

Using Tautologies and Contradictions*

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Abstract. Tautologies are necessarily true, contradictions necessarily false, and so one might expect neither of them to be conversationally useful. Since at least Grice 1975, however, felicitous uses of tautologies have been noted. In this paper, I present an analysis of felicitous uses of tautologies and contradictions where each gives rise to an implication. For tautologies, this implication is a specific conversational implicature, an uncontrollability implicature; for contradictions it is part of the literal content, a contextual restriction that arises as a result of the process of semantic interpretation. I argue that other accounts of these phenomena have not been sufficiently general.

Keywords: tautology, contradiction, conversational implicature, at-issue, vagueness

1. Introduction

Tautologies and contradictions have long been thought to be well understood. Tautologies have been much discussed in the literature, especially regarding the question of whether to account for nominal tautologies—those with a repeated noun phrase, like *Boys will be boys*—in the semantics (Wierzbicka 1987, 1988) or pragmatics (Levinson 1983; Ward and Hirschberg 1991) or both (Fraser 1988; Gibbs Jr. and McCarrell 1990; Bulhof and Gimbel 2001, 2004), and how. Of these accounts, none provide a unified analysis which captures the uses of different shapes of tautologies by means of a single mechanism. Contradictions have also garnered some attention (Ripley 2011; Sauerland 2011; Cobreros, Egré, Ripley, and van Rooij 2012; Alxatib, Pagin, and Sauerland 2013), though there too only some of the relevant phenomena have been addressed. In this paper, I present general analyses for tautologies and contradictions.

1.1. The puzzle

In this paper, I examine felicitous uses of tautologies and contradictions such as those in (1) and (2), respectively.¹

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|-----|----|---------------------------------------|-----------------------------------|
| (1) | a. | I'll be there if I'll be there. | <i>propositional, conditional</i> |
| | b. | Either I'll like him or I won't. | <i>propositional, disjunctive</i> |
| | c. | Hubert is Hubert. | <i>nominal, equative</i> |
| (2) | a. | Janice is smart, but she isn't smart. | <i>propositional, conjunctive</i> |
| | b. | If Peter is there, he won't be there. | <i>propositional, conditional</i> |
| | c. | Kevin isn't Kevin. | <i>nominal, equative</i> |

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¹Most of the literature focuses on nominal tautologies like *Boys will be boys*, but some argue that these aren't equative constructions—and in fact that English has no equative constructions—, and so are not truly tautologies (Moro 1997; Adger and Ramchand 2003, among others; see Heycock and Kroch 1999; Heycock 2012 for the opposite view). Instead, I will focus on propositional tautologies (and contradictions), which aren't subject to this critique.

The prominent theory of assertion developed in Stalnaker 1974, 1978 lists as principles of non-defective conversation that a proposition asserted should be compatible with at least some of the worlds in the context set (lest it be “self-defeating”) and that it should not be true in all worlds in the context set (lest it be “something that is already done”), the result of these two conditions being that “a proposition asserted is always true in some but not all of the possible worlds in the context set”. Contradictions, being necessarily false, violate the first condition of this principle: they denote no worlds, and so will denote no worlds in any context set. Rather than being informative, they are overinformative; intersecting a context set with the (empty set of) worlds denoted by a contradiction yields an empty context set: the absurd state. Tautologies, on the other hand, being necessarily true, violate the second condition: they denote all worlds, so will denote the entirety of any context set. Rather than being informative, they are uninformative; intersecting a context set with the (entire universe of) worlds denoted by a tautology yields an unchanged context set.

Considering that neither tautologies nor contradictions are informative in the normal way, we might expect them not to be conversationally useful—but there are felicitous uses, as seen above. And if both were to be useful, we might expect them to behave in the same way—but in fact they don’t, as we’ll see shortly. I’ll show that tautologies and contradictions each give rise to an implication.² For tautologies, this implication is a particular conversational implicature, an uncontrollability implicature. For contradictions, this implication is actually part of the literal content, a result of the process of semantic interpretation.

2. Tautologies

2.1. Data

For looking at the behavior of tautologies, we’ll focus primarily on one example, (3). Though not all tautologies are conditionals, the story is basically the same across different shapes of tautologies, and I’ll highlight some noteworthy differences along the way.

[Antoine has been pestering Cheryl all week, asking her if she’ll be at his party on Saturday night. After the twentieth time he’s asked her, she responds:]

(3) I’ll be there if I’ll be there.

In this context, Cheryl is using (3) to politely absolve herself of responsibility for her actions, to discharge any obligation to attend or (at least) to answer about her attendance. She’s saying that her attendance is beyond her control—call this an uncontrollability implication: an implication that the proposition is beyond the control of at least the speaker. She is (politely) refusing to answer Antoine’s question, in a sense saying only that she can’t answer his question; we might even be tempted to paraphrase (3) as *Stop asking!*, but this is a secondary implication, derived from it being beyond her control. (I’ll defend this claim in a moment.) The question arises, then: where do we see this uncontrollability implication, and where does it come from?

