

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' occurs the following passage:

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'?

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 (2), 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 then is that Black has simply given a bad translation of 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 whether Frege was right about the German. 'Wähnen' is now obsolete, and the native speakers I have asked lack clear intuitions about whether it entails the falsity of the

¹ This paper has spend an unduly long time being written. It has been given at seminars at MIT, Bristol, Oxford, Chapel Hill and Cambridge, and at the AAP in Melbourne. I am grateful for all of the excellent comments it received on those occasions, and to Kai von Fintel, Tim Williamson, Alex Oliver and Jonathan Schaffer. Special thanks to Steve Yablo, who not only provided much inspiration and comment, but also trusted me with the undergraduate philosophy of language class that got me thinking about the issue.

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

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’, 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. Or at least, since he might have been more easily satisfied, let us be clear what I am after. An example would need to express an attitude (so ‘It is false that ...’ doesn’t count); the attitude would need to be to a proposition expressed by a sentential complement, i.e. by a *that*-clause (so ‘I misremembered *what* he told me’ doesn’t count); and the predicate 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 to which we shall return. We have a good enough grip on it to start on the task of looking for our examples: that is, of looking for *atomic propositional-attitude contra-factives*, or as I shall simply call them, *contra-factives*.

Remarkably enough, one draws a blank. Although the semantic role is perfectly clear, and they would be perfectly useful terms, one just doesn’t find them. Frequently one finds that the verbs to which one turns don’t take sentential complements, even when their contraries do (one proves 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) 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 even 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

I misremembered her phone number

from the factive

I remembered that she had a phone

we cannot, or at least cannot easily, get

*I misremembered that she had a phone

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 compilers’ uncertainty. 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.

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 come from adding the negating prefixes to propositional attitude verbs. There are fairly clear examples of propositional attitude verbs that can be successfully negated in this way.⁵ The crucial thing is that these are cases that 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: to misinfer is to mistakenly infer, not to infer something false; to disown is to fail to admit, not to admit something false.

The closest I can find to an example of a contra-factive in English is 'to be mistaken that', as in:

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

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

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, and (ii) 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.

⁵ Though, interestingly, 'believe' cannot; 'disbelieve' cannot readily take a *that*-clause.

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.

So, at the end of the search, I arrive at the

No Contra-factives Conjecture

There are no atomic propositional-attitude contra-factives in English.

Surprisingly, the same appears, from a rather unsystematic questioning of native speakers, to hold true of contemporary Spanish, French and German (which makes one sceptical of Frege’s account of ‘wähnen’ even for 19th century German). Such a finding calls for some explanation.

ANOTHER SURPRISING FINDING, FROM WILLIAMSON’S ACCOUNT OF KNOWLEDGE

Timothy Williamson argues that ‘know’ is the weakest *factive mental state operator* (FMSO), where an FMSO is:

- (i) factive (which Williamson glosses in terms of entailment; we’ll return to this);
- (ii) mental;
- (iii) stative (so doesn’t take the progressive, unlike ‘prove’);
- (iv) unanalyzable (so ‘truly believe’ doesn’t count).⁶

Suppose that Williamson’s claim here is true; he makes a very convincing case for it. Again this seems to be something in need of an explanation. Why isn’t there something weaker; in particular, why isn’t there an unanalyzable factive that in all other respects had the same meaning as ‘believe truly’?

TWO BIRDS, ONE STONE

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

The Facts-for-factives conjecture

The *that*-complements of atomic propositional-attitude factives refer to facts.

⁶ Williamson, *Knowledge and Its Limits* (Oxford: Clarendon Press, 2000)

On this view, factives are aptly named; their complements refer to facts.⁷ Propositional attitude factives thus differ from both non-factive propositional-attitude verbs (e.g. 'believes'), whose complements, at least sometimes (i.e. when there are no appropriate facts to be had) refer to propositions; and from contra-factive non-propositional-attitude operators (e.g. 'It is false'), whose complements also 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.⁸ But I am proposing the conjecture for different reasons: for the work it does in explaining the absence of contra-factives, and Williamson's observation. So let's start by seeing just how it does that.

