

IRREGULAR NEGATIONS: IMPLICATURE AND IDIOM THEORIES

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Horn identified a number of unusual negations that are not used in accordance with the standard rules of logic. I call them *irregular negations*. We will study five different types: scalar, metalinguistic, and evaluative implicature denials; presupposition denials; and contrary affirmations. What do these negations mean or convey? How is their irregular interpretation related to their regular interpretation? Are they pragmatically or semantically ambiguous? These are the principal questions I shall address. I will here focus on one type of pragmatic theory: implicature theories. I argue that an implicature theory works well only for evaluative implicature denials. Other irregular negations, I argue, are semantically ambiguous in an unusual way. I stress the partial compositionality of irregular negations, while accounting for their distinctive features by making the case that they are idioms which plausibly evolved from generalized conversational implicatures.¹

§I. IRREGULAR NEGATIONS

We will focus our attention on singular subject-predicate sentences, whose form we shall represent ‘s is P.’ In this form, ‘s’ stands for any singular term, including proper names, definite descriptions, and pronouns. The negation of ‘s is P’ will be represented by ‘s is not P’ or its contraction. I refer to ‘s is P’ as the *root* of its negation. More generally, I will use ‘p’ as a placeholder for declarative sentences of any form, and ‘not-p’ for any negation whose root is ‘p.’ By a *regular* negation, I shall mean a negation interpreted in such a way that it conforms to the logical rules of truth functionality and obversion:

- (1) (a) ‘s is not P’ is true (false) iff ‘s is P’ is false (true). *Truth-functionality*
(b) ‘s is not P’ is equivalent to ‘s is non-P.’ *Obversion*

A negation interpreted in such a way that it does not conform to both rules is *irregular*. I use ‘non-P’ to represent any *complement* of ‘P,’ any predicate that necessarily applies to everything ‘P’ does not apply to. If ‘P’ is ‘blue,’ complements include ‘non-blue,’ ‘other than blue,’ and ‘a thing that is not blue.’ When regular, ‘The sky is not blue’ is equivalent to ‘The sky is non-blue,’ and is true iff ‘The sky is blue’ is false. It is understood that the rules in (1) are relativized to a context, since any sentence can express different propositions on different occasions of use. The fact that ‘Mary is not a vixen’ is true in a context in which ‘vixen’ means “female fox” while ‘Mary is a vixen’ is also true in another context in which ‘vixen’ means “sexy woman” does not show that the negation is irregular. We will not restrict our attention to predicates with the grammatical form ‘is P.’ When the predicate is a verb phrase of the form ‘believed that p,’ for example, its complement is ‘failed to believe that p’ or ‘lacked the belief that p,’ and the negation of ‘s believed that p’ is ‘s did not believe that p.’ The obversion rule then says that ‘s did not believe that p’ is equivalent to ‘s failed to believe that p.’² While I am using the term ‘negation’ to denote *sentences*,

¹ I would like to thank Bart Geurts, Kent Bach, Stephen Gross, and especially anonymous referee for helpful comments on earlier versions of this article.

² For more on obversion, see Davis 1986: Ch. 5.

it can also be used in different senses to denote a propositional operator, a proposition with that operator applied, or a speech act.

Now consider the following examples of what I call *negation-correction conjunctions*.

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| (2) | (a) The sun is not larger than some planets: it is larger than all planets. | <i>Scalar Implicature Denial</i> |
| | (b) That's not a <i>tomāto</i> : it's a <i>tomāto</i> . ³ | <i>Metalinguistic Implicature Denial</i> |
| | (c) Vulcan is not hot: it does not exist. | <i>Presupposition Denial</i> |

The negation clauses in these examples can be interpreted as regular negations, but so interpreted the conjunctions as a whole are contradictory. They would be equivalent to the sentences in (3):

- (3)
- (a) The sun is larger than no planets: it is larger than all planets.
 - (b) That's a non-*tomāto*: it's a *tomāto*.
 - (c) Vulcan is other than hot: it does not exist.

The conjunctions in (2) would most naturally be interpreted in a way that is consistent, however. On the non-contradictory interpretation, the negations in (2) are not equivalent to those in (3), and consequently do not conform to the obversion rule. They diverge from the truth-conditionality rule too (with the possible exception of presupposition denials). On the consistent interpretation, the negation in (2)(a) is true even though ‘The sun is larger than some planets’ is true, not false. Since the negations in (2) when the conjunctions are non-contradictory do not conform to the rules in (1), they are irregular.

The traditional example of a presupposition denial is:

- (4) The king of France is not bald: there is no king of France.

This introduces additional complexities because of controversies over the Russellian interpretation of definite descriptions. The difference between the regular and irregular interpretation of the negation in (4) does resemble a Russellian scope distinction in some respects: $\exists x(F!x \& \neg Gx)$ does, and $\neg \exists x(F!x \& Gx)$ does not, entail $\exists x(F!x)$.⁴ But there is little plausibility to the suggestion that the two interpretations of (2)(c) arise because the negation operator can have two different sentential structures in its scope. The evidence against the description theory of names, and for the view that they are directly referential, makes it highly unlikely that proper names express concepts with any significant constituent structure.⁵

I have defined an irregular negation as one that diverges from either or both of the rules in (1). I believe that a negation conforms to the truth-functionality rule if and only if it conforms to the obversion rule, but I wish to leave this issue open along with the bivalence issue. On the view I favor, ‘Vulcan is hot’ is neither true nor false because Vulcan does not exist. Hence the negation in (2)(c) is true even though its root is not false, violating truth functionality. Others maintain, however, that ‘Vulcan is hot’ is false while its negation is true, satisfying (1)(a). ‘Vulcan is not hot’ would still count as irregular, though. For ‘Vulcan is non-hot’ also comes out false,

³ ‘ā’ represents the vowel sound in ‘ah’ and ‘ma,’ ‘ă’ the vowel sound in ‘pay’ and ‘ate.’

⁴ ‘F!x’ means “x is uniquely F,” i.e. “Fx & $\forall y(Fy \supset y = x)$.”

⁵ Cf. Horn 1989: 107. The full argument is presented in Davis (2005).

and thus not equivalent to ‘Vulcan is not hot,’ a divergence from (1)(b).

Since irregular negations are defined as those diverging from either of two rules used to formulate laws of logic, it is not surprising that they may also diverge from others. Indeed, we will see that irregular negations often diverge from the following as well:

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| (5) | (a) | ‘s is not not P’ is equivalent to ‘s is P’ | <i>Double Negation</i> |
| | (b) | ‘s is not P and Q’ is equivalent to ‘s is either not P or not Q’ | <i>DeMorgan’s Rule</i> |
| | (c) | ‘s is not P’ and ‘s is P or Q’ entail ‘s is Q’ | <i>Disjunctive Syllogism</i> |
| | (d) | ‘s is not R to some Q’ is equivalent to ‘s is R to no Q’ | <i>Contradictory Opposition</i> |
| | (e) | ‘s is P’ and ‘s is not P’ cannot both be true | <i>Non-Contradiction</i> |
| | (f) | Either ‘s is P’ or ‘s is not P’ must be true if s exists. | <i>Excluded Middle</i> |

For example, ‘The sun is not larger than some planets’ is most naturally interpreted in (2)(a) is not equivalent to ‘The sun is larger than no planets,’ diverging from the contradictory opposition rule. Hence both the negation in (2)(a) and its base can be true, violating non-contradiction. Both (2)(a) and its root would be false if the sun’s diameter were just one meter, violating Excluded Middle.⁶ For a divergence from double negation, note that on its most natural interpretation, (6)(a) is true for the same reason (2)(c) is: because Vulcan is non-existent, it is not anything. But on this interpretation, (6)(a) is obviously not equivalent to (6)(b), which is contradictory.

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| (6) | (a) | Vulcan is not not hot: it does not exist. |
| | (b) | Vulcan is hot: it does not exist. |

Note that while the negation in (6)(a) is irregular, its base is regular. When I say that an irregular negation fails to conform to the double negation rule (5)(a), I am not suggesting that there are any exceptions to the equivalence of the propositions $\neg\neg\mathcal{P}$ and \mathcal{P} . My claim only implies that sentence (5)(a) does not express the equivalence of $\neg\neg\mathcal{P}$ and \mathcal{P} when ‘s is not not P’ is irregular. Another question that any theory of irregular negations needs to answer is: *Why do the logical rules governing regular negations fail for irregular negations?* The obvious explanation is that ‘not’ expresses a different operator in irregular negations. Whether this is the best explanation remains to be seen.

In addition to their defining characteristics, irregular negations have a number of important common features. The first is some sort of *ambiguity*. Any irregular negation can also be interpreted as a regular negation, as we have illustrated. The ambiguity is especially striking in (2), because one interpretation is contradictory and the other is not. A typical regular negation, as in (7), has no such ambiguity.

- (7) That’s not a violin, it’s a viola.

The most widely discussed question concerns the nature of the two interpretations: *Are irregular negations semantically or pragmatically ambiguous?* Do they strictly speaking have two linguistically encoded meanings, or is one interpretation pragmatically generated? If the sentences are semantically unambiguous, which interpretation is the semantic meaning? Is the answer the same for all cases?

⁶ When s does not exist, ‘s is P’ and ‘s is not P’ are jointly exhaustive if they are irregular, but not if they are regular.

A second common feature is *limited substitutivity of synonyms*.⁷ ‘The sun failed to be larger than some planets, it is larger than all planets’ can only be heard with the regular, contradictory meaning of (2)(a). Replacing ‘not hot’ with ‘non-hot’ in (2)(c) has the same effect. As a final and more complex example, note that regular negation-correction conjunctions of the form ‘s is not P: it is Q’ like (7) can be paraphrased either ‘*S is not P but Q*’ or equivalently ‘*s is not P, but it is Q.*’ In example (2), however, the first sort of paraphrase is possible, but not the second. ‘The sun is not larger than some planets, but it is larger than all planets’ is incoherent; to obtain a paraphrase, ‘for’ should replace ‘but.’