²I use *implication* in the Tonhauser, Beaver, Roberts, and Simons (2013: 70) sense, intended to be neutral about the nature of the inferred information (entailment, presupposition, conventional implicature, etc.), not to be confused with *implicature*. You can think of an implication as a ‘proposition conveyed to the hearer’.

This uncontrollability implication isn't solely a consequence of (3)'s future tense or first person, as one might think; in fact, we see the same implication arise with third person uses in the past, present, and future:

- (4) A: While you were away, the cat broke your lamp.
B: If it broke, it broke.
- (5) A: While you were away, the cat knocked over your lamp, and (now) it's broken.
B: If it's broken, it's broken.
- (6) A: What happens if, while you're away, your cat breaks your lamp?
B: If it breaks, it breaks.

In all of these cases, the lamp owner (B) expresses a lack of control over the lamp's (present or future) state. In all of these cases, the speaker means something like *There's nothing I/anyone can do about it (now)*. These examples also demonstrate this implication's tendency to be understood as describing not just the control of the speaker, but of everyone. Note that this happens whether the lamp's being broken is known (as in (4) and (5)) or unknown (as in (6)), so this is truly an implication about (un)controllability, not (a lack of) knowledge.

The felicity of an utterance of a tautology is tied to the availability of this uncontrollability implication. We return here to the invitation context of (3):

- (7) # It's entirely up to me. I'll be there if I'll be there.
- (8) # Nothing could possibly stop me. I'll be there if I'll be there.

Cheryl's explicitly claiming control over her decision makes the utterance bizarre, as we can see in (7–8). Denying her control, though, is felicitous:

- (9) $\left\{ \begin{array}{l} \text{It's out of my hands.} \\ \text{It's beyond my control.} \end{array} \right\}$ I'll be there if I'll be there.
- (10) I'll be there if I'll be there, (but) $\left\{ \begin{array}{l} \text{It's out of my hands.} \\ \text{It's beyond my control.} \end{array} \right\}$

We don't get the same behavior, though, for the *Stop asking* paraphrase mentioned above.

- (11) Nothing could possibly stop me. Stop asking.
- (12) It's out of my hands. Stop asking.

We can felicitously combine *Stop asking* with the explicit claim on control, while we can't do the same with tautologies (as demonstrated in (7–8)). This fits with my characterization of this meaning as secondary and contextual—being derived from the uncontrollability implication—as it behaves differently from the tautology itself.

Importantly, the uncontrollability implication is sensitive not just to the speaker's control, but also to other agents' and even non-agents' influence over the relevant events. Mentioning other influences can make an utterance of a tautology infelicitous:

- (13) a. # I'm not sure I can handle it. It's up to my doctor. I'll be there if I'll be there.
- b. I'm not sure I can handle it. It's up to my doctor. I'll be there if she says it's okay.
- (14) a. # It depends on the weather. I'll be there if I'll be there.
- b. It depends on the weather. I'll be there if it's not raining.

In (13a), Cheryl's attendance is up to her doctor, and uttering the tautology is infelicitous. Contrast (13a) with the much more natural (13b), which replaces the conditional's antecedent with the relevant determining influence. Similarly, (14a) conditions Cheryl's attendance on a known influence other than herself—here not any agent's behavior, but nature—and here too the tautology is infelicitous. The more natural (14b) replaces the antecedent with the relevant condition, and is felicitous in the same context. Importantly, in these cases, knowing about the conditions on Cheryl's attendance renders the utterance of a tautology infelicitous, even if those conditions are themselves out of the speaker's control. We can see this effect scale with the amount of knowledge one has about the influences on the relevant state of affairs:

[Your interview went well, I heard. Did you get the job?]

- (15) a. I'll get it if I get it.
- b. It's up to the hiring manager, Dennis. I'll get it if I get it.
- c. ? It depends on the hiring manager, Dennis. I'll get it if I get it.
- d. ?/# It depends on whether the hiring manager, Dennis, likes me enough. I'll get it if I get it.
- e. # It depends on whether the hiring manager, Dennis, thinks I'm tall enough. I'll get it if I get it.
- f. ## It depends on whether the hiring manager, Dennis, is taller than me. I'll get it if I get it.

In general, there are any number of reasons why a person might or might not be hired, leaving the uninformed candidate free to utter (15a). If the candidate knows that her hiring depends on the personal whims of one person, as in (15d), uttering the tautology is a bit marked but possible—there might be any number of factors determining Dennis's decision, and those factors remain unknown. By the time the candidate knows precisely the determining criterion, as in (15f),—even if she doesn't know the truth or falsity of the matter, if Dennis's height isn't known—the tautology can't be uttered felicitously. In short, the more that's known about the determining factors, the less felicitous the tautology.