HOW DOES THE CONJECTURE EXPLAIN THE LACK OF PROPOSITIONAL ATTITUDE 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 have to 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 are asymmetric 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 FMOS WEAKER THAN 'KNOW'?

Suppose that knowledge were one form of a real relation to the facts: as we might, rather uninformatively put it, the relation of being *in touch* with the facts (which, if we are to accommodate knowledge of things like mathematical facts, or of facts

⁷ 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. 143-173; reprinted in *Semantics* ed. Danny Steinberg and Leon Jakobovitz (Cambridge: Cambridge University Press, 1971). 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'.

⁸ 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

concerning things outside our light-cone, had probably better not be a straightforwardly causal relation). Then, barring implausible convergence to some limit, one would expect there to be a weakest form of this relation. That relation could conceivably be weaker than we require for knowledge.⁹ To that extent then it is contingent that knowledge is the weakest form. But if it is a real relation it still requires being in touch to some degree. It couldn't be the same as the mere conjunction of belief, an attitude to a proposition which doesn't require the presence of a fact, together with the truth of that proposition. That conjunction doesn't put the right ontological constraint on the first conjunct, and hence can't require the right kind of relation for the attitude. So we get an explanation of why there is no FMSO equivalent to 'truly believes'; and an explanation of why there will be a weakest FMSO, with it perhaps remaining a contingent that 'knows' is the weakest.

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 fairy tale.

A Fairy Tale Once upon a time there was a community who only talked about people's knowledge of facts. They were a simple community and all went well. But there were reformers in their midst. The reformers noticed that sometimes people's attempts at knowledge went wrong: sometimes people thought that they were on to facts when they weren'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 they 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

⁹ Indeed, perhaps the relation of 'registering', as used by contemporary psychologists, is a real relation that is weaker than knowledge. One can perhaps register that something is present without knowing that it is. I am sceptical, but if that is right there is an FMSO that is weaker than knowledge, and Williamson's claim would be false in letter. Nonetheless I think that it would still be true in spirit. The crucial point is that there is no FMSO equivalent to 'truly believes'.

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. For a long time 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 were the same 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 etc.—but nothing worked perfectly. Still by and large things went on all right, 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.

I don't know whether or not the fairy tale bears much resemblance to the historical truth, though an analogue 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 ascriptions.¹⁰ Nevertheless I suggest how things ended up in the fairy tale 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, 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? Or should we rather say that it takes a fact if there is one to be had, and otherwise just takes a proposition? And if we take the latter course, in cases in which there is a fact to be had, should we say that there is no relation to a proposition? Or that there is, and the proposition is identical to the fact? Or that there is simultaneously a relation to a fact and to a distinct proposition?

¹⁰ The literature on this 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 requires that they impute false beliefs. For a review see Renée Baillargeon, Rose M. Scott, and Zijjing He, 'False-belief understanding in infants' *Trends in Cognitive Science* 14 (2010) 210–18; and for some evidence that this results from an innate simulation-style mechanism that is working by the age of seven months, see Á. Kovács, E. Téglás and A. Endress, 'The Social Sense' *Science* 330 (2010) 1830–4. Thanks to Laura Schultz for discussion here.

If I were forced to choose one of these options I should be inclined to take the middle route and say that where there is a fact to be had—i.e. where a belief is true, even if it is not knowledge—then the belief is a relation to a fact which is identical to a proposition. Propositions would thus be of two very different kinds, depending on whether they are true or not: facts, and something else.¹¹ And there would need to be some asymmetry in their status: the false propositions would not stand on all-fours with the facts, lest they be eligible to be the referents of contra-factives after all.¹²

However, in saying this I submit that I am making a choice, trading off considerations of theoretical elegance and adequacy, in ways that have little to do with the underlying reality. The case is quite unlike that of the physicist who posits the existence of some sub-atomic particle. If the fairy tale is roughly right, 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 addition that can take support from Williamson's contention that 'Believing *p* is treating *p* as if one knew *p*.' The situation 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 in the garden looking for Father Christmas. If she finds him she's going to complain about the presents she got.