A third common property is *partial compositionality*. The meaning of an irregular negation is partly but not completely determined by the meanings of its components and its grammatical structure. For example, replacing ‘larger than’ with ‘hotter than’ or ‘attracting’ changes the meaning of (2)(a) in completely predictable ways. And its meaning on a particular occasion depends in predictable ways on whether ‘sun’ means “Sun” or “star.” Nevertheless, the irregular meaning of (2)(a) is not what we would expect given the meaning of ‘not,’ ‘some,’ and its grammatical structure. As a result, substituting ‘any’ for ‘some,’ or ‘fails to be larger’ for ‘not larger,’ changes the meaning entirely. So we should ask the following questions: *What interpretation rule governs an irregular negation? Does one rule cover all cases?* These questions can be raised whether the irregular interpretation is linguistically encoded or pragmatically generated.

§II. MARKING

Horn observed that the irregular negations in (2) are normally *marked* in various ways: they typically have a distinctive intonation, exclude negative polarity items while permitting positive ones, are ‘echoic,’ and resist morphological incorporation.⁸ *Intonation*. When the negation in (2)(a) is regular, ‘not’ may be stressed but not ‘some’; ‘not’ is given the same pitch as ‘some,’ or a higher pitch. When the negation is irregular, ‘some’ is stressed and given the higher pitch. Even more distinctively, the irregular negations in (2) typically end with what Ladd (1980: 146) called the ‘fall-rise’ contour, whereas regular negations typically end with a simple ‘fall.’ Thus when the first clause of (2)(a) is irregular, ‘planets’ starts off at a lower pitch than ‘some,’ and then rises back up. When the clause is regular, ‘planets’ starts off at the same pitch as ‘some,’ and then falls. The same thing happens to ‘hot’ in (2)(c).⁹ This distinctive intonation, however, is only loosely connected with irregularity. (2)(a) may have its irregular meaning even if delivered in a monotone, or written in straight Roman type. Conversely, ‘violin’ in (7) may be given contrastive stress and the fall-rise intonation, even though the negation is completely regular.

Polarity Licensing. ‘Any’ is described as a ‘negative polarity item’ because it can occur in

⁷ Cf. Seuren 1988: 183; 1990: 443; Geurts 1998: 279. Contrast Grice 1981: 271.

⁸ Horn 1989: 368; 374-5; 392-413. See also Kempson 1986: 88; Burton-Roberts 1989: 118; Seuren 1990: 449-52; Chapman 1996: 390-1; Israel 1996: 621n1; Carston 1998: 332ff; Geurts 1998: 275, 278-80, 303; van der Sandt 2003: §7.

⁹ Ladd (1980: Ch. 7) shows that the same difference in intonation marks other differences in meaning, such as the different interpretations of ‘All S are not P’: ‘P’ has the fall-rise contour when the sentence means “Not all S are P,” and the fall contour when it means “All S are not-P.”

negations in ways it cannot occur in their roots. For example, ‘any’ can typically replace ‘some’ without change of meaning within the scope of a negative, but not otherwise. Thus ‘Mary does not have any money’ means the same as ‘Mary does not have some money’; but while ‘Mary has some money’ is grammatical, ‘Mary has any money’ is not. Negative polarity items generally cannot occur, however, in the scope of irregular negations like (2). Thus ‘The sun is not larger than any planets’ can only be heard as regular. Similarly, ‘yet’ can replace ‘already’ in negative sentences, though not in their roots. But whereas ‘Vulcan is not already hot’ can be heard as either regular or irregular, ‘Vulcan is not yet hot’ only has a regular interpretation. Conversely, we generally avoid positive polarity items like ‘pretty’ in regular negations, preferring ‘She is not tall’ to ‘She is not pretty tall,’ for example. But the latter is very natural as an irregular negation when ‘pretty’ is stressed, and a correction clause like ‘She’s really tall’ is waiting.

Echoicity. The irregular negations in (2) are most naturally used in response to an assertion of their root, and followed by a correction clause. They are much less likely than regular negations to begin a conversation. And when they are encountered out of context, we tend to imagine them as responses to assertions of their root. I argue against theories that take this feature to be central to the meaning of irregular negations in a companion paper.¹⁰ An irregular negation can occur without any prior assertion, as in ‘*If Vulcan does not exist, then it is not hot.*’ Furthermore, regular negations may also be echoic. Thus (7) is most naturally used in response to the assertion ‘That is a violin.’ When read out of context, we tend to imagine such an antecedent assertion. I therefore do not follow Horn in using the term ‘metalinguistic negation’ for all three types of irregular negation illustrated in (2).

Morphological Incorporation. ‘Not’ typically incorporates morphologically as the ‘un-’ or ‘in-’ prefixes, as in ‘unnoticed’ and ‘immaterial.’ But a sentence like ‘Vulcan is immaterial’ does not have the ambiguity that ‘Vulcan is not material’ has. ‘Vulcan is immaterial’ only has a regular interpretation. Again, this mark is not universal. Thus ‘It is untrue that Vulcan is material’ is just as ambiguous as ‘It is not true that Vulcan is material.’

At least one large class of irregular negations is unmarked. I call them *contrary affirmations*, because the negation of ‘p’ is used to affirm a contrary of ‘p’ rather than simply its contradictory.¹¹

- (8) (a) The fire chief does not believe that anyone survived. *Contrary Affirmations*
 (b) It is not good that the ice caps are melting.
 (c) Bush is not too articulate.
 (d) After Stalingrad, Hitler was not happy.

For example, sentence (8)(b) is used to affirm that it is bad that the ice caps are melting, which is the contrary of its root. (8)(b) may look like a mere understatement or litotes, but is too conventional. It contrasts strikingly with ‘It is not bad that the ice caps are melting,’ which could in appropriate contexts be used as an understated way of saying that it is good they are, but does not have this as one of its meanings. Moreover, (8)(b) can be used as an understated contrary affirmation to mean that it is *very* bad that the ice caps are melting.

Different intonations do help signal the different interpretations of some of the examples

¹⁰ ‘Irregular Negations and Denial.’

¹¹ For a comprehensive examination of contrary affirmations, see Horn 1989: 340ff, 352-6.

in (8). But they are normally used without the fall-rise intonation characteristic of the examples in (2), and the two interpretations of (8)(a) are not associated with any intonational differences. Contrary affirmations are not at all echoic. They can be used in response to an affirmation of their root. But we do not automatically imagine such a prior utterance, and they can very naturally be used to begin a conversation. And if the sentences in (8) are followed by a correction clause, they are automatically given their regular interpretation; consider *'It is not good that the ice caps are melting, it is bad.'* If the negation were read as a contrary affirmation, the second clause would be redundant rather than corrective. Negative polarity items are permitted, as (8)(a) illustrates, and the negation incorporates prefixally. Thus (8)(a) says that the chief *disbelieves* that someone survived, and (8)(d) says that Hitler was *unhappy*. The only marking we find is a limited restriction on negative polarity items. 'Ralph does not believe in God any more' has only a regular interpretation (it entails that Ralph is an agnostic, but not that he is an atheist). But 'anyone' is permitted in examples like (8)(a).

Despite the lack of marking, contrary affirmations are as irregular as the denials in (2). For example, the mere falsity of 'It is good that the ice caps are melting' does not suffice for (8)(b) to be true on its stronger interpretation. Something may fail to be good without being bad. Similarly, (8)(a) says more than that the chief failed to believe that anyone survived – which might be the case if he had no opinion on the matter. The negations in (8) are all markedly ambiguous in some way, with a stronger and a weaker reading. They are only partially compositional on their stronger interpretation, and substitutivity of synonyms is limited. Indeed, whereas reformulating '*s is not P*' as '*It is not the case that s is P*' preserves the ambiguity of the negations in (2),¹² it blocks the irregular meaning in (8). '*It is not the case that Bush is too articulate,*' for example, does not imply that Bush speaks poorly. We will see that from a semantic point of view, the similarities between contrary affirmations and implicature and presupposition denials are much greater than the differences.

§III. GEURTS'S THEORY

Geurts (1998) holds that no single rule covers the interpretation of all marked negations. His discussion suggests, plausibly, that (2)(a) and (2)(b) mean the following when used with their irregular meanings:¹³

- (9) (a) The sun is not larger than *just some* planets, it is larger than all planets.
 (b) That's not a *thing called a tomäto*, it is a *thing called a tomäto*.

It is easy to generalize from (9) to rules that work equally well for all scalar and metalinguistic implicature denials: '*s is not P*' means "*s is not just P*" in the scalar case and '*s is not a thing called P*' in the metalinguistic case. It is also clear why obviation, truth functionality, and the other standard logical rules fail for irregular negations on Geurts's analyses.

Geurts's rule for presupposition denials is very different. The basic idea is that the second

¹² Atlas (1989: 71) correctly described the "logician's prejudice" that maintains that 'It is not the case that s is P' is unambiguously wide-scope. See also Horn 1989: 365.

¹³ Cf. Seuren 1988: 191; 1990: 444; Horn 1989: 385, 424-5; 1990: 497-401; Bach 1987: 71; 1994: 153-4.

clause of a sentence like (2)(c) cancels the presupposition of the first clause, leaving a consistent result. What the first clause of (2)(c) *presupposes* is “Vulcan exists.” What it *asserts*, according to Geurts, is “It is not the case that something is Vulcan and hot,” or equivalently, “Nothing is Vulcan and hot.”¹⁴ Geurts takes (2)(c) to express the conjunction of what its first clause asserts and the negation of what its first clause presupposes.