Because they express uncontrollability, tautologies tend to convey a sense of finality—they close a line of questioning. In fact, we usually see them in response to a question, or discourse-final:³

- (16) PINKSTON: People look at you and say, 'You're 16 years old. What the heck could you possibly know about singing the blues?'
- LANG: To me, music is music. (CBS Sunday Morning, 1997)

³Both examples from COCA (Davies 2008–).

- (17) Traylor warns, “In the end, however hard I work for you, whatever strings I can pull, the buyer’ll either like the product – or he won’t.” (Inc. magazine, 2003)

In a framework like Roberts’s (1996) Question Under Discussion (QUD) model, we can think of tautologies as marking the current QUD-addressing strategy as unanswerable, leading to a shift in strategy or topic.

In looking at the felicitous uses of tautologies, we can also observe that they are subject to the typical conversational norms that we might expect, such as relevance. For instance, even though all tautologies denote the same set of worlds, not just any tautology is felicitous in a given situation. In the context of (3), where *I’ll be there if I’ll be there* is felicitous, the equally tautologous *Walruses live in Spain if walruses live in Spain* isn’t. (Neither walruses nor Spain are relevant to the context, and so can’t lead to the right implication.) Similarly, if the form of a tautology imposes any conversational restrictions, a felicitous use of that tautology must still conform to those restrictions. For example, it is well known that disjunctive utterances are only felicitous when both disjuncts are possible⁴ (Simons 1999, 2001). This explains the felicity of (18) and the infelicity of (19) in the same context as (3).

- (18) Either I’ll be there or I won’t.

- (19) # Either I’ve been invited or I haven’t.

Both disjuncts of (18) are possible in the context, and so (18) is felicitous. This is not the case for (19), on the other hand, whose first disjunct is entailed (and whose second disjunct is obviously false) in the context.

It’s worth noting also that the use of tautologies, and specifically their use to convey uncontrollability, is not just a quirk of English, but is in fact documented in a variety of languages. Conversationally-useful felicitous tautologies have been identified in Korean (Kwon 2009), Japanese (Okamoto 1991, 1993), Cantonese (Wong 2006), Colloquial Jordanian Arabic (Farghal 1992), and Dutch (Bulhof and Gimbel 2004) and these all fit the pattern described here. Considering the diversity of the languages that exhibit this phenomenon, it seems that the conveyance of uncontrollability is a fact about tautologies broadly, not about the conventions or particularities of any specific language.

2.2. Analysis

This uncontrollability implication is the core contribution of felicitous uses of tautologies, but what type of content is it? I’ll show in this next section that this uncontrollability implication is in fact a Gricean conversational implicature. As described by Grice (1975), conversational implicatures have four features: cancelability, strengthenability, nondetachability, and calculability. With the not-insignificant caveat that these features are imperfect as diagnostic tools (Sadock 1978; Simons

⁴That is, when each disjunct denotes a proposition which, when intersected with the context set, is non-empty.

2012)—confounded by the tautological nature of our examples—, we’ll see how far we can get by looking at these features.

As we already saw in (7–8), the implication carried by tautologies isn’t explicitly cancelable. (We can understand this infelicity if the only non-trivial content is conveyed by the implication, and so canceling it leaves an uncooperative discourse move.) Strengthening, on the other hand, is possible, as we saw in (9–10). We can test for nondetachability⁵ as in (20), replacing *I’ll be there* with a synonymous phrase.⁶

- (20) [Same context:]
- a. If I’m there, I’m there.
 - b. If I can make it, I can make it.

We see in these examples that the uncontrollability implication isn’t carried specifically by the particular forms used in (3), but by the (trivial) content conveyed by the utterance as a whole. This implication, then, is nondetachable; taken in addition to its strengthenability, this supports the claim that the uncontrollability implication is a conversational implicature.

The Gricean calculation which derives the conversationally implicated content from an utterance’s literal content is ultimately the most important factor in demonstrating that an implication is indeed an implicature. These stories come down to two parts: first, we motivate the reasoning about additional content, using Gricean maxims and the literal content of the utterance; second, we derive the additional content from the literal, using general reasoning and deductions about speaker intentions. I’ll now address each step in turn.

Motivating the reasoning process is straightforward, assuming the cooperativity of the speaker (as all Gricean calculations do). Let’s return to (3) in particular, for concreteness. Cheryl said something (whose literal content was) trivially true. She knew Antoine would know it was necessarily true (and she knew he would know that she had, and so forth). But considering that she said something (and didn’t obviously ignore the question or flaunt the maxims), Cheryl must have meant to say something about her attendance.⁷ This is the motivation for the reasoning process: Cheryl intended to say something, but the literal content isn’t it, so what is?