This observation provides the basis of a response to one of Williamson's arguments against the Facts-for-factives approach (we shall address his second shortly). 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 an approach that would dissolve the worry, at the cost of treating the class of propositions as radically divided: take the objects of true belief to be facts, so that the pronoun here can straightforwardly inherit the referent of the antecedent. But I

¹¹ Does this give us a disjunctive account of propositions? In a sense, though our grasp on the non-fact disjunct is via the fact disjunct. For the general form of the worry, see Williamson, *op. cit.*, pp. 44–8.

¹² One reason for the asymmetry would be that the facts are ontologically prior; plausibly another is that whilst the facts would have their truth built into them, falsity would be an extrinsic property of the false propositions.

do not want to rest too much on that. 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; rather more likely, I think, we will not. So we will need some way of understanding apparent anaphoric dependence that does not involve coreference.

ENTAILING OR PRESUPPOSING?

Williamson provides a second argument against the Facts-for-factives approach. Evaluating it will require us to 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 is in terms of entailment:

Entail

A declarative atomic propositional attitude factive sentence 'S Φ s that p' *entails* the truth of 'p'.

A second, which is favoured by many linguists, is in terms of presupposition¹³:

Presuppose

A declarative atomic propositional-attitude factive sentence 'S Φ s that p' *presupposes* the truth of 'p'.

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 *Entail* 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;

¹³ For instance, by the Kiparskys, *op.cit.*

they don't suffer from presuppositional failure as the presupposing 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 *Presuppose* 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? 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

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 not 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 my sister 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 *Presuppose* 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 false claims about S. We have no reason here for rejecting the Facts-for-factives view.

Indeed, there are other grounds for thinking that *Presuppose* is correct. Once we reject the idea that presuppositional failure always gives rise to truth-value gaps, we

¹⁴ Williamson, *op. cit.* p.43

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.

need other, independent tests for identifying presuppositions. Kai von Fintel gives two, and the thesis that factives presuppose the truth of their complements does rather well on each of them.¹⁶ I use ‘know’ as the example in each case.

Test One: ‘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 it is new, though not necessarily to contest it. So if speaker says

John was there in his new car

listener might reply

Wait a minute, you never said that John had a new car¹⁷

a response that would have been quite bizarre if speaker had rather said

John has a new car.

The 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.

Test Two: Embedding in ‘Hope’ etc.

In general presuppositions of sentences are inherited by any larger sentences in which they are embedded. However, there are certain presuppositional attitude verbs—‘hope,’ ‘regret’—that express an affective attitude to the situation expressed by the complement sentence, but not necessarily to the presuppositions of that sentence. Thus a speaker’s utterance of

I hope that John was there in his new car

need not express hope that John has a new car. Again, factives pattern in the same way:

I hope that Hilary knows that she is getting the sack

need not express the speaker’s hope that she is getting the sack.

These considerations take us back to the broad issue of when the presuppositions of a sentence are inherited by a larger sentence of which it is a part. Normally the presuppositions of a sentence are maintained under negation. ‘S doesn’t know that p’ naturally introduces the presupposition that p is true. Above I conceded that, in a

¹⁶ Kai von Fintel, ‘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. 315–341 at pp. 270–1; see also Yablo, *op cit*.

¹⁷ Von Fintel 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 directly rather than asserted something that presupposed’.

case in which *p* is false, it can nevertheless be natural to say that *S* doesn't know that *p*:

He didn't know that *p* since it's not true.

But there is something mannered about such a sentence; there is a sense that the speaker is for some reason maintaining or setting up expectations only to knock them down again (perhaps for the drama; perhaps to rub the interlocutors' noses in their prior mistake¹⁸). There is a way of saying something very similar that doesn't involve such a process by using a modal:

He couldn't have known that *p* since it's not true.

Again it seems to me that this mirrors the case for ordinary referential failure. One could say

She didn't have breakfast with Perseus since there's no such person

But doing so one maintains a certain fiction for the first half of the sentence, only to bring it down in the second. If one wanted to avoid this a natural construction would again involve a modal:

She couldn't have had breakfast with Perseus since there's no such person

So I conclude that there is good evidence that factives do presuppose the truth of their complements in just the way that would be expected if they referred to facts, and that in this way the complement sentences resemble ordinary nouns. There is no argument here against the Facts-for-factives approach.

