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Quasi-Factives and Cognitive Efficiency

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3.1 Introduction: Motivation and Game Plan

The term ‘quasi-factive’ is our own coinage, hence readers can be forgiven for not knowing what our topic is. To indicate that right off, it’s best to start with examples:

- (3.1) It isn’t widely known that Obama has been arrested
- (3.2) Please do not acknowledge at the press conference that Obama has been arrested

Both very strongly suggest something which is false, namely that Obama has been arrested. Yet the first sentence, a declarative, is strictly speaking true. And the second, an imperative, expresses an order that is wholly appropriate given the actual facts.

Such sentences are interesting for several reasons. They may seem to call for an analysis in terms of ‘weak logico-semantic support’: patently, there is less than full-on encoded entailment of the complement in (3.1), but maybe something less strict is at work. They raise the familiar issue of how much linguistic convention contributes to in-context meaning, versus how much is owed to general-purpose cognitive and pragmatic factors. For instance, does (3.1) have a compositionally fixed standing linguistic content such that it is weakly logico-semantically implied that Obama has been arrested? Or is such an alleged ‘reading’ really just a pragmatic effect of a univocal sentence? In addition to these long-standing issues in philosophy of language and linguistic pragmatics, we are motivated by something social and ethical. The (seeming) mismatch between what such sentences mean in the language versus how they are standardly used can give rise to what Mitch Green [p.c.] has labelled ‘verbal sleight of hand’, wherein a hearer may be bamboozled into embracing a belief without explicit semantic endorsement by the speaker. That is, such sentences work a kind of magic. As in a magic trick – or, maybe better, a ‘con job’ – there is a distracter, namely the complex embedding structure. There is an illusion created, viz., that the speaker has logico-semantically committed himself to the truth of a claim. Finally, and to anticipate, in creating the illusion, the trickster

exploits a natural psychological tendency in humans: their perfectly appropriate quest for cognitive efficiency.

So much for motivation. Our discussion will proceed as follows. Moving beyond examples, we offer a fuller description of the phenomenon: the salient characteristics of quasi-factives, and various sub-kinds. Then a sketch of a cognitive-pragmatic explanation of why we hear them as we do. We end with a major concern.

3.2 Description

A first crucial step is to sort out terminology. Recognising that usage varies widely, we will simply stipulate: a *factive verb* is one such that, in the right linguistic context, the complement of that verb is analytically entailed by the truth of the matrix sentence. ‘Know’ is the paradigm example, but other factive verbs include ‘inform’, ‘recall’, ‘recognise’, ‘regret’, etc. A *factive sentence*, on the other hand, is one in which the linguistic context *is* right, so that the complement of the factive verb actually is analytically entailed. Thus (3.3) and (3.4) both contain factive verbs and are factive sentences:

(3.3) Juanito knows that Ottawa is the capital of Canada

(3.4) Rifat informed her mother that Ottawa is the capital of Canada

Crucially, as we use the terminology, there can be non-factive sentences which contain factive verbs. (3.5) is not a factive sentence, nor is (3.6):

(3.5) Juanito knows whether Regina is the capital of Canada

(3.6) If Rifat purchases a house and a condo, she will regret
buying a condo

Quasi-factives fall within this genus of cases. Our species is especially interesting because it is hard not to *hear* our sentences as factive.¹ Said out of the blue, (3.1) and (3.2) are understood as very strongly suggesting the truth of the complement. Indeed, the hearer might easily report the speaker of (3.1) and (3.2) as having ‘said’ that Obama has been arrested; relatedly, the truth of the complement may naturally be heard as ‘main point’.² All of this presumably

¹ Does the term ‘quasi-factive’ apply to a kind of sentence type or to (potential) utterances of a certain sort? Are quasi-factives, like factive sentences, united by a properly logico-semantic set of features, or are they a ‘pragmatic kind’? In this introductory description, we leave such issues open, so as not to beg too many questions.