The second part of the calculation is deriving the uncontrollability implication from the literal tautology. Given Grice’s Quantity (or Horn’s Q-principle), Cheryl would have said the strongest

⁵As a reminder, content is detachable if it’s tied to a particular form, rather than its content.

⁶We maintain here the form of the tautology, such that all of the examples in (20) are conditionals, but note that we can even get the same meaning with a disjunction like *Either I’ll be there or I won’t*.

⁷One might argue that this is counterintuitive, as it might seem that in some sense Cheryl is *refusing* to say anything (real/useful) about her attendance: she’s refusing to answer the question! But importantly she isn’t just ignoring the question or remaining silent, and the literal content at least bears upon her attendance; she doesn’t respond by talking about her favorite ice cream flavor, after all. It seems to me that, in some real sense, Cheryl is in fact addressing the question, even if only by saying that she can’t answer it.

possible thing, being as informative as possible. She wanted to say something about her attendance, but was unable to say anything stronger than (3), that being the weakest possible utterance; she wasn't willing to endorse any of the possible alternatives—in particular, here, the alternative antecedents to the conditional.⁸ (That a calculability story should make use of alternatives is not unusual; we can think of this as an extension of the way alternatives are used for the calculation of scalar implicatures.) If there are no possible combinations of states of affairs that would make the consequent true—the information encoded in the alternative conditional antecedents—beyond setting the value of that proposition directly, then that proposition must be independent of external influences. The hearer can further note that this independence is relative to the speaker's belief state, and then reason that the proposition is at least beyond the speaker's influence (or at least her knowledge about her influence). From a literally tautological statement, then, we can derive the repeated proposition's independence, or at least being beyond the control of the speaker.

We can see from this derivation why it is that we see the behavior observed above. A felicitous tautology's calculation involves understanding the alternatives (here, alternative antecedents) as unendorsable; in (13a) and (14a), context shows the alternatives to be perfectly endorsable, rendering a tautology infelicitous. That no antecedents are relevant is used to derive the causal independence of the proposition, which explains why the more that's known about the influencing factors, the less felicitous a tautology is, as we saw in (15).

We've demonstrated, then, that tautologies trigger a consistent conversational implicature, namely the uncontrollability of the repeated proposition. This uncontrollability implicature is present across all shapes of tautologies, with only minor differences from the propositional conditional tautology explored in depth here. Different shapes are subject to different restrictions, like the relevance restriction on disjunctive tautologies noted in (18–19). Additionally, nominal tautologies invoke some contextual feature of the referent, as causal independence can be understood as a property of propositions but not of individuals; beyond this contextual feature, though, both the behavior and the calculation are the same as above.

3. Contradictions

3.1. Data

As we saw in (2), contradictions come in a number of shapes. And, just as we did with tautologies, in addressing contradictions we'll focus primarily on a single example, (21), proposing a unified analysis across the different shapes contradictions can take.

⁸Like Ward and Hirschberg 1991, this analysis makes use of alternatives, things which the speaker could have said but chose not to. Under Ward and Hirschberg's (1991) analysis, however, it is a particular alternative deemed most relevant to the situation at hand which is noticeably not said, and this alternative varies from context to context; how that specific most relevant proposition is identified is unclear. In this analysis, it is not any single alternative, but rather the entire set of possible alternatives, which is noticeably not said. That is to say, the hearer can use the knowledge that the speaker chose the strictly weakest utterance to make inferences about the speaker's beliefs about the world.

[Janice is at the top of her class at a prep school in Manhattan, which she commutes to from Brooklyn. Felicia is talking to Tracy about her.]

Felicia: Did you hear about Janice? Yesterday after school, she accidentally took the bus to Yonkers!

Tracy: Really? Isn't she valedictorian?

(21) Felicia: Janice is smart, but she's not smart.

In this context, Felicia is using (21) to say that Janice is smart in one sense, but not smart in another. The implication⁹ is that the interpretations of *smart* are non-identical. Here, we might paraphrase Felicia as saying *Janice is book-smart but not street-smart*. Note, though, that that particular paraphrase is contextually-cued; not every occurrence of the sentence in (21) need carry that same interpretation. For example, consider the same contradiction in a different context:

[Gustavo and Alexandra have been hiking for a week, led by their very capable nature guide, Janice.]

Gustavo: You'll never believe it! Janice told me she failed out of high school.

Alexandra: Really? But she's so knowledgeable about these woods, and such a good guide!

(22) Gustavo: Janice is smart, but she's not smart.

We can't paraphrase (22) the same way as (21); in this context, Janice isn't book-smart, but (something like) hiking-smart—in fact she's explicitly *not* book-smart. In both uses, however, Janice is understood to be smart in some sense but not smart in another.

