSITY AMONG THE FACTIVES

Let me briefly pursue something of an aside. Once we start thinking about the presuppositions of factives, we can see that the presuppositional tests suggest that there is some diversity among them. There seems to be a difference between, on the one hand, a class of *thin* factives that includes 'know' itself and others like 'discover' 'notice,' 'see' and 'could see' factives that designate ways or types of knowing; and, on the other, a class of *thick* factives like 'regret' 'admit' 'forget' or 'remember' that require that the agent take some further attitude to the fact, or require that there be some further feature of their attitude. To see this, return to the 'wait a minute' test. This suggests that *knowledge* of the complement is a presupposition of the thick factives

S: Sarah regretted that it was broken.

L: Wait a minute! You never said she knew it was broken.

but not of the thin factives, which presuppose only the complement's *truth*:

S: Sarah realized that it was broken.

L: ?Wait a minute! You never said she knew it was broken.

L: Wait a minute! You never said it was broken.

The same phenomenon comes out when the presuppositions are embedded in questions. If someone were to ask

Does Sarah realize that it was broken?

¹⁸ Benny Shanon 'On the two kinds of presupposition in natural language' *Foundations of Language* 14 (1976), 247–9; Kai von Stechow, 'Would you believe it? The King of France is back' in Marga Reimer & Anne Bezuidenhout (eds.), *Descriptions and Beyond* (Oxford: Oxford University Press, 2004) pp. 315–41; Yablo, *op. cit.* Von Stechow uses 'I had no idea' instead of 'You never said.' I think that the latter provides a more discriminating test: 'said' is here being used to convey an idea along the lines of 'asserted p directly rather than asserted something that presupposed p'.

it would be very odd to reply

Wait a minute! You never said that she knew it was broken.

Whereas if they were to ask

Does Sarah regret that it was broken?

such a reply would be perfectly appropriate. So I propose a further conjecture:

The Thin-Thick Conjecture

The FMSOs fall into two classes: (i) the thin factives, which include ‘know’ and the associated verbs that designate ways or types of knowing, presuppose the *existence* of a fact as reference of the complement; and (ii) the thick factives, which include those factives that require that the agent take some *further* attitude to the fact, or require that there be some further feature of their attitude, in addition to presupposing the existence of a fact as reference of the complement also presuppose the agent’s *knowledge* of that fact.

This distinction gains some support from the existence of three syntactic phenomena that the Kiparskys noted. According to their account:

(i) factives don’t take infinitive complements

I believe Mary to have been the one who did it.

*I regret Mary to have been the one who did it.¹⁹

(ii) factives can take as their complements ‘the fact + *that*-clause’

*I believe the fact that Mary did it.

I regret the fact that Mary did it.

(iii) factives can take factive nominal gerunds

*I believe having agreed to the proposal.

I regret having agreed to the proposal.²⁰

Understood this way, these tests have the rather surprising consequence that knowledge is not a factive:

I know Mary to have been the one who did it

¹⁹ Sometimes this test requires a noun phrase between the verb and the infinitive complement to work. Thus whilst

I admit to having done it

is fine, adding the noun phrase gives us the unacceptable:

*I admit Mary to have been the one who did it.

²⁰ *Op. cit.*, pp. 347–8

is fine, whereas

*I know the fact that Mary did it.

*I know having agreed to the proposal.

are not. Moreover, the perceptual factives ('hear', 'feel' etc;) pattern broadly like 'know', as do factives like 'discover' and 'notice'. My suggestion, of course, is that these tests do not pick out the factives in general, but rather serve to pick out the thick ones, such as 'remember', 'forget', 'regret', and 'admit'.²¹

If the Thin-Thick conjecture is true, we might wonder *which* facts the complements of thick factives refer to. Do they refer to the fact that would be the reference of the complement clause if it were to occur within the scope of a thin factive; or do they refer to the further fact that the ascriber knows that fact? I assume it is the former, but the latter remains a possibility.

WHAT SHOULD WE CONCLUDE?

Let us return to the main themes. I have not given an argument for the existence of facts. I have rather given an argument that a commitment to them is there in our language. Indeed if my argument is to work this needs to be a double commitment: to the existence of facts, and the non-existence of contra-facts. Since I am a speaker of English, and this article is written in English, I have plausibly been working with this commitment; but I have done nothing to justify it.

At most then what I have been doing is, in Strawson's term, descriptive metaphysics.²² But it might be wondered whether I have been doing even that. How does a commitment that is there in the language translate into a commitment held by the speakers of that language? I am not sure how to answer that question. We might, of course, explicitly ask people to provide an account of what they believe in, one that makes sense of the way that they speak. In effect that is Quine's proposal in 'On What There Is'.²³ I suspect though that it will not take us very far; only a very few will be interested in taking up the challenge, and those that do will be motivated by other concerns that will make their answers most unrepresentative. If we are to get at our normal commitments, we must approach them indirectly, using a number of methods. An investigation of our ordinary language use is one, and that is what I have given here.

²¹ That said, there are plenty of anomalies; for instance, 'realize' passes the first, is unclear on the second, and fails the third.