² In the earliest discussion of the facts that we are aware of, Hooper (1975: 97ff.) recognises, albeit using different terminology, that the complement of ‘I’m not surprised that the dog bit the mailman’ may easily be heard not only as ‘said’ but as ‘main point’ – with ‘I’m not surprised that’ being understood as merely parenthetical. For additional early discussion, see Green (1976). Simons (2007) addresses in compelling detail similar sorts of phenomena.

has something to do with the fact that suggesting the truth of the complement is part of the usual usage of (3.1) and (3.2) – as contrasted with one-off particularised conversational implicatures. A final and seminal feature of our quasi-factives is this: *if one stops and pays attention*, one notices that (3.1) and (3.2) are not factive sentences in our sense. More than that, in the case of (3.1), the falsehood of the complement entails the truth of the whole. Thus, though it sounds humorous, there is no contradiction in saying:

- (3.7) It isn't widely known that Obama has been arrested, because he hasn't been arrested!
- (3.8) Please do not acknowledge at the press conference that Obama has been arrested, because he hasn't been arrested!³

There are numerous sub-varieties of our quasi-factives (Barceló & Stainton 2016). The factive verbs may involve propositional attitudes or discourse. The propositional attitude verbs, in their turn, divide into cognitive/perceptual ones (such as 'forget', 'notice', 'know', 'recall', 'recognise', 'realise' and 'see') and emotional/evaluative ones (e.g., 'amuse', 'be proud', 'bother', 'care', 'excite' and 'find it odd/surprising/terrific/tragic/unacceptable/wonderful'). Examples of the discourse sub-variety, beyond 'acknowledge', include 'admit', 'confide', 'confirm' and 'reveal'. (Some speakers hear 'confess', 'note' and 'report' as discourse-reporting factive verbs too.)

There are also various syntactic configurations which yield quasi-factive sentences. The verbs can take clausal complements – including finite ones (as in our original examples), but also infinitival clauses and small clauses:

- (3.9) I_i can't recall [_S e₁ being shot]
- (3.10) I_i don't regret [_S e₁ leaving]
- (3.11) No one saw [_{SC} him nude]

And the complements don't have to be clausal:

- (3.12) I didn't recognise [_{NP} Clarice]
- (3.13) Have you been informed about [_{NP} Carson's forced resignation]?
- (3.14) I am not pleased about [_{NP} the recent imprisonment of the Governor]

Also, the cancelling negative environment need not be a plain-old negative particle, as in (3.1) and (3.2). Equally effective is a negative lexical entry or a negating quantifier phrase:

³ See Carston (1998a) for a more developed argument supporting the claim that sentences like (7) are not contradictory.

(3.15) It's *seldom* reported that Queen Elizabeth was born in Germany

(3.16) *No one* noticed the recent imprisonment of the Governor

(3.17) I *refuse* to recognise that it doesn't bother you that Clarice is in jail

More controversial as negating contexts are non-declarative moods as in (3.13) above and (3.18) and (3.19) below, and the antecedent of a hypothetical conditional, as in (3.20) and (3.21):⁴

(3.18) Is it widely known that Obama has been arrested?

(3.19) Did her husband express surprise that Clarice has been arrested?

(3.20) If Chang realises that Bob has been arrested, he will cry.

(3.21) I would be remiss if I neglected to thank Daniel for his feedback.

3.3 Our Cognitive-Pragmatic Explanation

We call our examples 'quasi-factives' precisely because they include factive verbs and are heard, in the usual case, as requiring (even as part of 'what is said' or the 'main point') the truth of the complement; yet, on the other hand, because of the negative environment, careful reflection establishes that there is no such entailment, and that cancellation is possible. These are sentences, then, which are not genuinely factive, but where some sort of 'quasi' is in play. We turn now to an explanation of how they work this magic. That explanation has a logical bit and a psychological bit.

With factive verbs, as a matter of analyticity, there is always the conjunctive claim that the agent stands in at least one relation to a proposition, and that said proposition (however expressed syntactically) is true.⁵ For instance, and simplifying, 'Rob knows that Obama is in jail' entails the conjunction {[(Rob believes that Obama is in jail) & (Rob has good justification for believing that Obama is in jail) & (Rob's justification and belief about Obama being in jail are connected in the right way) & ...] & (Obama is in jail)}. As a result, a negative embedding environment induces the negation of an (implicitly) conjunctive

⁴ The generalisation seems to be that negative contexts, in the sense at issue, are those which license negative polarity items (NPIs). We won't explore that observation here. As an interesting aside, notice that quasi-factives can embed within each other, as in (3.17). The effect of the complement seeming-to-be-said is retained even in such cases.