In (21), we understand each instance of *smart* differently. Indeed, this phenomenon has been noted before: "What we are doing in making [a contradiction] informationally useful is reinterpreting in different ways distinct occurrences of [the repeated predicate]" (Chierchia 2013: 53).¹⁰ But when does this arise, and why and how?

This non-identity implication is at play whether the contradiction is presented as a single (complex) utterance, as in (21), or split across utterances, as in (23):

- (23) a. Tracy: Your friend Janice is the smart one, right?
b. Felicia: Yeah, she's smart.
c. Tracy: I heard she took the bus to Yonkers yesterday. What happened?
d. Felicia: Well, she's not smart.

Here, too, we understand the second *smart* as being different from the first, in exactly the same way as we do in (21).¹¹

⁹Here, again, I remain neutral for now as to the nature of this inference.

¹⁰Chierchia brings this up in discussing *It rains and it doesn't rain*, arguing for his distinction between G-trivial and L-trivial sentences.

¹¹One could also interpret Felicia as retracting her first assertion as she makes her second—and such an interpretation is more easily available here than in the single utterance in (21)—but one needn't interpret Felicia as retracting

We can interpret these repeated predicates non-identically because they exhibit a sort of vagueness, being amenable to multiple interpretations. Importantly, I don't refer here to the sort of vagueness that we see (especially) in gradable adjectives like *tall*—usually captured with reference to a comparison class, or a threshold on a scale—, but rather to a *minimal kind of vagueness* that is exhibited by a wide variety of lexical items. Indeed, non-gradable adjectives, nouns, and even verbs exhibit a particular sort of vagueness that makes them sensitive to context (Kamp and Partee 1995; Barker 2006). For example, consider the felicitous uses of the contradiction in (24).

(24) Javier drives a truck, but he doesn't drive a truck.

We can interpret the second occurrence of either the verb *drive* or the noun *truck*—cued by intonation—as meaning something different from the first. If *drive* is focused, we might understand Javier to drive especially slowly or otherwise substandardly; if *truck* is focused, we might understand Javier's truck to be miniature in size or perhaps painted some unusual (and unappealing) color. These interpretations needn't draw on the sort of vagueness that is typically ascribed to gradable adjectives, rather they rely on this certain minimal vagueness shared by a variety of lexical categories.¹²

Contradictions are sensitive to context not only in how a particular repeated predicate is interpreted, but also in which contradictions are felicitous in which contexts. Like tautologies, even though all contradictions denote the same worlds (namely none of them), not just any contradiction is felicitous in any context.

[Janice is at the top of her class at a prep school in Manhattan, which she commutes to from Brooklyn. Felicia is talking to Tracy about her.]

Felicia: Did you hear about Janice? Yesterday after school, she accidentally took the bus to Yonkers!

Tracy: Really? Isn't she valedictorian?

(25) # Felicia: Janice is tall, but she isn't tall.

(26) # Felicia: Javier drives a truck, but he doesn't drive a truck.

Neither (25) nor (26) are felicitous in the context of (21), even though we can easily imagine other contexts in which they might be uttered felicitously. It's not just the contradictory nature of the sentence but also the contextually-relevant referents and predicates which allow a contradiction to be used felicitously.

Following the same strategy as with tautologies, we can also try to cancel or strengthen the non-identity implication conveyed by a contradiction.

her previous statement to make the discourse in (23) coherent. Felicia can be understood to be contradicting herself (to the same extent as in (21)), not correcting herself.

¹²One can think about this minimal kind of vagueness along the same lines as assignment-sensitivity (Cumming 2008), but not just for names. The same way a name (e.g., Paderewski) can be understood differently in different contexts, we might understand *drive* or *truck* differently in different uses; if we follow Cumming, we might do so with variables.

- (27) Janice is smart, but she's not smart. #In fact, she's (not) smart in all senses of the term.
- (28) Janice is smart, but she's not smart. #I don't mean to say that she's (not) smart in some way.

These follow-ups are inconsistent; here the speaker contradicts herself in a way that can't be salvaged by differently interpreting anything. The non-identity implication can't be explicitly canceled, then.

- (29) ? Janice is smart, but she's not smart. She's smart in one sense, but not in another.
- (30) Janice is smart, but she's not smart. She's book-smart, but not street-smart.

The follow-up in (29) is odd, if not outright infelicitous, as it seems redundant. What else, after all, could the speaker have meant by the first sentence? In contrast, the contextually-specified version in (30) is perfectly felicitous. While felicitous, however, it's not additional content: it's an elaboration. We can make this distinction explicit:

- (31) Janice is smart, but she's not smart. That is, she's book-smart but not street-smart.
- (32) # Janice is smart, but she's not smart, and (also) she's book-smart but not street-smart.