(9) (c) Nothing is Vulcan and hot: nothing is Vulcan.

While (9)(c) and (2)(c) appear to have the same truth conditions, they seem far from synonymous. Even as an irregular negation, the singular subject-predicate sentence ‘Vulcan is not hot’ does not express the universal negative (or negative existential) proposition ‘Nothing is Vulcan and hot.’ With the exception of logicians inspired by Boole or Russell, ordinary English speakers seldom even think such thoughts. Alternatively, we can propose that in a presupposition denial, ‘s is not P’ is used to express the thought or proposition that s is P and deny that it is true because one of its presuppositions is false.¹⁵ This would be put colloquially as follows:

(9) (c') Vulcan is hot is not true: Vulcan does not exist.

This formulation also gives the correct truth conditions for (2)(c), but is more plausibly synonymous. Since ‘The proposition that s is P is not true’ may be true when both ‘s is non-P’ and ‘s is P’ are neither true nor false, this analysis accounts for why presupposition denials do not conform to the obviation and truth-functionality rules.

Geurts’s conclusion that no single interpretation rule governs marked negations holds for contrary affirmations as well. All the examples in (8) are used to affirm a contrary of their root. But different contraries are affirmed.

(10) (a) The fire chief believes that no one survived. *Contrary Affirmations*
 (b) It is bad that the ice caps are melting.
 (c) Bush is inarticulate.
 (d) After Stalingrad, Hitler was unhappy.

These can be subsumed under a generalization by noting that to believe that not-p is to disbelieve that p. Then in each case, ‘V’ expresses positive values on some scale, and ‘not V’ expresses negative values. That is, ‘not V⁺’ means ‘V⁻.’

Geurts (1998: 287) rejects the thesis that the word ‘not’ is ambiguous.¹⁶ He maintains that ‘not’ expresses a single propositional operator. The difference in meaning between negations, on his view, are due to differences in the propositions to which that operator is applied: the proposition expressed by the root sentence in the regular case and a proposition implied by the

¹⁴ Cf. Levinson 1983: 171.

¹⁵ An equivalent but metalinguistic formulation would be “‘Vulcan is hot’ is not true: Vulcan does not exist.” See Linebarger 1981; Burton-Roberts 1989: 120-1; Horn 1989: §6.5.1. Contrast Burton-Roberts 1989: 118ff. Horn correctly observes that Linebarger’s analysis does not work for implicature denials.

¹⁶ See also Gazdar 1979: 65-6; Levinson 1983: 201; Burton-Roberts 1989; 1999; Horn 1989: 366; Atlas 1989: 69; Seuren 1990: 449ff; van der Sandt 1991: 333; Carston 1996: 327. Contrast Seuren 1988: 196ff, 222.

root sentence in the irregular cases. I believe the evidence against a lexical ambiguity in 'not' is compelling. It is hard to see how an ambiguity in 'not' could account for all the different differences in interpretation illustrated by (2)(a-c) and (8)(a-d). Moreover, if 'not' were ambiguous, we would expect to find an ambiguity in 'That is not the case' or 'Not everyone died'; but we do not. We would also expect to find languages in which the difference is lexicalized (Gazdar 1979: 65-6; Horn 1989: 367). The ambiguity in negations is not like the ambiguity in 'Joan can sing,' which means different things on different occasions because speakers mean different things by 'can.'

Geurts maintains instead that the irregular meaning of (2)(a) and (2)(b) is due to a *semantic transfer*, whereby "on a given occasion, a word acquires a contextual meaning that is not encoded in its lexical entry" (1998: 288). His discussion suggests that while the sole lexical entry for 'some' is 'at least some,' it acquires the meaning "just some" (i.e., at least some but not many) on occasions in which (2)(a) has its irregular meaning. Similarly, 'tomäto' acquires the meaning "thing called a tomäto" when (2)(b) is irregular. Geurts's paradigm for semantic transfer is provided by Nunberg's (1978) example *'The ham sandwich is waiting for his check,'* used by a waitress to mean that person who ordered the ham sandwich is waiting. Geurts says that 'ham sandwich' acquires the meaning "person who ordered a ham sandwich" in such contexts. Geurts does not explain why he does not hold instead that it is 'not' that acquires different contextual meanings, "not just" in (2)(a) or "not properly called" in (2)(b). If semantic transfer is a real phenomenon, then the evidence he presented against a lexical ambiguity in 'not' would not refute the thesis that additional meanings are transferred to 'not' in certain contexts.

I believe we need to distinguish between *what a word means on an occasion (or in a context)* from *what a speaker means by it then (or there)*.¹⁷ The two notions clearly diverge. If someone suffers a slip of the tongue and says 'The precedent is conservative,' the speaker may mean "president" by 'precedent,' but the word 'precedent' does not mean "president" even on that occasion. Similarly, 'ham sandwich' does not mean "person who ordered a ham sandwich" even on occasions in which a waitress uses it with that meaning. She is merely using a figure of speech called 'metonymy.' What a word means on an occasion must be something it means in the language; it is always one of the word's lexical entries. This goes for sentences as well as for individual words. It is incoherent to say that a word means something when used as a word of English that the word does not mean in English, or that it acquires something on an occasion that it does not have. There is no incoherence in saying that what a speaker means by the word differs from what the word means. I believe that 'some' has its standard meaning in (2)(a), just as it does when 'Some S is P' is used to implicate "Not all S is P." If 'some' meant "just some" in certain contexts, then (2)(a) would be perfectly regular and completely compositional in those contexts. We cannot classify 'There are not more than five words on the page' as irregular or non-compositional on an occasion in which 'word' means "word types" on the grounds that on other occasions 'word' means "word tokens." I think it is clear that speakers use the first clause of (2)(a) to mean "the sun is not larger than just some planets." But they do not mean "just some" by 'some' any more than they mean "not just" by 'not.' *Irregular negations are not completely compositional.* We seek to explain why.

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See Grice 1968; 1969; Kripke 1977; Davidson 1978; Bach & Harnish 1979: 20-3; Davis 2003: §7.9.

§IV. I-IMPLICATURE THEORY

Grice (1957) emphasized the distinction between what a *speaker* means, and what a *sentence* or other expression the speaker used means. Many good examples are provided by *implicature*, the act of meaning or implying something by saying something else.¹⁸ Thus in letter of recommendation for a position in metaphysics, the evaluator may mean “The candidate is weak” by saying ‘She dresses neatly,’ but the sentence he wrote does not. The distinction is less clear but still discernible in what Grice called ‘*generalized conversational implicature*.’

I have so far considered only cases of what I might call “particularized conversational implicature” – that is to say, cases in which an implicature is carried by saying that p on a particular occasion in virtue of special features of the context, cases in which there is no room for the idea that an implicature of this sort is normally carried by saying that p. But there are cases of generalized conversational implicature. Sometimes one can say that the use of a certain form of words in an utterance would normally (in the absence of special circumstances) carry such-and-such an implicature or type of implicature....(Grice 1975: 37)

While speakers conventionally use sentences of the form ‘Some S is P’ to mean “Not all S is P,” the sentences themselves do not. On the contrary, ‘All S are P’ entails ‘Some S are P.’ There is some plausibility to the idea that ‘some’ has a generic and a specific sense, meaning either “at least some” or “only some.” If so, it would be like ‘animal,’ which has a sense in which it applies to humans and a sense in which it does not. But there is no interpretation of (11) on which it is contradictory; no reading of ‘some’ would require replacing ‘indeed’ with ‘take it back.’

(11) There are some who survived, indeed all did.

(12) There is an animal in the basement, indeed a person.

In contrast, (12) does have a contradictory interpretation; there is a reading of ‘animal’ that would call for ‘take it back’ in place of ‘indeed.’ When I read (12), I generally hear ‘animal’ as excluding humans until ‘a person’ arrives. At that point my reading of ‘animal’ shifts unless I am forcing the contradictory interpretation on the sentence.

I similarly distinguish between what a speaker implicates and what a sentence implicates (Davis 1998: 6ff). The sentence ‘Some passengers died’ implicates “Not all passengers died” even though a given speaker may not have used it with that implicature on a given occasion. Conversely, Ann may use ‘There is a station around the corner’ to implicate “You can get gas there” even though the sentence itself does not have that implicature. What a sentence implicates is what it may be used conventionally to implicate. This is not what the sentence means, although in the case of conventional implicatures the implicature is carried by the meaning of the sentence. We might therefore propose that *the irregular use of negations involves a generalized conversational implicature – a sentence implicature – rather than a second sense*. I call this the *I-Implicature theory*, because it takes the irregular interpretation of a negation to be an implicature. The regular interpretation is its meaning. The clearest advocate of I-implicature theory, I believe, is Burton-Roberts (1989: esp. 119fn12). It is Geurts’s (1998) theory too if ‘semantic transfer’ is understood to involve the speaker meaning something different from what the expression used means. The I-Implicature theory also accords well with Horn’s (1985: 132;

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I defend this definition against Saul’s (2001, 2002) objections in ‘How Normative is Implicature?’

1989: 370-7) thesis that negation is pragmatically rather than semantically ambiguous. Words are semantically ambiguous provided they have more than one sense. They are pragmatically ambiguous, Horn can say, if speakers conventionally use them to mean different things even though they are not semantically ambiguous.¹⁹ The I-Implicature theory is not the only pragmatic ambiguity theory, as we shall see.