⁵ We set aside in this brief paper a complication noted by Karttunen (1971: 56ff), namely that the complement of the factive verb may consist of an open sentence, one bound by a quantifier higher up in the matrix sentence. His example is [Some_i senators regret that [they_i voted for the SST]]. In such cases, it isn't strictly the case that the complement *considered in isolation* is guaranteed to be true by the factive nature of the verb.

claim. Let's put things schematically, and then work through an example. A factive sentence of the form $A\Phi(p)$ entails $\{[A\Phi_1(p) \& A\Phi_2(p) \& A\Phi_3(p) \& \dots] \& p\}$. Hence $\sim A\Phi(p)$, a schema for our quasi-factives, entails $\sim\{[A\Phi_1(p) \& A\Phi_2(p) \& A\Phi_3(p) \& \dots] \& p\}$. Now, the negation of a conjunction is logically equivalent to a disjunction of negations: De Morgan's law states that $\sim(q \& r)$ is equivalent to $(\sim q \vee \sim r)$. Applying this, $\sim\{[A\Phi_1(p) \& A\Phi_2(p) \& A\Phi_3(p) \& \dots] \& p\}$ is equivalent to $\sim\{[A\Phi_1(p) \& A\Phi_2(p) \& A\Phi_3(p) \& \dots] \vee \sim p\}$. Applying the law a second time, to the first complex disjunct, we get as the entailment of a quasi-factive:

$$(3.22) \quad [\sim A\Phi_1(p) \vee \sim A\Phi_2(p) \vee \sim A\Phi_3(p) \vee \dots] \vee \sim p$$

Applying this abstract machinery to an example, (3.23) below entails the negation of a conjunctive claim: $\sim\{[(\text{Rob believes that Obama is in jail}) \& (\text{Rob has good justification for believing that Obama is in jail}) \& (\text{Rob's justification and belief about Obama being in jail are connected in the right way}) \& \dots] \& (\text{Obama is in jail})\}$.

$$(3.23) \quad \text{Rob doesn't know that Obama is in jail}$$

This is equivalent to $\sim\{[(\text{Rob believes that Obama is in jail}) \& (\text{Rob has good justification for believing that Obama is in jail}) \& (\text{Rob's justification and belief about Obama being in jail are connected in the right way}) \& \dots] \vee \sim(\text{Obama is in jail})\}$. And that, in turn, leaves us with two potential truth-makers for (3.23): $[\sim(\text{Rob believes that Obama is in jail}) \vee \sim(\text{Rob has good justification for believing that Obama is in jail}) \vee \sim(\text{Rob's justification and belief about Obama being in jail are connected in the right way}) \vee \dots]$ on the one hand and $\sim(\text{Obama is in jail})$ on the other.⁶

The psychological bit is even more complex. We will therefore lay it out in two steps. Importantly, the two (major) negative disjuncts differ, and along two axes. In the cases that work most effectively, the complement p is surprising. This makes the negation, $\sim p$, *unsurprising*: that the Queen was not born in Germany, e.g., is hardly newsworthy. In comparison, the negation of the relational bit, i.e., of the first (major) disjunct in (3.22), will be more noteworthy. Suppose Elizabeth the Second was born in Germany; it would be surprising if this curious and important fact were seldom reported. The first contrast between

⁶ A logico-metaphysical subtlety merits mentioning, one suggested by Soames' (1977: 276) criticism of Wilson (1975). Strictly speaking, there are *many* potential truth-makers for a sentence like (3.23): e.g., $\sim[(\text{Obama is in jail}) \vee (\text{Rob has good justification for believing that Obama is in jail})]$ would render the sentence true. We hold, however, that such logical combinations are not among the most psychologically accessible potential truth-makers – any more than $\sim[(\text{Obama is in jail}) \vee (3^2=11)]$ is, though it too is sufficient for the truth of 'Rob doesn't know that Obama is in jail'. Thus, it is the psychological aspect of our story, not the logical bit, that leaves only two salient options.

the two disjuncts, then, pertains to the amount of ‘cognitive pay-off’: there is little of it, if the complement p is being negated; but there is rather more if the relation-stating disjunct $[A\Phi_1(p) \& A\Phi_2(p) \& A\Phi_3(p) \& \dots]$ is denied. A second difference is this. A quasi-factive $\sim A\Phi(p)$ is not a cost-effective choice in terms of conveying that the complement is false, since there is a far less cognitively taxing option: namely, saying $\sim p$. In contrast, there isn’t a readily available alternative for phrasing $[\sim A\Phi_1(p) \vee \sim A\Phi_2(p) \vee \sim A\Phi_3(p) \vee \dots]$.