(31) uses *that is* to explicitly mark an elaborative follow-up, and it's this version which is felicitous. (32), on the other hand, which explicitly marks itself as asserting additional content, is infelicitous. One can elaborate a contradiction, specifying the intended interpretations of the vague predicates, but this isn't the same as strengthening the non-identity implication. Neither canceling nor strengthening are felicitous.

We can look at nondetachability, as well, to see whether the non-identity implication is conveyed by a particular word or phrase as opposed to the (form of the) proposition itself.

- (33) # Janice is smart, but she's not intelligent.
- (34) # Janice is clever, but she's not smart.

These versions aren't felicitous in (21)'s context, but they may also be flawed tests for nondetachability. They have only partial replacement, and so involve differentiating among meanings of *smart*, *intelligent*, and *clever*. More parallel replacement, though, is also infelicitous in this context.

- (35) # Janice is intelligent, but she's not intelligent.
- (36) # Janice is clever, but she's not clever.

These no longer involve differentiating between the meanings of different words, but the range of meanings that these near-synonyms cover doesn't seem to include the book-smart/street-smart distinction that the context requires.

This non-identity implication, then, displays none of the features of conversational implicature. And, indeed, there can be no suitable Gricean calculation: the naïve Gricean story would include

a contradictory literal meaning with a ‘repairing’ inference, but Gricean conversation implicatures *add* content, they don’t *modify* it. Even with some additional content, this naïve analysis would still leave the contradictory literal content unchanged—and thus still denoting no worlds, leading to the absurd state. The requirement that the interpretations of each predicate be different is not some additional content alongside the literal content; rather, it must be part of the literal content itself. We can see this more closely by using a diagnostic from Tonhauser 2011 to test for at-issueness (as defined in Simons, Tonhauser, Beaver, and Roberts 2010).¹³

- (21) A: Janice is smart, but she’s not smart.
- (37) a. # Yes, that’s true, she’s both smart and not smart in the same sense.
 b. # No, that’s not true, she’s not both smart and not smart in the same sense.
 c. Yes, that’s true, she’s smart in one sense but not in another sense.
 d. No, that’s not true, it’s not the case that she’s smart in one sense but not in another sense.

The responses in (37a) and (37b), which target the (naïvely hypothesized) literal contradiction as the at-issue content (to later be ‘repaired’ by the intervening non-identity implication), are infelicitous; this is evidence that the literal contradiction is not the at-issue content.¹⁴ The responses in (37c) and (37d), on the other hand, target the non-identity-restricted content as potentially at-issue, and it’s these examples which are felicitous. This is evidence that the non-identity implication is part of the at-issue contribution of a (felicitously uttered) contradiction.

3.2. Towards an analysis

How should we understand this non-identity implication as being part of the literal content of the utterance of a contradiction? How does it arise? It is not obvious that any lexical items trigger this implication, the only candidates being the repeated predicates—but of course not all repeated predicates trigger such an implication, an idea we’ll return to in a moment. The way we understand this non-identity implication will be an extension of how we analyze the minimal sort of vagueness described above. We might use a contextual parameter for interpreting various words,¹⁵ we might use variables¹⁶—there are a number of possible implementations. In this section I’ll describe and motivate the features needed for any successful implementation.

In general, when there are repeated predicates in a sentence, different combinations of interpretations become available. Take, for instance, the elliptical¹⁷ non-contradictory example (38):

¹³This is just one diagnostic, Tonhauser’s # 1b: *Assent/dissent with positive continuation*, but all of the diagnostics return similar results. For space reasons, I present only this single illustrative example.

¹⁴Indeed, as I’ll show in the next section, by this point in the interpretive process it’s no longer part of the content at all.

¹⁵Though, as we’ve seen above, this will be required for not just gradable adjectives, but also nouns, verbs, etc. This method requires a non-trivial complication of the logical form for most words in most sentences, even where it seems unimportant.

¹⁶A la assignment sensitivity (Cumming 2008), as described briefly in footnote 12.

¹⁷I assume here that (38) has a logical form like that of *Janice is smart and Tracy is smart (too)*. This version would

(38) Janice is smart, and so is Tracy.

Upon hearing a sentence like (38), one normally understands Janice and Trace to be the same sort of smart: we have a preference for identical interpretations of repeated predicates, even though—as we have seen—a hearer can interpret *smart* in more than one way, and (38)’s two instances can each be interpreted in more than one way. This preference for identical interpretations need not be surprising; we can think of this interpretation resolution as similar to anaphora resolution, which displays a similar bias.¹⁸ Despite the bias, though, a range of interpretations are available; we can elaborate on (38) in a number of ways which demonstrate the intended interpretation.