²² *Individuals* (London: Methuen, 1959) pp. 9–11.

²³ Reprinted in *From a Logical Point of View* (Cambridge MA: Harvard University Press, 1953) pp. 1–19.

The question is made all the more pressing by the existence of other languages that do seem to contain contra-factives: to take the best documented, Turkish²⁴, Mandarin²⁵ and Cantonese.²⁶ Most discussion comes from the psychology literature on false belief tasks, where they are typically known as ‘strong non-factive verbs’.²⁷ So what should we say about them?

The first thing to say is that they seem to occur exclusively in non-Indo-European languages. That in itself doesn’t make the claims that I have been presenting here uninteresting. Even if the absence of contra-factives were restricted to the Indo-European languages, that absence would in itself be remarkable—their occurrence in other languages makes it all the more salient that contra-factives have a role—and would call for some explanation. Perhaps it is only in these languages that the complement clauses of the factives refer to facts. It is not out of the question to think that the commitments of a group of languages might be different to those of others; and it is a further issue whether any substantial Whorfian conclusions can be drawn.

But it is premature to make any such moves. The contra-factives in non-Indo-European languages have not been extensively studied by linguists; we do not really know much about them. The native speakers I have consulted have disagreed over

²⁴ Marilyn Shatz, Gil Diesendruck, Ivelisse Martinez-Beck, and Didar Akar, ‘The Influence of Language and Socioeconomic Status on Children’s Understanding of False Belief’, *Developmental Psychology* 39 (2003), 717–29.

²⁵ K. Lee, D. Olson and N. Torrance, ‘Chinese children’s understanding of false beliefs: the role of language’, *Journal of Child Language* 26 (1999), 1–21.

²⁶ Him Cheung, Hsuan-Chih Chen, and William Yeung, ‘Relations Between Mental Verb and False Belief Understanding in Cantonese-speaking Children’, *Journal of Experimental Child Psychology* 104 (2009), 141–55.

²⁷ The main question has been whether the presence of contra-factives in their language enables children to attribute false beliefs earlier. It does not seem to have much effect. For a meta-analysis see David Liu, Henry M. Wellman, Twila Tardif, and Mark A. Sabbagh, ‘Theory of Mind Development in Chinese Children’, *Developmental Psychology* 44 (2008), 523–31.

whether they are truly contra-factive.²⁸ Moreover, even if they are properly contrafactive, it could be that they behave very differently to the Indo-European factives, and should be grouped with verbs like ‘believe’ and ‘think’ that take propositional complements. Indeed there is a little evidence for Turkish at least, that this may be the case. Factive verbs typically allow for *wh*-complements; one can say, for instance

I knew who had stolen the cheese

I realized where the cheese was hidden

whereas one cannot say

I thought who had stolen the cheese

I believed where the cheese was hidden.²⁹

Turkish is much the same: factives take *wh*-clauses, whereas the verbs for ‘think’ or ‘believe’ do not. But when we come to the alleged contra-factive, ‘san-’, which we may gloss as ‘to [wrongly] think’ we find that it does not take *wh*-clauses, and so patterns like ‘think’ and not with the standard factives. Thus while both

Ali, Ahmet’in geldiğini sandı

(Ali wrongly thought that Ahmet came)

and

Ali kimin geldiğini biliyor

(Ali knows who came)

are fine,

*Ali kimin geldiğini sanıyor.

(*Ali wrongly thought who came)

is not. So it could be that, in the case of Turkish at least, the contra-factive is conceptually dependent on ‘thinks’; that it is somehow deeply composite, although it

²⁸ The Chinese linguist Shu-Xiang Lv claims that the Mandarin verb ‘yi3wei2’ is always contra-factive in *Eight Hundred Words in Contemporary Chinese* (Beijing: The Commercial Press, 1999) p.619 (I am grateful to Bei Yang for the reference and for discussion); but numerous native Mandarin speakers have told me that they think any suggestion of falsity is cancellable. Likewise in Turkish it is unclear whether the alleged contra-factive, ‘san-’, really semantically demands falsity. The TDK *Official Turkish Dictionary* makes no mention of any such requirement, and there are certainly contexts—the progressive in tenses other than past—in which it loses all implication of falsehood: ‘Ali hasta sanı-yor-um’ means simply that I am guessing that Ali is sick; and likewise there is an adverbial form of the verb which means ‘maybe’. I’m indebted to İsa Kerem Bayırlı and Ege Yumusak here.

²⁹ Of course there are other propositional attitude verbs that are not factive but that take *wh*-clauses: ‘wonder’ is an often cited example. It appears that the verbs that take *wh*-clauses come from either end of the spectrum: either they are factive, or they presuppose that the subject has no knowledge or no belief.

appears atomic. Clearly there is a lot more work to do before any proper conclusions can be drawn.

A further question obviously looms: are there any facts, and if there are, what they are like, and can they can play the role that I have argued our language assigns to them? And, pressingly, if there are none, does that mean that all our factive attributions go down with them? That, I hope, would be a further instance of non-catastrophic presupposition failure; but this is not the place to investigate.