Returning to (3.23), that Obama is not in jail is unsurprising. Besides, there is a much more straightforward way of getting it across: saying ‘Obama is not in jail’. In contrast, the relational bit is surprising: it would top all the headlines around the world if Obama were in jail, and thus Rob would be expected to know. And, as Gettier cases teach us, there is no straightforward way of getting across just the relational bit $[\sim(\text{Rob believes that Obama is in jail}) \vee \sim(\text{Rob has good justification for believing that Obama is in jail}) \vee \sim(\text{Rob’s justification and belief about Obama being in jail are connected in the right way}) \vee \dots]$. (Hence those final ellipses.) The upshot: it would be twice-over more cognitively efficient for the speaker to intend the negation-of-the-relations truth-maker. So, for pragmatic reasons, the hearer ignores the not-in-jail disjunct.⁷

A second step in our psychological story is required because our explanandum is that the complement p is heard as ‘said’ in quasi-factives. But the foregoing only explains why $\sim p$ is not conveyed. These are patently not the same: e.g., if someone utters ‘It’s raining’, they will almost certainly not convey that the Queen was not born in Germany – yet they won’t be heard as saying that she was.

We thus need to revisit a simplification. As the formulation in (3.22) actually makes clear, what we have sometimes referred to as *the* relational disjunct is actually disjunctive content-wise. Hence, as far as the logico-semantic content of a quasi-factive sentence goes, any of $\sim A\Phi_1(p)$, $\sim A\Phi_2(p)$, $\sim A\Phi_3(p)$, etc., could be intended. But none is very psychologically accessible, especially in the presence of a very manifest concept, namely $\sim\Phi(p)$. It is altogether natural, given that both negation and Φ are maximally salient, for a hearer of a quasi-factive sentence $\sim A\Phi(p)$ to therefore construe ‘*the* relational disjunct’ as $A\sim\Phi(p)$. Finally, $[\sim A\Phi_1(p) \vee \sim A\Phi_2(p) \vee \sim A\Phi_3(p) \vee \dots]$ is not factive, nor are any of its disjuncts. However, given that the ‘relational verb’ Φ is factive, so is $\sim\Phi$. Hence the sentence which the hearer ‘leaps to’ as more psychologically accessible, $A\sim\Phi(p)$, is factive too. Thus, in terms of logico-semantic relations, $\sim A\Phi(p)$ does not entail $A\sim\Phi(p)$; nor is it even weakly logico-semantically supported. Nonetheless, the move from the

⁷ In effect, this is the inverse phenomenon of what Grice (1981) called ‘conversational tailoring’: instead of ignoring the implicit conjuncts that are already part of the common ground, here we ignore the implicit disjuncts.

former to the latter is explicable because of our natural inclination towards cognitive efficiency.

Let us continue with (3.23) as our worked example. Psychological step one explains why the proposition THAT OBAMA IS NOT IN JAIL gets ignored. But how does OBAMA IS IN JAIL get to be ‘said’? ‘Know’ is an extremely complex verb. The quasi-factive sentence (3.23) will thus provide an extremely complex relational disjunct: $[\sim(\text{Rob believes that Obama is in jail}) \vee \sim(\text{Rob has good justification for believing that Obama is in jail}) \vee \sim(\text{Rob's justification and belief about Obama being in jail are connected in the right way}) \vee \dots]$. Any negated disjunct (and, as per footnote 6, any subset of them), is a potential truth-maker for our sentence. And none is factive. However, these are not nearly as cognitively salient as the proposition ROB FAILS-TO-KNOW THAT OBAMA IS IN JAIL, because the verb ‘know’ has actually been *spoken*, as has a negating particle. Hence the most cognitively salient content, barring special contexts, will be this – and it may, in the right circumstances, be heard as ‘said’.⁸ Finally, ‘fail-to-know’ functions like a factive verb. Hence this recovered-content entails that Obama is in jail. And content which is entailed by the ‘said’ is often itself heard as ‘said’, and even as ‘main point’. Voilà.