As far as I can see though, it is consistent to hold, *in addition*, that referring terms typically entail the existence of their referents; after all something like that underpins the rule of existential generalization. Nothing will be said here to undermine the thesis that the propositional attitude factives entail their complement facts, though, equally, nothing will be said to support it. Or at least, nothing will be said to undermine it for core factives like 'know' and 'see'. As we shall see next, there is some reason to think that not all propositional attitude factives are created equal.

DIVERSITY AMONGST THE FACTIVES

I have argued that a core factive like 'know' will presuppose the truth of its complement sentence, and I have left open the possibility that it will also entail it. But there is some evidence that there is variation in the behaviour of different propositional attitude factives. Let us start with three syntactic tests proposed by

¹⁸ 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, as in 'I don't *like* cricket, I love it'; see Stephen Barker, 'Towards a Pragmatic Theory of 'If'', *Philosophical Studies* 79, pp. 185-211 at p. 200, and the references given there.

Kiparsky and Kiparsky.¹⁹ They are illustrated here with ‘believe’ as a paradigm non-factive and ‘regret’ as a paradigm factive:

(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.²⁰

(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

These tests do not effect a neat partition between factives and non-factives. Some non-factives (e.g. ‘hope’) pass (i), and some (e.g. ‘anticipate’ ‘fear’) plausibly pass (iii); and some factives, most notably ‘know’ fail all three, and pattern like ‘believe’. Moreover, the second ‘fact that’ test is delicate. Google gives many millions of instances of ‘know the fact that’, even though the Kiparskys mark it as unacceptable, and I have given it a question mark.²¹ I only claim that ‘know the fact that’ is

¹⁹ Kiparsky and Kiparsky *op. cit.* pp. 347–8.

²⁰ When applied to ‘admit’ the test requires a noun phrase between the verb and the infinitive complement. Thus whilst

I admit Mary to have been the one who did it
is clearly bad,

I admit to having done it
is fine.

²¹ Kiparsky and Kiparsky *op. cit.* p. 348 n. Note that in French although one can one says ‘Je sais que p’, one cannot say ‘Je sais le fait que p’. One has to say ‘Je connais le fait que p’, i.e. to use the verb form normally used for acquaintance (though some speakers resist even this). This gives some plausibility to the idea that the English verb ‘know’ is ambiguous between these two readings, and that the test is failed on one reading and passed on the other, but I do not know of a way to test this idea. In general the data from French broadly confirm the pattern shown in the English data, although the first and third tests fuse into one, and that is rather archaic. Thanks to Paul Egge and Philippe Schlenker for discussion here.

markedly less natural in standard English than, for instance, ‘regret the fact that’. But it would be good to have some empirical support even for this.²²

Despite these complexities, the tests do produce an interesting and fairly coherent pattern when applied to the propositional attitude factives:²³

	Doesn't take infinitive	Takes 'the fact that'	Takes factive nominal gerund
believe			
know		?	
can feel/see/hear			
see	?		
proved		?	
showed		?	
revealed		?	
discovered		?	
notice		?	
realize	√	?	
learned	√	√	
remember	√	√	√
forgot	√	√	√
take into account	√	√	√
bear in mind	√	√	√
regret	√	√	√
admit	√	√	√

On the basis of these data I very tentatively propose a further conjecture.

The Thin-Thick Conjecture

The propositional attitude factives fall into two classes (tricky borderline cases to be dealt with later). The First Class contains ‘know’ and the associated verbs

²² Note too that the test only applies to cases in which the *that*-clause is working as a complement, and not as a noun phrase in a larger construction. So instances like

John saw the fact that she was there as a bad sign.

Hilary could see that the fact that she was there would be used against her. are not counterexamples.