The I-Implicature theory's account of why irregular negations do not conform to the regular rules of logic is similar to that offered by the ambiguity theory, with a key difference. The I-Implicature theory holds that what negations mean conforms to the logical rules of regular negation. So strictly speaking, the rules are valid unambiguously. But the sentences implicate something different, with a different logical structure. Even though "The sun is not larger than some planets" is equivalent to "The sun is larger than no planets," for example, the former implicates something that is not equivalent, namely "The sun is not larger than just some planets." The ambiguity theory takes this to be a second sense.

I believe the I-Implicature theory is correct for a class of irregular negations we have not yet considered.

- (13) (a) The glass isn't half empty: it's half full.²⁰
 (b) It isn't partly sunny: it's mostly cloudy.
 (c) The nominee isn't principled: he's an ideologue.

Evaluative Implicature Denials

In addition to their regular interpretations, these all have an irregular interpretation on which they are used to deny an evaluative implicature of their root. Thus (13)(a) is used to deny that things are bad because the glass is half way from being full, and to affirm that things are good because the glass is half way towards being full. A positive evaluation can be denied too, as (13)(b) illustrates. Evaluative implicature denials are clearly heard as figures of speech. We take the speaker (and ourselves if we are the speaker) to be saying something that is literally false in order to convey something else that is true. What the speaker says may be contradictory, as in (13)(a). What he means is not. The sentences themselves have only the regular interpretation. Since what S means is something other than what S literally says, the irregular meaning of the negation is an implicature. One of Grice's 'glosses' would be fitting:

It is perfectly obvious to A and his audience that what A has said ... is something he does not believe, and the audience knows that A knows that this is obvious to the audience. So, unless A's utterance is entirely pointless, A must be trying to get across some other proposition than the one he purports to be putting forward. This must be some obviously related proposition. (Grice 1975: 34)

The denial of the evaluative implicature of the first clause of (13)(a) is an obviously related proposition.

I do not believe the I-Implicature theory is tenable, however, for the other irregular negations we have examined. *When speakers use a scalar implicature denial, a metalinguistic implicature denial, a presupposition denial, or a contrary affirmation, they do not say what the regular negation says. Indeed, the regular interpretation is not intended or heard at all.* Hence the indirection or two levels

¹⁹ Contrast Burton-Roberts 1989: 114, van der Sandt 1991: 332-3, and Carston 1996: 311, who profess to find Horn's thesis confused or hopelessly vague.

²⁰ See Horn 1989: 372; Burton-Roberts 1989: 109; 1999: 349.

of meaning characteristic of implicature is absent. On the I-Implicature theory, when (2)(a) is used as an irregular negation, what the speaker *says* is that the sun is both not larger than any planets and larger than all planets. But in fact, this is not something the *speaker* says. We normally do not hear or intend (2)(a) as a contradiction. Indeed, it is remarkable how hard it is to force a contradictory reading. Even in (14), we tend to hear (c) as non-contradictory.

- (14) The following claims are contradictory:
- (a) Some triangles do not have three angles.
 - (b) He does and he does not like it.
 - (c) The sun is not larger than *some* planets: it is larger than *all* planets.

This use of (2)(a) contrasts markedly with ‘I do and I don’t’ given in response to ‘Do you like the President’s policies?’ Here what the speaker says is contradictory even though what he means is not. The use of (2)(a) contrasts in the same way with (13)(a), which is clearly heard as a literal contradiction and as a figure of speech. The irregular use of (2)(a) is also unlike the ironic use of ‘The sun is not larger than any planets.’ When this is used ironically, the speaker means the opposite of what he says. The speaker says that the sun is not larger than any planets, but what he means is that it is larger than some planets, indeed many. We hear both the literal and the ironic meaning. With the exception of evaluative implicature denials, irregular negations are more like idioms, in which the regular meaning can be heard if we focus on it, but is not normally perceived or intended. As Carston (1996: 312-3) observed, the ‘double processing’ that goes on in ‘garden path’ examples like (15) is markedly unlike what normally happens with irregular negations

- (15) Front of Card: This card is not from one of your admirers.
 Inside of Card: It’s from two!
 Happy Birthday from Both of Us.²¹

Grice (1975: 39; 1978: 43) formulated two tests of implicature: cancelability and non-detachability. These tests give mixed results, even for evaluative implicature denials. *The irregular interpretation of a negation is cancelable*. In the following arguments, for example, the negations would most naturally be interpreted as regular.

- (16) (a) As the square of opposition tells us, if the sun is larger than all planets, then it is larger than some. The sun is not larger than some planets. So, it is larger than no planets.
 (b) The glass is half full if and only if it is half empty. It is not half empty, so it is not half full.

Cancelability does not prove, however, that the irregular interpretation is an implicature rather than a sense. The context may be disambiguating the negation rather than blocking an implicature.

Grice’s second test fails: *The irregular interpretation is detachable*. As we observed above, the substitution of synonyms may block the irregular interpretation of negations. This is to be expected with metalinguistic implicature denials like (2)(b), of course. But it happens with other irregular negations too. Substituting ‘at least some’ or ‘any’ for ‘some’ in (2)(a) forces the contradictory regular interpretation. Even in (13)(a), substituting ‘is other than’ or ‘fails to be’

²¹ Horn 1992b; Carston 1996: 312; Chapman 1996: 395, 401-2.

for ‘isn’t’ blocks the irregular interpretation. Grice himself observed that manner implicatures are exceptions to the rule that implicatures are detachable, since they arise from the way something is said, rather than what is said. But I-implicatures are thought to arise from the maxims of Quantity and Quality instead, since contradictions in what is said are neither true nor informative.

§V. CALCULABILITY

What Grice took to be essential to conversational implicatures is ‘*calculability*,’ which is the ability to infer the implicature in a specific way, from the meaning of the sentence used, the Cooperative Principle, and information from the context of utterance.²² The key premise in the ‘working out schema’ is *S could not be observing the Cooperative Principle unless he believes that p*, where ‘p’ is what S implicated.

The irregular interpretation of negations is not calculable. Since scalar implicature denials seem to present the most favorable case for calculability, I will focus on them. Let us suppose, contrary to what was observed above, that when (2)(a) is irregular, the speaker said that the sun is not larger than any planets, it is larger than all planets. Let us also grant that despite having said something contradictory, the speaker is observing the Cooperative Principle, and even the Maxim of Quality. The first thing to observe is that it is possible for the speaker to be observing the Cooperative Principle without believing that the sun is larger than all, not just some, planets. It is perfectly possible that the speaker was using *irony*; she may have meant and believed that it is larger than some but not all planets. The speaker may also have been engaging in *hyperbole*, meaning not that the sun is literally larger than all planets, but only that it is larger than too many. The speaker might even have intended a *literal contradiction*. She might have intended (2)(a) to be blatantly contradictory in order to invite the question ‘What do you mean?’ for which she had an answer she wished to provide. Alternatively, she might believe she was forced to a contradictory conclusion by some philosophical arguments she had developed, leading her to give up the law of non-contradiction and adopt Hegelianism. In these last two cases, she would literally mean the regular interpretation of the negation, while implicating nothing. Note that Grice cannot assume, as part of the working out data, that the speaker is not being ironic or hyperbolic, or meaning just what she literally said. For that would assume what Grice is trying to infer: the speaker’s implicature.

Even if the speaker is not engaging in irony, hyperbole, or literal contradiction, she could conform to the Cooperative Principle by implicating other things. The woman who uses (17)

²² “The presence of a conversational implicature must be capable of being worked out; for even if it can in fact be intuitively grasped, unless the intuition is replaceable by an argument, the implicature (if present at all) will not count as a conversational implicature; it will be a conventional implicature. To work out that a particular conversational implicature is present, the hearer will rely on the following data: (1) the conventional meaning of the words used, together with the identity of any references that may be involved; (2) the Cooperative Principle and its maxims; (3) the context, linguistic or otherwise, of the utterance; (4) other items of background knowledge; and (5) the fact (or supposed fact) that all relevant items falling under the previous headings are available to both participants and both participants know or assume this to be the case. A general pattern for the working out of a conversational implicature might be given as follows: “He has said that q; there is no reason to suppose that he is not observing the maxims, or at least the Cooperative Principle; he could not be doing this unless he thought that p; he knows (and knows that I know that he knows) that I can see that the supposition that he thinks that p is required; he has done nothing to stop me thinking that p; he intends me to think, or is at least willing to allow me to think, that p; and so he has implicated that p.” (Grice 1975: 31)

could have meant and believed any of the alternatives to (17)(a) listed below, a small sample of the possibilities. She would have been no less cooperative, and would have obeyed the maxims at least as well.

- (17) The sun is not larger than some planets (as in (2)(a)).
- (a) The sun is not larger than just some planets (from (9)(a)).
 - (b) The sun is not larger than just many planets.
 - (c) The sun is not larger than just eight planets.
 - (d) The sun is not larger than just nearby planets.

It would be highly unconventional for the woman to mean any of these alternatives, of course. Indeed, there is no precedent at all for such implicatures. But nothing in the Cooperative Principle or the other working out data rules them out.²³ The conclusion that implicatures are not calculable does not mean that we cannot infer what the speaker implicates from facts about the context of utterance, only that the evidence and inference rule Grice focused on is not sufficient to do so.