That is our positive explanation. We haven’t space here to address alternative accounts, except to mention one competing syntactic approach. It is crucial to distinguish our position from it. We have no objection to the observation that quasi-factives are reminiscent of scope-of-negation ambiguities. It is perfectly appropriate, e.g., to describe the effect of (3.1) in terms of hearing it as expressing the proposition OBAMA HAS BEEN ARRESTED, BUT THAT ISN’T WIDELY KNOWN (or more exactly, albeit much less colloquially, as IT IS WIDELY THE CASE THAT PEOPLE FAIL-TO-KNOW THAT OBAMA HAS BEEN ARRESTED), this contrasting with the wide-scope negation of the whole proposition, as in IT IS NOT THE CASE THAT IT IS WIDELY KNOWN THAT OBAMA HAS BEEN ARRESTED. It is a mistake, however, to move from this to the idea that one should explain the ‘ambiguity of quasi-factives’ in the same way one explains, e.g., the contrasting readings of ‘Rifat doesn’t like cats and dogs’. In particular, we reject the postulation of

⁸ Speaking of ‘special contexts’, it may seem problematic for our account that there is a kind of case where the ‘quasi-factive effect’ does not show up. Karttunen (1971: 63) noted them in passing: he pointed out that ‘John didn’t regret that he had not told the truth’ need not inevitably suggest the complement’s veracity, e.g., when the issue of whether John regretted not telling the truth has been explicitly raised. In fact, far from posing an objection, we think such cases provide additional support for our account. It explains these exceptions quite nicely. If someone out-and-out asks ‘Does Rob know that Obama is in jail?’ then answering with (3.23) need not be heard as quasi-factive because the mental representation */rob knows that obama is in jail/* is already activated; the necessary cognitive processing has already taken place. So, a correction with the fully spelled-out sentence is no longer as unduly demanding, and the pay-off is higher because a salient issue has been wholly and explicitly addressed.

multiple trees underlying (3.1), such that the hearer is tricked by an equivocation between them. (For instance, some theorists might postulate an underlying tree where the complement clause has been fronted, and another in which it remains *in situ*; others might posit one tree which has [neg] being the sister of the verb, and another which has [neg] as the sister to the matrix sentence. In both cases, the former tree actually would be factive, while the latter would not – thence the verbal sleight of hand.) Our account agrees on how quasi-factive sentences are *heard* (i.e., as suggestive of a scope-of-negation ambiguity), but we do not explain the phenomenon in any such way. To phrase our proposal another way, the hearer accesses a *narrow-negation content* in processing the utterance, and for cognitive-pragmatic reasons. (Compare: the sentence [_S That is not a bachelor] is surely not *syntactically* ambiguous among [[neg][_A male]], [[neg][_A adult]], [[neg][_A human]] and [[neg][_A unmarried]].)

3.4 Connection to Deirdre Wilson's Work

In this section, we underscore three points of contact with Deirdre Wilson's ground-breaking work. This should clarify still further our view, and it will afford an opportunity to hark back to the initial triad of issues in philosophy of language.

Wilson (1975) was a pioneer in her treatment of presupposition. She criticised the then-dominant view that it involved some sort of weak logico-semantic supporting relation. To explain, in (3.3) and (3.4) we encountered genuine entailment: both sentences logically require that Ottawa be the capital of Canada. Similarly, the truth of (3.24) logico-semantically guarantees the truth of (3.26):

(3.24) Jane has stopped smoking

(3.25) If Jane has stopped smoking, Mauricio will be thrilled

(3.26) Jane has smoked at some time in the past

But something less potent seems to be present in the relationship between (3.25) and (3.26): the former seems to merely provide weak, defeasible, logico-semantic support; there seems to exist merely an encoded *suggestion* of the truth of (3.26). Such appearances notwithstanding, Wilson rejected this whole picture: 'presuppositional analysis has no place in semantics' (Wilson 1975: xii). This isn't to deny that there is some 'suggesting' going on in a use of (3.25), but it is the speaker who suggests that Jane once smoked; and she does so by means of Grice-style pragmatics. Here we find a first connection with our treatment of quasi-factives. By definition, quasi-factive sentences do not entail the complement. One might suppose, however, that they 'weakly logically support it'. With Wilson, we think to the contrary that a *speaker* of a quasi-factive sentence will 'suggest things' – but these do not follow logically,

not even ‘weakly’, from the sentence she uses. We would equally echo two of her arguments for this approach. First, the class of quasi-factive constructions is heterogeneous in terms of grammatical structure. Along with Wilson, we think that’s because what they really have in common is something about which of their potential truth-makers are pragmatically appropriate – rather than anything about shared syntactic form. Second, our mutual pragmatics-oriented approach explains why the ‘support’ we find in quasi-factives is so weak that it allows for cancellation: it’s because there isn’t logico-semantic support after all. Cancellation is just what one expects from a pragmatic phenomenon: the hearer draws a non-monotonic inference based on available evidence; the speaker then provides additional evidence, explicitly ruling out the inference’s conclusion via cancellation; what had seemed the most plausible hypothesis about speaker meaning thereby gets rejected.