- | | | | |
|------|----|---|-------------------------------|
| (39) | a. | They’re both book-smart. | (identical, specific) |
| | b. | Janice is book-smart and Tracy is street-smart. | (non-identical, specific) |
| | c. | They’re both smart in the same way. | (identical, non-specific) |
| | d. | (But) They’re both smart in different ways. | (non-identical, non-specific) |

We can classify the interpretations of (38) (and their associated elaborations) as being identical—having the same interpretation for each occurrence of *smart*—or non-identical. And, as we can see in (39), both identical and non-identical interpretations are available for (38).

With a contradiction, though, not all of the interpretations available to a sentence like (38) are possible.

(21) Janice is smart, but she’s not smart.

A hearer must rule out the identical interpretations for a contradiction, as those would all lead to the absurd state. In (21), for instance, one can’t understand Janice to be both smart and not smart in the same sense (no matter which sense of *smart* is intended). After ruling out the contradictory identical interpretations, the possible interpretations that remain aren’t contradictory at all: they are as informative as a prototypical assertion.

Importantly, though, note that all of the remaining interpretations are non-identical ones, exactly those interpretations which speakers disprefer. This explains why sentences like (21) feel contradictory, even though they end up being interpreted informatively. The move to such globally-dispreferred interpretations is marked, even when there are no ‘better’ interpretations available. It likely also explains the intonation pattern that sometimes accompanies contradictions, which helps to facilitate the move to dispreferred interpretations (again parallel to anaphora).

be more straightforward, but is dispreferred in favor of its elliptical counterpart, presumably for phonological reasons.

¹⁸For example, consider the anaphora in (i):

- (i) Frank lives with Nikolai. He has a cat, and he loves to knit.

Hearers frequently interpret the two *hes* in (i) to refer to the same person. There is some variability in whether people take each to refer to Frank (possibly the subject of the discourse) or to Nikolai (the most recent referent), but in general they are taken to be coreferential. This is a bias, not a rule, and indeed other interpretations are available (especially with intonational or deictic help), but we’ll see this is the case with (38) as well.

This ruling-out of interpretations is our non-identity implication in action, but we can see here that it's not a restriction inferred through conversational principles, nor triggered by a particular word, rather it's part of the process of semantic interpretation itself, which excludes impossible belief-states. There are any number of possible ways to implement this sort of interpretive process, but any successful one will have the mechanisms to: (i) represent the different possible interpretations for sentences like (21) and (38), (ii) model the preference for identical interpretations (e.g., with a salience list) without eliminating dispreferred interpretations, and (iii) eliminate absurd combinations like those ruled out in (21). With these three pieces in place, we can account both for the biased interpretations for a sentence like (38) as well as for the particular behavior of contradictions like (21).

4. Discussion

Tautologies trigger a consistent conversational implicature—an uncontrollability implicature—which describes the repeated proposition as being beyond the control or influence of (at least) the speaker. Despite the literal content's unformativity—and in fact, partially *because* of the Gricean reasoning triggered by that unformativity—tautologies manage to be conversationally useful by means of this implicature. Contradictions, meanwhile, require non-identical interpretations of the repeated predicate, those multiple interpretations made possible by the minimal sort of vagueness possessed by not just adjectives, but also nouns and verbs. That these interpretations are non-identical is part of the literal content of the contradiction, as absurd assignments are ruled out by the process of semantic interpretation. What's left after such assignments are ruled out is informative in just the same way that canonical assertions are informative.

Before concluding, there are further issues that I'd like to touch upon. What has been proposed here clarifies the behavior of tautologies and contradictions, but it also bears on other debates in the literature. For the remainder of the paper, I'll address two such issues: an additional kind of contextually-entailed truths, namely restatements, and a potentially-different class of contradictions, namely borderline contradictions.

4.1. Tautologies and restatements

In looking at tautologies, it makes sense to contrast them with restatements, another kind of contextually-entailed truth. By restatements, I mean assertions of content that was previously asserted;¹⁹ that content, then, will already be in the common ground. Both tautologies and restatements leave an unchanged context set—they both denote all worlds in the context set—but they behave differently in conversations; consider the discourse in (40):

¹⁹For the purposes of this discussion, I exclude assertions entailed by context but which were not themselves previously asserted. For example, *John has a car* probably entails *John has a steering wheel*, but asserting the latter in the context of (40) wouldn't have the same discourse effect as the restatement in (40d).

- (40) a. Sue: We have to get to the party. Who do we know that has a car?
 b. Bill: John has a car.
 c. Andy: Mary has a car, but it's in the shop.
 d. Bill: John has a car.

Restatements like (40d) serve to return attention to something already known (here, that John has a car). In (40d), Bill is bringing John (back) up as a viable means to get to the party; information-structurally, we can think of this as suggesting a strategy for addressing the domain goal. (Importantly, even though this strategy was raised in (40b), it wasn't rejected, withdrawn, or otherwise prevented from entering the common ground before being raised again in (40d).) This restatement conveys nothing about the uncontrollability of John's having a car—no uncontrollability implicature is triggered—and tautologies don't have this attention-focusing function.