The non-calculability of the irregular meaning of negations does not show that the I-Implicature theory is false. For contrary to what so many believe, conversational implicatures are *never* calculable. There are always alternatives compatible with the Cooperative Principle and other working out data. That was one of the principal conclusions of my *Implicature* (1998). I argued that generalized conversational implicatures are *conversational implicature conventions*: regularities in what speakers use sentences to conversationally implicate (mean or imply by saying something else) that are socially useful (serving among other things the common interest in efficient, polite, and stylish communication) and self-perpetuating (people continue doing it because people have done it before as a result of precedent, association, habit, tradition, social pressure, and normative force), but nevertheless *arbitrary* (alternative regularities could have perpetuated themselves and served the same interests).²⁴ Conventions in this sense are not restricted to semantics or even language. Driving on the right (or left) is conventional in this sense, as is wearing dresses (or saris). Linguistic conventions are not restricted to semantic or grammatical conventions. The convention of saying ‘Hello, my name is ___’ when meeting someone in person (but not when answering the telephone) is a convention of use that is not a semantic convention (cf. Morgan 1978: 250).

Conversational implicature conventions are also non-semantic conventions of use. Speakers regularly use sentences of the form ‘Some S are P’ to implicate ‘Not all S are P.’ This regularity is socially useful, serving our interest in efficient communication; it may serve other purposes too, such as politeness, style, and amusement. The regularity is self-perpetuating: we implicate this in part because people before us have done so. And as noted, the practice is arbitrary: we could, and sometimes do, use ‘Some S are P’ to implicate other things, such as ‘No S are P’ (when we are using irony), or ‘All S are P’ (when we are engaging in understatement),

²³ In addition to having numerous false premises, the reasoning Grice sketched is also invalid. We cannot infer that the speaker implicated p (and therefore meant or implied p) from the premise that he intends me to believe p. The reasons can be found in the literature critical of Grice’s theory of speaker meaning. See Davis 2003, Ch. 4 for a summary and references. See also the discussion of whether implicature entails speaker meaning in Saul (2001, 2002) and Davis ‘How Normative is Implicature?’

²⁴ I modified Lewis’s (1969) definition to make it fit paradigm examples better in Davis (1998: Ch. 5; 2003: Ch. 9).

or “I do not know whether all S are P” (when using a different implicature convention). We could also implicate things no one actually uses it to implicate, such as “Not more than 50% of S are P.” The lexical conventions assigning meanings to individual words are *completely* arbitrary because there is no connection between the form and the meaning assigned. Implicature conventions differ because implicatures depend on our seeing some connection between what a sentence means and what we use it to implicate (Davis 1998: §6.5). But they are still arbitrary *to a significant extent* because the sentence could have been used to implicate many other things.²⁵

Horn (1989: 343) agreed with Grice that “All conversational implicatures are in principle calculable.” Despite taking this to be true “by definition,” Horn never established calculability before asserting a conversational implicature. At best Horn argued that a practice was “pragmatically motivated” or “natural.” In the case of contrary affirmations, for example, Horn (1989: 333) noted that people often choose ‘I don’t like it’ over ‘I dislike it’ because it seems more polite and guarded. He connected this observation with the fact that contrary affirmation is more common with positive terms such as ‘like,’ ‘believe,’ and ‘good’ than with negative terms such as ‘hate,’ ‘doubt,’ and ‘bad.’ Horn (1989: 321-4, 337-52, 354ff) also reviewed extensive evidence that whether a term is subject to contrary affirmation or not is arbitrary and conventional. Intra-linguistically, he noted that ‘hope’ and ‘rich’ are positive terms, but do not allow contrary affirmation. Inter-linguistically, while both ‘think’ and ‘believe’ allow contrary affirmation in English, the word for ‘think’ allows contrary affirmation in Hebrew but not the word for ‘believe,’ and the reverse is found in Malagasy. Following Morgan (1978), Horn (1989: 345, 352) concluded that the irregular interpretation is an implicature because it is “in principle calculable,” but “short-circuited” because it is conventional and not actually calculated.²⁶ However, if a practice is indeed conventional, then it has a significant element of arbitrariness, and so cannot be calculated. The candid concession Horn makes in his discussion of indirect speech acts is thus especially appropriate for irregular negations.

Given our current state of knowledge, it must be conceded that ascribing some phenomenon to the presence of [a short-circuited implicature] may amount more to labeling than explaining that phenomenon. By pushing the problem of variation in indirect speech act potential back to the pragmatics, we (along with Searle and Morgan) have in some sense reconstructed Sadock’s speech act idiom analysis in different garb, rather than replacing it with a new, improved theory. (Horn 1989: 350)

While the non-calculability of the irregular interpretation does not refute the implicature theory, it does undermine one of the main arguments for it over the semantic ambiguity theory. Horn (1989: 365, 383) and others cite ‘*Grice’s Razor*.’ This modification of Ockham’s famous principle claims that it is more economical to postulate conversational implicatures rather than senses, because conversational implicatures are derivable from independently motivated

²⁵ Saul (2001: 638) suggested that generalized conversational implicatures are calculable because facts about implicature conventions are part of the working out data from which implicatures are to be inferred. This would still entail that calculability is inessential, since conversational implicatures have to exist before becoming conventional. More importantly, knowledge of conventions does not suffice for calculability either: there may be more than one implicature convention; and the speaker may have been speaking ironically, hyperbolically, and so on, or speaking completely literally with no implicature. See Davis ‘How Normative is Implicature?’ for more details.

²⁶ Cf. Bach’s (1995: 683) notion of an inference “compressed by precedent.”

generalizations, the Cooperative Principle and its maxims.²⁷ Burton-Roberts develops the argument quite explicitly.

The natural language conjunction *or*, like the English noun *pen*, can be understood in two different ways.... Now in the case of *pen*, this dichotomy of understanding is an irreducible particular fact, not explainable by reference to any general principle. We have no alternative but to observe the dichotomy, as semantic, and record it as such in the lexicon – i.e. acknowledge the existence of a genuine ambiguity.... In the case of *or*, on the other hand, a general explanation is available for the exclusive understanding.... Not only is that exclusive understanding of *or* derivable from the inclusive understanding by an extremely plausible conversationally driven calculation involving a general Gricean maxim of quantity, but this same calculation underlies and is required for a host of other expressions, for example the derivation of partitive understanding of *some* from its existential understanding, ... This pragmatic analysis results in a simplification of the semantics.... (Burton-Roberts 1989: 107ff)

The fact that English speakers use ‘p or q’ to mean “p or q but not both” cannot be derived from the fact that ‘p or q’ has the sense “p or q or both” together with the Gricean principles. The maxim of Quantity enjoins speakers to be as informative as required. Why should we assume that speakers need to convey anything more informative than ‘p or q or both’ when they say ‘p or q’? And if they do have to convey more, why should the requisite additional information be “not both”? All of the following statements and many others are more informative than ‘p or q’ on its inclusive interpretation.

- (18) p and q.
 p rather than q.
 p or else q.
 p, or equivalently q.
 p or q and I have no idea which.

Indeed, ‘p or q’ is conventionally used to implicate the last three propositions.²⁸ The maxim of Quantity therefore provides no basis for predicting that people using ‘p or q’ will mean or imply “p or q but not both” rather than other more informative propositions. If the maxim of Quantity did explain why people commonly use ‘p or q’ to mean “p or q but not both,” then it should in exactly the same way predict that people commonly use ‘p or q or both’ and ‘p and/or q’ to mean “p or q but not both.” But these are never used with the exclusive interpretation. Note too that the Cooperative Principle provides no basis for ruling out the possibility that speakers use ‘p or q’ ironically, to mean “Neither p nor q.”

Sentences have generalized conversational implicatures because sentences with their forms are conventionally used with those implicatures. It is similarly true that words have senses because they are conventionally used with those senses.²⁹ The postulation of a generalized conversational implicature is therefore no more economical than postulating a sense. The

²⁷ See for example Wilson 1975: 99; Kempson 1975: 142; Grice 1978: 44-47; Sadock 1981: 258; Wilson & Sperber 1981: 155; Levinson 1983: 97-100, 132; Bach 1987: 69, 77-9; Burton-Roberts 1989: 107ff; Horn 1989: 213-214, 377ff; 1992a: 263, 266; Neale 1990: 80-1, 90-1; 1992: 535. Contrast Geurts 1998: 298; Davis 1998: 18-27.

²⁸ See Ball 1986; Horn 1989: 378; Davis 1998: 146-7.

²⁹ This holds only for expressions whose meaning is non-compositional, including individual words and idioms. Compositional expressions have their senses because of the senses of their components and the conventions governing their mode of composition. See Davis 2003: Ch. 10.

fundamental difference between generalized implicatures and senses is the *directness* of the use. “Not all S are P” is an implicature of ‘Some S are P’ because people conventionally use sentences of that form to mean “Not all S are P” by using them to say and mean “At least some S are P.” The latter is the sense or meaning of ‘Some S are P’ because people conventionally use sentences of that form to mean “At least some S are P” directly, not by using them to mean something else. The fact that meaning something directly is less complex than meaning something indirectly would if anything make the postulation of implicatures less economical than the postulation of senses. We should not postulate an implicature rather than a sense unless we have specific reason to. But that goes without saying.

Burton-Roberts provided another argument for the I-Implicature theory based on the fact that conjunctions like those in (2) are contradictory when interpreted as regular negations.

[T]he semantic analysis of these examples as being literal contradictions is not only correct, it is surely crucial if we are to provide an explanation of what a speaker must intend by his utterance of them and of the extreme ease with which this intention is recognized.

It is clear, in (27) [“Max isn’t not very tall, he’s a dwarf!”] for example, that it is the immediate utterance of the contradiction-inducing second clause that prevents the co-operative hearer from adhering to the analysis indicated by the semantics and analysing “not not very tall” as meaning “very tall.” . . .