Closely related is Wilson’s Grice-inspired position on the role of conventional linguistic meaning in fixing what people naturally ‘hear’ as the meaning. In many cases, people ‘hear’ as part of sentence-meaning what is actually supplied pragmatically. Our view on quasi-factives dovetails with her stance. We do not believe that a *sentence* like (3.1) has, as a matter of its standing linguistic meaning, a ‘reading’ on which it (weakly) requires the truth of the proposition OBAMA HAS BEEN ARRESTED. Syntax and compositional semantics do not yield any such encoded ‘reading’. Instead, cognitive-pragmatic factors make it such that people tend to interpret typical utterances this way. Connecting even more directly, Wilson noticed forty years ago that (3.27), a paradigm example of a quasi-factive sentence, does not logically entail (3.28):

(3.27) Mary doesn’t regret that her grandmother was trampled by an antelope

(3.28) Mary’s grandmother was trampled by an antelope

She held that the first sentence is logically equivalent to:

(3.29) Either the grandmother was trampled and Mary doesn’t regret it, or the grandmother wasn’t trampled.

Hence (3.27), she says, is simply true if no trampling occurred. This, of course, represents the heart of our view.⁹

⁹ In fact, what Wilson is implicitly proposing here differs slightly. The way that she phrases example (3.29) suggests that she takes the logical equivalent of the quasi-factive sentence $\sim A\Phi(p)$ to be $\{[(p \ \& \ (\sim A\Phi_1(p) \vee \sim A\Phi_2(p) \vee \sim A\Phi_3(p) \vee \dots)] \vee \sim p\}$. This contrasts with our present account because p appears as a conjunct within the first (major) disjunct. In this respect, the view seems closer to a position we pursued in Barceló and Stainton (2016: 73ff.). An advantage of this approach is that it explains directly why p is heard as said, once the second (major) disjunct has been set aside by the hearer on the grounds of cognitive inefficiency. There is then no need for our ‘second psychological step’.

A final point of contact pertains to Wilson's later work. In order to keep our ideas accessible to non-specialists, we haven't spelled them out using the rich resources of relevance theory proper. However, the psychological story we tell about quasi-factives co-opts its notion of a cognitive cost-benefit analysis. Specifically, the reason why one of the logical options is typically ignored, according to us, has to do with (i) the comparative improvement of the cognitive environment given the processing cost of the complex linguistic stimulus and (ii) the much higher manifestness of the 'wrong' factive relational verb (in bold), $A\sim\Phi(p)$, as opposed to the actually-entailed non-factive [$\sim A\Phi_1(p) \vee \sim A\Phi_2(p) \vee \sim A\Phi_3(p) \vee \dots$].

3.5 A Major Challenge

Both our description of the phenomenon and our explanation of it are incomplete and rough and ready, and hence open to a range of objections. This is inevitable in such a brief treatment. There is, regardless, one major challenge that is too important to postpone till a future paper. It arises because of phenomena which look very similar to quasi-factives in terms of surface effects, but where our logico-psychological mechanisms seemingly don't apply.

In the first class of cases, including (3.30)–(3.37) below, the structure and elements of the sentences are similar to quasi-factives: there is a propositional attitude or discourse verb, and some kind of negative environment. And the sentence is typically heard as factive.

- (3.30) Don't tell anyone that Kathy has been arrested
- (3.31) No one is denying that Rob is a serial killer
- (3.32) Has it been announced that Mick Jagger was elected President of the United States?
- (3.33) Was Clarke ever questioned about Jenna's murder?
- (3.34) It's very hard to believe that Obama is dead
- (3.35) No one imagined that Pluto was inhabited
- (3.36) Rogelio had no idea that Pluto was larger than the Earth
- (3.37) Who would have suspected that Trump was born in Russia?

However, none of these sentences contains a factive verb: 'announce', 'deny', 'question' and 'tell' are discourse verbs, but not factive ones; 'believe', 'have an idea that', 'imagine' and 'suspect' are propositional-attitude verbs, but not factive ones. Indeed, some of these verbs suggest that their complement is *false*: e.g., 'deny that', 'have an idea that' and 'imagine that'.