Because they behave differently in conversations, we should want to be able to differentiate between tautologies and restatements semantically to explain their behavior. One straightforward way to do so is to note that, while both tautologies and restatements denote the entirety of the context set, tautologies further denote every world beyond the context set as well: the distinction lies only beyond the context set. The desire to maintain this distinction, then, is an argument in favor of theories of update which don't relativize assertions to the context set prior to update, e.g., Murray 2014. In contrast, theories of update which relativize assertions to the context set collapse the distinction between tautologies and restatements (cf. AnderBois, Brasoveanu, and Henderson 2011).

4.2. Borderline contradictions

There has been a good deal of discussion surrounding what have been called "borderline contradictions" since at least Ripley 2011. Perhaps the most standard example is in (41):

- (41) John is tall and not tall. (Alxatib et al. 2013: 1)

Just as we have seen above, this sort of sentence seems like it should be straightforwardly false (as it is self-contradictory), but people do use and accept them in some cases. Under the analysis presented here, we can explain the felicitous uses of (41) just as we did with other contradictions: each instance of *tall* is interpreted differently. Here, because *tall* operates on a single scale (namely, that of height) these different interpretations boil down to different thresholds on a single scale. For (41) to be felicitous and true, there must be two thresholds on this scale, x and y , such that John's height exceeds x but not y . For example, given the right context, (41) can be interpreted as meaning that John is tall for a high school student but not tall for a high school basketball player.

Rather than different thresholds, the literature on borderline contradictions has argued that (41) is acceptable in virtue of the vagueness of a single threshold: the threshold is vague, so it's not clear whether *tall* is true or false of John. In other words, John is at the borderline of the threshold of

tallness. This is argued to be the reason that, if told that 5'11" is the height for a Western man to be tall,²⁰ people will more readily accept the contradiction in (42a) than the one in (42b).

- (42) a. A 5'11" tall man is and isn't tall. (Alxatib et al. 2013: 4)
b. A 6'4" tall man is and isn't tall. (Alxatib et al. 2013: 5)

Judgments like these about borderline contradictions (Alxatib and Pelletier 2011; Sauerland 2011; Cobreros et al. 2012; Alxatib et al. 2013) have led linguists and philosophers engaged in this topic to propose additional machinery, such as fuzzy, strict, and tolerant logics.

The proposal described in §3 can account for the different responses to the contradictions in (42). It needn't be vagueness about a single threshold that leads a hearer to affirm a contradiction; instead, having access to different contextual thresholds—one of which is met, the other not—is enough to make a sentence like (41) true. This predicts the difference in acceptability between (42a) and (42b): the taller someone is, the fewer contextually-relevant thresholds that person can fail to meet.

Instead of creating additional machinery to explain the felicitous uses of contradictions like (41–42), I argue that these cases should be handled by the same processes that explain the felicitous contradictions like those we've seen in (21) and (24), repeated here for convenience.

- (21) Janice is smart, but she's not smart.
(24) Javier drives a truck, but he doesn't drive a truck.

The machinery built to handle the contradictions in (41–42) hinges on a particular feature of the gradable adjective *tall*, namely the threshold it makes reference to. Restricting the explanation in this way, though, fails to capture the felicitous uses of contradictions that don't have such threshold-sensitive predicates. (24), as discussed in §3, involves understanding different interpretations of either the verb *drive* or the noun *truck*; verbs and nouns aren't usually thought to be sensitive to thresholds or scales, and so would require an entirely different explanation than the one argued to explain (41–42).

Along similar lines, we can reject the potential argument that the difference between the contradictions focused on here (like (21)) and borderline contradictions is that (21)'s *smart* is multidimensional (Sassoon 2013)²¹ while *tall* is not.²² The proposal put forward here accounts for contradictions that have access to multiple scales (as in (21)), those that have access to multiple

²⁰This stipulation from Alxatib et al. 2013, based on a previous experiment in Alxatib and Pelletier 2011.

²¹Multidimensional adjectives are those which operate on more than one scale. For example, one can be *healthy* in terms of cholesterol or blood pressure, and neither implies the other; similarly, one can be *rich* in investments or in friends, and neither implies the other. In contrast, a unidimensional adjective like *tall* operates on a single scale. One can be *tall* for a middle-schooler or *tall* for an NBA player, but the former will imply the latter (if both are felicitously applicable); because they are both on the same scale, one threshold must surpass the other (unless they're identical). See Sassoon 2013 for an in-depth look at multidimensional adjectives.

²²In fact, Ripley's (2011) prototypical borderline example involves not *tall* but *rich*, itself a multidimensional adjective (see previous footnote). Even if it weren't, however, there are good reasons to prefer a unified account.

thresholds on a single scale (as in (41)), and those that have access to neither (as in (24)), all in a unified fashion.

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