²³ Since some of these verbs (prove, show, discover, learn, reveal) have a rather strange performative feel when used in the present tense, I give them in the past tense. Likewise, for obvious reasons, ‘forget’ cannot easily take a *that*-clause (rather than a *wh*-clause) in the present tense, so it too I give in the past tense.

that designate ways or types of knowing (down to ‘realize’ in the table, though perhaps ‘proved’, ‘showed’ and ‘revealed’ should be treated differently). Call these the *thin factives*. These are the factives that presuppose the existence of a fact as reference of the complement in the way discussed so far. The Second Class includes 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. Call these the *thick factives* (from ‘remember’ on²⁴). Unlike the thin factives, the thick factives presuppose *knowledge* of the complement.

My suggestion then is that the Kiparskys’ three syntactic tests serve to pick out the thick factives. Or, at least, I think that that is roughly right, although clearly there are some tricky borderline cases that we shall consider shortly.

Nevertheless, I am confident that there is a useful distinction here between factives that presuppose knowledge, and those that just presuppose truth, whether or not it perfectly explains the syntactic data. First, let us apply the two tests for presupposition that we saw above. The ‘wait a minute’ test suggests that knowledge is a presupposition of the thick factives

S: Hilary regretted that it was broken

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

but not of the thin factives

S: Hilary realized that it was broken.

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

Similarly, using the second test,

I hope that John regrets that it was broken

does not entail that I hope that John knows that it was broken; it might have been better if he had never found out. It is rather that, given that he knows it, I hope that he regrets it. Similar considerations apply if we substitute other thick factives for ‘regret’; given that he knows that it was broken, I hope that he remembers it, forgets it, bears it in mind etc.; but again I might hope that he had never found out in the first place.

In contrast, if I say

I hope that John can feel that it was broken

²⁴ I have said that ‘remember’ doesn’t take the infinitive construction. What I mean by this is that it doesn’t take the infinite construction and remain factive. Thus whilst one cannot easily say

I remembered that he was bald, but he wasn’t

I remembered his being bald, but he wasn’t

it is quite normal to say

I remembered him to be bald, but he wasn’t.

See Kiparsky and Kiparsky *op. cit.* p. 360.

I hope that John realizes that it was broken
I cannot be hoping that he doesn't know that it was broken.

In their discussion, Rodney Huddleston and Geoffrey Pullum also argue that the factives fall into two classes, classes that correspond broadly to mine. But they gloss the difference in terms of entailment and presupposition: the members of one class (e.g. 'know', 'forget') entail their complements; whereas those of the other (e.g. 'regret', 'admit') presuppose them.²⁵ This distinction in turn they understand in a rather different way to that sketched above: entailments, they say, cannot be cancelled, whereas presuppositions can. They illustrate this with a case of a factive of the second, presupposing, class, where the presupposition is cancelled:

Ed believed that he had offended his parents and very much regretted that he had done so, but it turned out that he had been mistaken: they hadn't been in the least offended.²⁶

This is a rather complicated sentence, in which the initial verb ('believe') is not factive, but it remains fairly acceptable if we simplify it:

Ed regretted that he had offended his parents, but it turned out that he had been mistaken: they hadn't been in the least offended.²⁷

Certainly it is a lot better than if we replace the thick factive verb 'regretted' with a thin one:

?Ed knew that he had offended his parents, but it turned out that he had been mistaken: they hadn't been in the least offended.

More generally Huddleston and Pullum are surely right that it is normally unacceptable to use a thin factive and then go on to deny the truth of the complement sentence. We do sometimes do it, as in

She knew that he would stay with her forever, but like the others he left.

²⁵ *The Cambridge Grammar of the English Language* (Cambridge: Cambridge University Press, 2002) pp. 1004–9.