In the face of such blatant contradictions, the co-operative hearer – that is, the hearer who assumes that the speaker is being co-operative – must perform a re-analysis in order to recover from the utterance of these literal contradictions an intention to convey another, non-contradictory idea. This calculation is NECESSITATED by the contradiction induced in each case by the second clause. And it will be FACILITATED [better, ENABLED] by a context that includes an appropriate previous utterance by some other speaker (or an allusion to such a previous utterance). . . . This is enabling of the required re-analysis in that it allows (if not obliges) us to construe the utterance of the first clause . . . as a metalinguistic use of negation, operating in respect of a quotational allusion to the previous use of, and hence in respect of a mention of, the positive proposition. . . . (Burton-Roberts 1989: 117ff)³⁰

It is generally true that unless we have reason to believe that a speaker intended a contradiction, we charitably strive to find an interpretation of what he says that is consistent. However, charity does not provide a reason for favoring the implicature theory over the ambiguity theory. It is true for the same reason that if one interpretation of an ambiguous expression makes what a speaker says contradictory, we try its other meanings. Thus if someone points at the unusual U-shaped instrument the percussionist is playing and says “That triangle is not a triangle!” we would assume that the speaker is not contradicting himself, and infer that the two occurrences of ‘triangle’ have different senses.

Moreover, as Seuren (1990: 443) observed, the fact that a sentence is contradictory does not always enable or compel the speaker to find an alternative interpretation. The fact that ‘The car has blue paint: it has no paint’ is blatantly contradictory neither necessitates nor enables recovery of a consistent idea. Seuren’s example is particularly instructive.

- (19) (a) John did not stay till the end: he sat it all out.
 (b) John did not stay till the end: he was never there.

Sentence (19)(b) has a contradictory interpretation, but would normally be interpreted in a way

³⁰ Cf. Horn 1989: 391, 444; Carston 1998: 340; 1999: 374; Burton-Roberts 1999: 355, 360; Levinson 2000: 214.

that is consistent. Sentence (19)(a), in contrast, is unequivocally contradictory. We are not compelled to find a consistent interpretation, because there is none. The interesting question Seuren’s example raises is why a ‘correction’ clause denying one entailment of the root allows a consistent interpretation, but not one denying another entailment. The fact that a consistent interpretation is available when the entailment is presupposed, but not when it is asserted, seems relevant. The general rule that an irregular negation is used to deny an implicature of its root explains why given that presuppositions are implicatures (§VII).

Finally, irregular negations are recognizable even in compounds that are not at all contradictory on their regular interpretation. Consider:

- (20) (a) The next Prime Minister won’t be Wilson, it’ll be Heath or Wilson.³¹
 (b) She is not feminine *but* smart: there is nothing surprising about being both.
 (c) She’s not the pineapple of politeness, Mrs Malaprop, she’s the pinnacle.

The negations in these examples are naturally interpreted as irregular despite the fact that the examples are consistent on the regular interpretation of the negations (or perhaps nonsensical in the case of (c)). Furthermore, we observed above that hearers typically do not even hear the contradictory reading of the sentences in (2). So for several reasons, the fact that irregular negation-correction conjunctions are contradictory cannot be crucial to their interpretation.³²

§VI. R-IMPLICATURE THEORY

On the I-Implicature theory, the regular interpretation of a negation is its semantic meaning, and irregular interpretations are pragmatically generated implicatures. Grice (1981) and Horn (1989: 486-90, 514) reverse the pragmatic and the semantic for at least one case. The irregular presupposition-cancelling interpretation is the meaning of the negation in (2)(c), on their view, while the regular presupposition-preserving interpretation is a conversational implicature.³³ I call this an *R-Implicature theory*, since it takes the regular interpretation to be an implicature. The two forms of the implicature theory are compared in Table 1. ‘N’ stands for the negation (a sentence), ‘S’ for the speaker, ‘R’ for the regular interpretation, and ‘I’ for an irregular interpretation.

Table 1: Implicature Theories

	<i>I-Implicature Theory</i>	<i>R-Implicature Theory</i>
<i>Sentence Meaning</i>	N means R but not I	N means I but not R
<i>Irregular Use</i>	S says R and means I	S says and means I

³¹ This example comes from Grice via Wilson 1975: 150, Burton-Roberts 1989: 116ff, and Horn 1989: 377ff, 396. (20)(c) is from Burton-Roberts 1999: 362. Note that (20)(a) shows that irregular negations need not conform to Disjunctive Syllogism. Neither the speaker nor the audience would take ‘It will be Heath’ to follow.

³² Cf. Wilson & Sperber’s (1981: 160-2) critique of Grice’s thesis that the obvious falsity of what is literally said is somehow crucial to the existence or interpretation of figures of speech. See also Levinson 2000: 215-6.

³³ See also Kempson 1975; Atlas 1975; 1979: 252-4; Gazdar 1979; Boër & Lycan 1976; Horn 1990: 496ff.

	<i>I-Implicature Theory</i>	<i>R-Implicature Theory</i>
<i>Regular Use</i>	S says and means R	S says I and means R

R-Implicature theories could select a different irregular interpretation to be the meaning, but the presupposition-cancelling interpretation is the only live option.

R-Implicature theory avoids one problem of the I-Implicature theory by predicting that when (2)(c) has its irregular interpretation, it is not heard as a contradiction; the speaker does not say that Vulcan is non-hot, and thus does not presuppose what the correction clause denies. What the R-Implicature theory gets wrong is the regular use of negations. It predicts that when we use ‘Pluto is not hot’ to mean “Pluto is non-hot,” what we mean is an implicature. All we *say* is that the proposition that Pluto is hot is not true (or that nothing is both Pluto and not hot). In fact, the two levels of meaning characteristic of implicature are not present here either. We do not mean that Pluto is non-hot by saying something else. That is, we do not merely imply that Pluto is non-hot.

A well-known problem for any theory that takes the presupposition-cancelling interpretation to be the only meaning of negations is that it must either deny truth-functionality and double negation or affirm that sentences whose presuppositions are false are themselves false. A more serious problem is that some negations do not have such an interpretation at all. For example, the first clause of (21) unequivocally presupposes that someone assassinated Eisenhower, and thus has no interpretation on which it is true (cf. Seuren 1990: 447ff).

(21) It was not Oswald who assassinated Eisenhower; no one did.

If (21) had an irregular interpretation, it would mean something true like “The proposition that it was Oswald who assassinated Eisenhower is not true.”

‘Vulcan is not hot’ can also be interpreted as a scalar implicature denial, meaning that Vulcan is not just hot (but super hot). If the presupposition canceling interpretation of this sentence is its meaning, however, then it is hard to see how it could have such an implicature. For other sentences meaning “The proposition that Vulcan is hot is not true” (or “Nothing is Vulcan and not hot”) do not implicate “Vulcan is not just hot.”

R-Implicature theory also has a difficult time explaining why sentences of the form ‘s is not P’ should ever be heard as presupposing the existence of s. In a manner reminiscent of Kroch (1972), Burton-Roberts (1999: 357) pointed out a large lacuna in a representative explanation.³⁴

The Gricean derivation goes something like this. Assume, as Griceans do, a semantics for [(22)] that amounts to the disjunction of [(23)] and [(24)]

- (22) The king of France is not bald.
- (23) There is no king of France.
- (24) There is a king of France and he’s not bald.

The idea is that [(22)] would be an obscure, vague, non-optimal, way of conveying [(23)]. Since [(23)] entails [(22)] but not vice versa, it is more specific. So to communicate [(23)] the speaker would have to SAY [(23)], not the

³⁴ See e.g., Wilson 1975: 99-100, 106; Atlas 1975; 1979: 273; Boër & Lycan 1976: 27-8 (but contrast 60-1); Levinson 1983: 218, 222; Lycan 1984: 84. See also Kempson 1975: 178-9; Carston 1999: 368-71. Grice’s (1981: 273-6) own derivation was even less successful.

much vaguer [(22)]. So if [(22)] is uttered but not in order to convey [(23)], it must be being uttered in order to convey [(24)]. That there is a king of France, then, is conveyed as a quantity implicature.

The difficulty is that the calculation can be shown, with equal or greater plausibility, to go exactly the opposite way. [(24)] entails [(22)] as much as [(23)]. Speakers are expected to give as much information as is compatible with their beliefs. Hence the speaker who believes that [(24)] is true should SAY [(24)] rather than the much vaguer [(22)]. Indeed, according to Grice, the utterance of the semantically disjunctive [(22)], far from implicating [(23)], would in fact implicate that the speaker did NOT know which of [(23)] and [(24)] was the case. (Burton-Roberts 1999: 357)

Boër & Lycan (1976: 60-61) would reply that the speaker could not have uttered (22) in order to convey (23), since his mention of baldness would then violate the maxim of relevance. But this explanation fails in the most natural case, in which the speaker is responding to someone who previously affirmed the root of (22). Atlas (1979: 273) would suggest that (24) is the most informative (and relevant) additional claim one could make. But since (23) and (24) are logically independent, their relative informativeness and relevance cannot be compared except in very special contexts.

One more problem is that the Gricean reasoning provides no explanation of why the speaker said (22) at all, if what he wanted to convey was either (23) or (24). Yet another is that if the Gricean derivation worked, it could just as well be used to show that the disjunction of (23) and (24) presupposes or implicates that there is a king of France; but it does not.³⁵

§VII. IDIOM THEORY

Every irregular negation I have examined obeys what I call the *first implicature denial rule*: *‘Not-p’ is an irregular negation on a given interpretation if it denies an implicature of ‘p.’* Thus ‘The sun is larger than some planets’ implicates “The sun is not larger than all planets”; the negation clause of (2)(a) denies that implicature. ‘That’s a *tomäto*’ implicates “That is properly called a ‘tomäto’”; the negation clause of (2)(b) denies that implicature. “The chief believes that someone survived” implicates “It is not the case that the chief believes no one survived”; (8)(a) denies that implicature. The implicature denial rule even holds for presupposition denials. For presuppositions are one kind of sentence implicature. Even on semantic theories, presuppositions are related propositions that speakers commonly mean or imply, but do not say or assert. For example, speakers who utter ‘Vulcan is hot’ imply that Vulcan exists, but they do not say that Vulcan exists. Hence they ‘implicate’ that Vulcan exists.³⁶ But while that implicature is denied by the correction clause of (2)(c), what the irregular negation clause denies is a different implicature, namely, “The proposition that Vulcan is hot is true.”