There is, then, seemingly no complex conjunction analytically entailed in the corresponding positive sentences; hence the negative-environment versions do not entail a pair of negative disjuncts, either of which would render the whole negated sentence true (with one of these disjuncts being ignored for psychological reasons). In Barceló and Stainton (2016), we addressed this by suggesting, tentatively, that our logico-psychological account could be extended to such cases. One might speculate, e.g., that ‘No one imagined’ in (3.35) is naturally heard as ‘No one even imagined’. The latter, in its turn, (sort of?) entails that no one knew... And then our story would apply. Or again, because of a principle of charity, or because of human’s automatic trust in testimony, maybe ‘Don’t tell anyone that p’ is heard as strongly suggesting that p... And then, once again, the negation-of-a-conjunction mechanism applies. (So implicitly committed were we to this strategy that we applied the label ‘quasi-factive’ to cases like (3.30)–(3.37) when explaining the phenomenon.) At this point, we are even less sanguine about assimilating such examples to our logico-psychological apparatus. There are issues about the plausibility of the specific stories: e.g., how does ‘even’ get read into (3.35), and why is the negative (3.30) heard as making the arrest more believable than the positive ‘Tell someone that Kathy was arrested’? But even if such minutiae could be dealt with, there’s a larger worry, namely that both (3.1)–(3.2)/(3.9)–(3.21)/(3.23)/(3.27) on the one hand and (3.30)–(3.37) on the other seem to belong to a still larger family of cases. And there’s simply no hope of applying our exact mechanism to that overarching family. There is no negation in (3.38) and (3.39), and no discourse or propositional-attitude verb in (3.40). And yet, the ‘verbal sleight of hand’ clearly arises.

(3.38) Axel hopes to return to space

(3.39) I’m delighted to say that Paul Simon has been elected President of the United States!

(3.40) If Neil Young were healthy, he would be touring

Happily, we can at least gesture at two avenues of escape consistent with our overarching linguistico-philosophical commitments. Possibly, there simply is no genuine underlying kind at work hereabouts, in terms of mechanism – not even one that underlies both (3.1)–(3.2)/(3.9)–(3.21)/(3.23)/(3.27) on the one hand, i.e., genuine quasi-factives, and (3.30)–(3.37) on the other. There are merely shared superficial effects. If this is correct, quasi-factives per se would remain a proper explanatory kind, characterised by the specific logico-psychological mechanisms we have proposed. (To give an analogy, just as the existence of sea creatures which swim and feed in superficially similar ways is no threat to cartilaginous fish being a unique and interesting kind, it

is no threat to the reality and specialness of quasi-factives that there are other similar means to ‘con’ hearers.) The other avenue, the one we presently incline towards, is that all these cases are united by more than the superficial similarities: there is something shared at the level of psychological processing. Specifically, the general cognitive efficiency story can be told in all cases – it’s only the specifics of the logical bit which will vary. (Again, see Barceló & Stainton 2016.)

3.6 Concluding Remarks

We conclude by reiterating what we have and have not done.

We described a sub-class of non-factive sentences containing factive verbs. What’s peculiar about them is that they are, as it were, heard as factive – and hence lend themselves to ‘verbal sleight of hand’. We then offered a positive account of how this surprising effect is achieved. Logically speaking, the sentences analytically entail a pair of negative disjuncts – one about the relation (e.g., Rob not believing, not having justification, etc.) and one about the propositional relatum (e.g., THAT OBAMA ISN’T IN JAIL). Psychologically, the latter disjunct would violate a requirement of cognitive efficiency; hence something *maximally salient and intimately connected conceptually to the former* is seized upon. But this latched-upon content (here, the content FAILS-TO-KNOW) entails the truth of the embedded proposition: if Rob fails-to-know p , then p is true. (Compare the English ‘misperceive’, the French ‘ignore’ and the Spanish ‘desconoce’.) In many contextual circumstances, then, the complement may be heard as ‘said’ and even as ‘main point’ – though as a matter of linguistic convention it isn’t in fact entailed, nor is it even ‘weakly logico-semantically supported’.

We haven’t attempted to explore alternative explanations, and we haven’t filled in the details of our description and explanation (e.g., how the varied negating contexts apply in the sub-cases). Nor have we offered anything like a full response to the major concern about generality. Nonetheless, we hope our discussion will contribute to progress on the three philosophical issues mentioned at the outset.

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