²⁶ *Op cit.* p. 1007

²⁷ *Op cit.* p. 1007

But such cases seem to involve a conniving use in which we are projected into the point of view of the protagonist.²⁸

So should we go ahead and endorse Huddleston and Pullum's account that the difference between the thin and the thick is that between those that entail and those that presuppose? I am reluctant to do so, since there is a simpler explanation that makes use of the account of presupposition already outlined. It is one that, rather than positing a general rule that presuppositions may be cancelled and entailments may not, gives a more nuanced account of when a cancellation will be acceptable. Recall that on Yablo's theory, a presuppositional failure will be non-catastrophic when the falsity of the presupposition leaves enough standing for questions of truth and falsity to arise. The thick factives involve states in addition to knowledge: for instance, in the case of 'regret', it must be that the agent wishes that things had not turned out a certain way. So even if they didn't turn out that way, we still get a plausible content to be either true or false. Similar ideas apply to the other thick factives.

What of the thin factives? We have already seen that the absence of a fact can leave enough standing for a knowledge ascription to be judged false, and its negation to be judged true. The same goes for the other thin factives. So if she wasn't crying

He noticed that she was crying

is naturally seen as false, and we can say

He didn't notice that she was crying because she wasn't

(though here again the modal form

He couldn't have noticed that she was crying because she wasn't

is more natural). What is left standing is the idea that the subject is grasping some fact; and this is simply false. Why then is there not enough left over to get a true sentence when we directly cancel the presupposition? Why is it that

He noticed that she was crying but in fact she wasn't

can only get a conniving projective reading?

The obvious answer is that whilst the absence of the fact leaves enough standing for an unnegated thin factive sentence to be false, it doesn't leave enough standing for the sentence to be true. For what could it leave? At most it could leave the idea that

²⁸ See my 'Some Telling Examples', *Journal of Pragmatics* 28 (1997) 624-28. In *How Fiction Works* (London: Jonathan Cape, 2008) James Wood gives an excellent discussion of how a general form of this technique—'free indirect speech'—is used by novelists. An example of his: 'He looked at his wife. Yes, she was tiresomely unhappy again, almost sick. What the hell should he say?' Allan Hazlett has questioned whether protagonist projection can account for all such instances; see 'The myth of factive verbs', *Philosophy and Phenomenological Research* 80 (2010) 497-522. For an effective experimental response presenting evidence that subjects do interpret Hazlett's examples as involving projection, see Wesley Buckwalter 'Factive Verbs and Protagonist Projection' ms.

the subject is believing something. If knowledge were a compound notion, made up of belief, plus truth, plus something else, then we might indeed expect that where the last two factors are missing, we would at least be left with the first. But on the broadly Williamsonian approach advocated here, where knowledge is seen a prime, the absence of the fact will leave us with nothing to be salvaged. I thus take the observation that thin factives cannot be cancelled as support for that approach.

THE KIPARSKY BORDERLINE CASES

As we saw, the Kiparsky tests gave rise to a number of borderline cases; perhaps examining them individually will provide an explanation. Such an approach inevitably has an air of special pleading. I am far from convinced that it is the right path to take, but let us take a few steps down it anyway.

'Proved' and 'Showed'

These are already problematic, in that they don't entail knowledge of what is proven:

He thought that he had proved (shown) that it was sound but
actually he'd proved (shown) that it was complete.

They are not stative, so are not counterexamples to Williamson's hypothesis; but without some further explanation of why that might be significant, that seems a rather *ad hoc* restriction.²⁹ How should they be understood?

I suggest that they are not propositional attitude verbs. Instead I suggest that they have two senses, the first exhibited by sentences like:

His first paper proved that the logic was sound and complete
(equivalently: proved the soundness and completeness of the logic)

His experiments established that the disease was infectious

I think that these should be treated like

The footprints proved that the beast had been there

A rough first pass is that the relata of these sentences are something like evidence (understood very widely to include a written proof) and a conclusion; the sentences say that the evidence conclusively establishes the truth of the conclusion. The first relatum is typically not an agent. These sentences certainly aren't propositional attitude ascriptions.

Then there is a derivative use of the verb that does take an agent as the first relatum:

He proved that A

²⁹ Huddleston and Pullum put them in a small class that they say entail, but don't presuppose, their complements. But I don't really understand the proposal here. Since their account of entailment in terms of non-cancellability seems to make it incompatible with presupposition, one might have expected entailing but not-presupposing to be coextensive with entailing.