A *second implicature denial rule* is also plausible: *if ‘p’ has an implicature, then ‘Not-p’ can be used as an irregular negation to deny it.* While it is easy to find particularized implicatures that an irregular negation cannot deny, it is hard to find a sentence implicature – either a generalized conversational implicature or a Gricean conventional implicature – for which this second rule

³⁵ I show that Carston’s (1999: 368) relevance theoretic derivations are no more sound in ‘Irregular Negations: Explicature Theory.’

³⁶ Whether presuppositions are conversational or conventional implicatures—pragmatic or semantic—is a complex and controversial issue we need not address.

fails. The only exceptions are presuppositions like that of (21) that are not cancelled even in belief or conditional clauses.³⁷ Sentences usually have more than one implicature. Thus ‘The sun is larger than some planets’ also implicates “Some things the sun is larger than are properly called ‘planets,’” and so its negation can also be used to deny that metalinguistic implicature. Whether the negation is a scalar or metalinguistic implicature denial on any given occasion depends on which implicature of its root the speaker intends to deny.

A semantic account of irregular negations has to explain how a mere implicature of a component clause could become part of the meaning and truth conditional content of a larger compound.³⁸ Horn (1989: 370) implies that the task is impossible when he says that “conversational implicata by definition are not part of logical form.” However, the task is not to explain how an implicature of ‘p’ could be part of the logical form of ‘p,’ but how it could become part of the logical form of a compound containing ‘p.’ The explanation will not be in terms of the regular compositional semantic rules, of course. For the meaning of a compositional compound is determined by the meanings, not the implicatures, of its components.

There is another way for a compound to acquire a meaning: ‘*through repeated usage*,’ the way idioms get their meaning. Given that speakers standardly used sentences of the form ‘s Vs some O’ to mean “s Vs just some O,” it would have been natural for them to begin using ‘s does not V some O’ to mean “s does not V just some O.” It is also plausible that with repetition, this usage became first conventional and then direct. When that happened, sentences of the form ‘S does not V some O’ acquired the irregular sense in addition to their regular sense. Implicature involves using words to mean one thing and thereby mean another. It involves both a direct meaning and an indirect meaning. As long as this indirection exists, the second meaning will remain an implicature rather than a sense. When it becomes conventional to express the second meaning directly, it becomes a second sense (Davis 2003: Part II; 2005: Ch. 5). As noted in §V, by ‘convention’ I mean a regularity in action that is socially useful, self-perpetuating, and arbitrary (Davis 2003: Ch. 9).

Many idioms are known to have evolved from metaphors, euphemisms, and other figures of speech, which are forms of conversational implicature.³⁹ For example, ‘cut and run’ originated as a nautical term in the 18th century meaning “cut the anchor cable and leave immediately.” It was subsequently used metaphorically to mean “make a quick escape,” and is now a completely dead metaphor. When the metaphor was alive, the now idiomatic meaning was conveyed indirectly, and the literal meaning directly. As metaphors gradually die through

³⁷ I defend both implicature denial rules more fully in ‘Irregular Negations and Denial.’

³⁸ Cf. Horn 1989: 370, 384; Burton-Roberts 1989: 122; Levinson 2000: 212-3. Contrast van der Sandt 1991: 332-4; Geurts 1998: 294; Levinson 2000: 214.

³⁹ Ammer (1997), Sieftring (2004), and ‘Euphemism’ (*Wikipedia*) are filled with fascinating examples. See also Sadock 1972; Grice 1975: 58; Searle 1975: 76ff; Morgan 1978; Horn 1989: 344-5; Hopper & Traugott 1993: 75-93; Cowie 1994; Davis 1998: Ch. 6; 2003: Ch. 8. Bach (1987: 71; 1994: 144) denies that metaphor involves implicature on the grounds that there is no indirection. If S says ‘Your words are bullets’ metaphorically, S *meant* that your words are very damaging, but did not *mean* that they are bullets; so one kind of indirection is indeed absent. But there are others. S meant that your words are very damaging by: meaning “Your words are small projectiles” (not “large dots”); expressing the thought that they are bullets; and saying that they are bullets. See Davis 2003 on different kinds of speaker meaning and indirection.

repeated use, less and less attention is paid to the literal meaning. When dead, the formerly metaphorical meaning is conveyed directly, without conveying the literal meaning. People who use the idiom ‘cut and run’ today are not saying that the subject is cutting the anchor and sailing away, and are rarely even thinking about ships. Similarly, ‘sleep with’ was first used in the 10th century to imply sexual relations, and today is generally used with no thought about sleeping. It is still considered more polite in some circles than ‘have sex with,’ but there is no indirection. Idioms also retain their literal meaning, of course, and thus are semantically ambiguous. Thus parents might say ‘Johnny was scared, so he slept with us last night’ with no sexual implication at all.

The lexicalization of generalized conversational implicatures is a similar and even more common phenomenon. To take just a few examples, the causal meaning of ‘since’ evolved from an implicature in Old English, where ‘since’ had only its temporal sense. The word ‘homely’ originally had the meaning “pertaining to the home,” acquiring the metaphorical meaning “plain, unadorned” in the 14th century, and eventually becoming a euphemism meaning “physically unattractive” in American English.⁴⁰ Most readers of this article will have lived through the lexicalization of the computer virus metaphor.

We have seen that while the irregular interpretation of a negation would be natural as a generalized conversational implicature, this only seems to hold for evaluative implicature denials. In addition to being non-cancelable, detachable, and non-calculable, other irregular negations are *direct*. The indirection or two levels of meaning definitive of implicature is absent in the case of scalar and metalinguistic implicature denials, presupposition denials, and contrary affirmations. What I am suggesting is that *direct irregular negations are idioms*. These idioms could well have arisen as what were generalized implicatures like today’s evaluative implicature denials ‘died’ through repeated use. Direct irregular negations are idioms because, though fully conventional and direct, *their meaning is not predictable from the meanings of their components and their grammatical structure*. They are partially, but not fully, compositional. Their irregular meaning depends on the meanings of their parts, but is not determined by them. Irregular negations are used to deny implicatures of their roots, which are not determined by the meanings of their roots. The idioms we have focused on here are listed in Table 2, from which we can read off the conventions that give rise to the irregular meanings.

Table 3: Irregular Meaning Conventions

	<i>Form</i>	<i>Irregular Meaning</i>
Scalar Implicature Denial	s does not V some O	s does not mean just some O
Metalinguistic Implicature Denial	s is not P	s is not properly called ‘P’
Presupposition Denial	s is not P	The proposition that s is P is not true
Contrary Affirmation	s does not believe that p	s believes that not-p

Table 3 tells us that ‘s does not V some O’ has the idiomatic meaning “s does not V just some O” because speakers conventionally use sentences of the form ‘s does not V some O’ to directly mean (express the idea) “s does not V just some O.”

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Hopper & Traugott 1993: 76-7; *The Online Etymology Dictionary*; Geurts 1998: 297.

The idiom theory is schematized in Table 3.

Table 3: Idiom Theory

	<i>Idiom Theory</i>
<i>Sentence Meaning</i>	N means both R and I
<i>Irregular Use</i>	S says and means I
<i>Regular Use</i>	S says and means R

Because direct irregular negations are idioms, negations are semantically ambiguous. Because indirect irregular negations are living implicatures, some negations are also pragmatically ambiguous. Thus ‘It is not partly sunny’ is often used to imply ‘It is not the case that things are good because it is at least partly sunny.’ But they mean this indirectly, so ‘It is not partly sunny’ does not have it as an idiomatic meaning.

Direct irregular negations are unusual idioms given the generality of the second implicature denial rule. There is a whole system of idioms, including (but not limited to) those we have illustrated in Table 3. In other respects, though, irregular negations have the typical properties of idioms. For example, the conventions assigning idiomatic meanings to sentences are like conversational implicature conventions, and unlike lexical conventions, in not being completely arbitrary. We always perceive some antecedent connection between the idiomatic meaning or implicature and the literal meaning (Davis 1998: §6.5). The same is true of the irregular and regular interpretations of negations.

We noted in §I that ambiguity, limited substitutivity of synonyms, and partial compositionality are common features of irregular negations. These are all essential features of idioms in general. The idiom theory can thus easily respond to the following objection to the ambiguity theory.

[T]he incorporation of a further (presupposition-cancelling) means of negation within the semantics leaves totally unexplained the special, marked and, in Kempson’s word, unnatural character of the negations it is designed to account for. (Burton-Roberts 1989: 100)⁴¹

Semantic, grammatical, and even phonological irregularity is part of what makes idioms idioms. Consider ‘*He doesn’t know which end is up.*’ This is partially but not completely compositional. Replacing ‘doesn’t’ with ‘does,’ ‘can’t,’ or ‘may not’ changes the meaning in predictable ways; but replacing ‘up’ with ‘down’ or ‘end’ with ‘terminus’ does not. Standard transformations produce dubious results (e.g., ‘Which end is up is something he doesn’t know,’ or ‘He fails to know which end is up’). Standard entailments fail (‘He either forgot or never learned’). And only some components can be emphasized (‘*He doesn’t know which end is up*’ is okay, but not ‘*He doesn’t know which end is up*’ or ‘*He doesn’t know which end is up.*’)

Bach (1994: 153-4) would argue that an irregular interpretation I is not a meaning of negation N because N does not *literally* say I, and because the use of N to say I is not *fully explicit*. It does seem fair to say, for example, that (2)(a) is literally a contradiction, and that someone who uses it to say that the sun is larger than all planets, not just some, is not being fully explicit.