This is made true just in case the agent has done something that results in, or perhaps results in it being known that there is, a situation as described by the first sort of sentence. Typically that will involve an intention to bring about such a situation on the part of the agent, but it need not (the agent may have been trying to do something else). When the sentence is progressive the agent need not even bring the situation about

He was just proving it when he died

So these are process or activity verbs, and, like many other process or activity verbs (baking a cake) don't attribute propositional attitudes, even though propositional attitudes are typically necessary for them to hold.

The suggestion then is that every use of 'prove' and 'show' falls into one of these two camps; so there aren't any factive propositional attitude uses to account for.

'Revealed'

'Revealed' is similar to 'proved': there is an evidential sense:

His behaviour revealed that he was hiding something
and a derivative agential sense

He revealed that he was hiding something

Again I suggest that in in neither case are these propositional attitude ascriptions.

'Discover'

When taking a *that*-clause complement 'discover' lives a dual life, acting sometimes as thin factive roughly equivalent to 'realize', and sometimes as a thick factive meaning roughly 'to be the first to come to know'. Could this duality explain its anomalous behaviour?

'Learn'

'Learn' also lives a dual life, but in this case sometimes as a thin factive, and sometimes not as a factive at all. In the latter use, as in 'Schoolboys in Roman times learned that the Earth was the centre of the universe', it corresponds to having been taught. In its factive use there is no teaching requirement. In line with this, Wesley Buckwalter found that subjects judge that non-factive uses of 'learn' much more acceptable than non-factive uses of 'know', especially in the teaching cases. Again perhaps the duality explains the anomalousness.

'Realize'

The behaviour of 'realize' is hard to explain. A first thought is that 'realize' differs from 'know' only in that realizing is an accomplishment and knowing a state. But if that is right, why, unlike 'know' and like the thick factives, does it take not take the infinitive construction? I have no explanation. Remarkably to my ear, Buckwalter found that subjects judged non-factive uses of 'realize' just as acceptable as non-factive uses of 'learn'.

All in all then, there are some distinctive features of the borderline cases, which may explain why they are there. Alternatively, we might abandon the hope of drawing a neat partition between thin and thick factives, and talk instead of a continuum. Or we might privilege just one of the Kiparskys' tests—it is the third, the nominal gerund test, that best predicts whether the factive presupposes knowledge of the complement in addition to its truth. I shall not pursue the issue further. Any resolution here will need to turn on a better understanding of what these syntactic features have to do with the semantic features that have been my focus.³⁰ In the absence of such an understanding, let me return to consider the significance of the Facts-for-factives conjecture.

WHAT CONCLUSIONS SHOULD WE DRAW?

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. At most then what I have been doing is, in Strawson's term, descriptive metaphysics.³¹ 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, ask people explicitly to come up with an account of what they believe in, one that makes sense of the way that they speak. In effect that is Quine's proposal. 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.

I have little sense of how significant the features discussed here will turn out to be. Native speakers tell me that certain non-Indo-European languages—Hebrew, Mandarin, Hungarian—contain contra-factives; they may well be right. But even if my thesis that there are no contra-factives ends up only being true of English and some closely related languages, I still think that it is quite remarkable, and that it

³⁰ I see one possible explanation of the why the second test works: why it is that 'the fact that' operator can be applied within the scope of the thick factives and not the thin. The idea is that the operator is acceptable with the thick factives since it serves the function of indicating that the complement sentence is indeed true. With thin factives this is already obvious, and so the operator is unacceptable because otiose. Geach suggests an account on which 'the fact that' plays very much this role. See *Logic Matters* (Oxford: Basil Blackwell, 1972) p. 22. Thanks to Alex Oliver for the reference.

³¹ *Individuals* (London: Methuen, 1959)

offers to shed some light on the conceptual structure that is reflected, however locally, in those languages.³²

A further question arises about whether there are any facts, and if there are, what they are like, and whether 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.

³² That, of course, is why I have focussed on *atomic* factives, in the hope that they correspond to what is conceptually primitive; given the psychological findings mentioned above, perhaps I should say that the hope is that they correspond to what is primitive in our explicit linguistically based concepts.