⁴¹ See also Kempson 1975; Horn 1989: 487; Burton-Roberts 1997: 68; 1999: 348. Compare and contrast Carston 1998: 339, 346-9; Seuren 1990: 439.

We can begin to accommodate Bach's observations by noting that the same things can be said about idioms. 'He kicked the bucket' literally means "He struck the bucket with his foot" rather than "he died." This is not to deny, however, that 'kicked the bucket' now means "died" in English. 'Literal' here is opposed to 'figurative,' whether the figures of speech are dead or alive. We can also say that 'English horn' literally means "horn that is English" even though it has a more common meaning on which it denotes a musical instrument that is "neither English nor a horn but a tenor oboe" (Latham 2002: 309). In general, I believe we are using 'literal' in these cases to describe a *fully compositional* meaning – a meaning that results from the meanings of an expression's parts and the regular syntactic rules of the language.⁴² Since an idiomatic meaning results from a convention to use a compound with a meaning other than its compositional meaning, it is a non-literal meaning.

When a negation is used with an irregular interpretation, the speaker is not being fully explicit because there is a more explicit way of expressing the same proposition. Thus 'The sun is not larger than just some planets' is a more explicit way of saying what 'The sun is not larger than some planets' is used to mean when it is a scalar implicature denial. The observation that irregular negations are not fully explicit is also accounted for by the hypothesis that they are idioms. 'He kicked the bucket' is a not fully explicit way of saying that the man died. A more explicit way of saying the same thing is 'He died.' In general, a sentence meaning that is not fully compositional is not fully explicit, because a fully compositional way of saying the same thing is more explicit. Idioms show that an expression may not be fully explicit on a given interpretation even though the interpretation is one of its meanings. For further confirmation, note that 'A is a vixen' is not the most explicit way of saying that A is a female fox. A more explicit way of saying the same thing is 'A is a female fox.' Even though 'A is a vixen' is not a fully explicit way of saying that A is a female fox, 'vixen' does mean "female fox." Does any sentence provide a fully explicit way of saying something? That would be difficult to prove, since it would require showing that no word in the sentence could be analytically defined.

Horn (1989: 392) sought to explain why marked negation fails to incorporate morphologically.⁴³ 'Immaterial,' for example, is synonymous with 'not material.' Why then does 'Angels are immaterial' have only the regular meaning of 'Angels are not material,' not the irregular meaning? Horn's explanation was that the irregular meaning is metalinguistic: 'Angels are not material' means something like "'Angels are material' is not assertable." In the latter, the 'not' does not combine with 'material' because one is inside quotation marks, and the other is outside. The words are occurring at different levels, 'not' in the metalanguage, 'material' in the object language. This explanation is satisfactory for (2)(b), which is genuinely metalinguistic, as captured by (9)(b). But it fails for (2)(a), which is not (§IV). Moreover, 'immaterial' can be used to object to a previous utterance, as in (26).

- (25) A: Angels are material.
 B: No, angels are immaterial: they are pure spirits.

⁴² 'Literal' is also used to describe the etymology of a word, as when it is said that 'hippopotamus' literally means "river horse." In this case, the literal meaning is not something the word means in English at all.

⁴³ See also Horn 1985; 1990: 497; Burton-Roberts 1989: 235-6; Carston 1996: 322.

Incorporation is also possible in contrary affirmations, even though they too can be used to object to previous utterances.

The idiom theory can explain why morphological incorporation fails in some irregular negations but not others. In marked negations, the expression composed of ‘not’ and the predicate ‘P’ is not a compositional unit. It does not express a concept composed of the concepts expressed by ‘not’ and ‘P.’ That is, it does not mean “non-P.” For different reasons, this holds for ‘not larger than some planets’ in (2)(a), ‘not a tomāto’ in (2)(b), and ‘not hot’ in (2)(c), as indicated by (9)(a)-(c). The word ‘immaterial,’ however, is the concept expressed by ‘non-material.’ Horn’s explanation worked for metalinguistic implicature denials, because their expressing concepts occurring at different levels is one reason why two terms do not combine to form a compositional unit. But it is not the only way. Contrary affirmations are exceptions that prove the rule. Despite being irregular, they allow incorporation because ‘not V⁺’ expresses the contrary concept “V⁻,” as we saw in §II. Thus ‘does not believe’ often means “disbelieves,” and ‘is not good’ often means “is bad.”

§VIII. THE AMBIGUITY OF NEGATIONS

The idiom theory is one form of semantic ambiguity theory, differing from others in the source of the irregular meaning. Ambiguity theories that attribute the ambiguity to a lexical ambiguity in the word ‘not’ or a syntactic ambiguity arising from scope differences are implausible for the reasons indicated in §I and §III. A lexical ambiguity in ‘not’ cannot account for the different meanings illustrated by (2) and (8), and would produce ambiguities in sentences like ‘That is not the case’ and ‘Not everyone died’ that we do not find. Moreover, we would expect a lexical ambiguity to be lexicalized in some natural language. The Aristotelian distinction between contradictory predicate denial and contrary predicate negation (Horn 1989: 107) might account for the ambiguity of (2)(c), but not that of (2)(a), (2)(b), or (8). Russell’s theory of descriptions identifies a scope difference that matches pretty well the ambiguity of sentences like (4), but that theory has independent problems, and is no help with the sentences in (2) or (8). On the idiom theory, the ambiguity is neither lexical nor scopal. The irregular meaning of a negation does not result compositionally from the meanings of ‘not’ and its base. Instead, the construction as a whole acquired additional meanings as implicatures became conventional and then direct. The ambiguity is not a standard syntactic ambiguity because the idiomatic meanings are not fully compositional.

We have observed that when the root of ‘not-p’ has two or more implicatures (including presuppositions), the speaker chooses which one is denied on any given occasion of use. The negation ‘not p’ has distinct idiomatic senses corresponding to the different implicatures that can be denied. Selecting the implicature to deny constitutes choosing which sense to mean. In some cases, the speaker can signal which implicature is being denied through intonation. In the case of ‘Vulcan is not hot,’ the speaker can signal a scalar implicature denial by giving ‘hot’ more emphasis than ‘not,’ and starting ‘hot’ at a higher pitch; a presupposition denial by giving ‘not’ more stress, and a higher pitch; and a contrary affirmation by giving ‘hot’ a falling pitch. The sense is signaled most effectively by adding a correction clause.

A common reason for rejecting ambiguity claims is what I call “gut incredulity.” People

simply find it hard to believe – absurd even – that sentences have so many meanings.⁴⁴ The question is, why should this be hard to believe? Everyone acknowledges that all the different readings of negations we have identified are possible, and that they are conventional. Once this much is acknowledged, the additional claim that the readings are meanings should be just a question of detail. Whether a reading is a meaning or a conventional conversational implicature depends on whether it is conventional to mean it directly or indirectly.⁴⁵

I have developed a foundational theory in which word meaning is defined in terms of conventional speaker meaning, and speaker meaning is defined in terms of intention and the expression of thoughts and ideas (Davis 2003, 2005). Simplifying greatly, the base clause of my recursive definition specifies that expressions have a meaning μ if they are conventionally and directly used to mean μ – that is, to express the idea μ . The compositional meanings of complex expressions are provided by the recursion clause, which specifies that expression structures express certain idea structures if they are conventionally and directly used to do so. The base clause accounts for the meanings of morphemes, including both the literal and the metaphorical meanings of ‘virus,’ along with the meanings of completely non-compositional idioms like ‘kicked the bucket.’ The recursion clause accounts for the meanings of partially compositional idioms like ‘end of one’s rope’ (in which any personal pronoun can appear). In this case, the expression structures are not purely syntactic, grammatically defined, forms. The pattern defining the structure has semantic elements. The regular and irregular meanings of negations are both assigned by the recursion clause. I have argued here that negations are ambiguous because the conventional meaning of ‘not’ together with the meaning of ‘p’ generates the regular, fully compositional meaning of ‘not-p.’ The irregular, partly compositional, idiomatic meanings of negations result from special conventions to use more specific negative sentence patterns to directly express ideas distinct from the regular negation. The irregular interpretation of evaluative implicature denials is conventional but not direct, so it remains an implicature rather than a sense.

§IX. QUESTIONS FOR FURTHER STUDY

It is my hypothesis that direct irregular negations are idioms that evolved from a variety of conversational implicatures the way other idioms evolved from metaphors. Since their idiomatic meaning is in addition to their regular compositional meaning, they are semantically ambiguous the way dead metaphors are. If this is correct, a number of questions arise. When and why did such constructions acquire their irregular sense? When did something that was implicated come to be meant directly? Why did an idiom arise rather than a new word meaning? Why didn’t the implicature of the root similarly become semanticized? Did the irregular conventions arise independently for each negation form, or generalize from one to another? In general, how can we best describe and explain a system of idioms? These are questions for historical linguistics as well as pragmatic and semantic theory. The fact that

⁴⁴ See for example Katz 1972: 92; Sperber & Wilson 1986: 188; Kittay 1987; Bach 1994: 150. Contrast Davis 2003: §10.6.

⁴⁵ I defend the claim that negations are ambiguous rather than general in ‘Irregular Negations: Explicature Theory.’

conventions are arbitrary means that the answers may cite the vagaries of historical contingency rather than systematic linguistic or social factors.

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