Un- reveals antonymy in the lexicon

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1 Introduction

Introductory textbooks explain the semantics of the *un-* prefix thus: when applied to an adjective it has a negative meaning, and when applied to a verb it has a reversative meaning. Thus *un-* creates antonyms from both complementary and gradable adjectives, as in *true/untrue* and *happy/unhappy*. For verbs, the addition of *un-* is only able to create the reversative antonyms as in *lock/unlock,* but never the conversative as in *lend/borrow* as opposed to *lend/*unlend,* likely because antonyms of verbs like *lend* require an often unpredictable shuffling of theta roles. Although this paper does not address verbs, I do hope that it will assist in that investigation.

I hope to show that *un-* does not create antonyms by adding the notion of negation to a positive form, but rather by adding the notion of antonymy itself. This description of the behavior of *un-* accounts for certain gaps which on the surface appear to be the result of some blocking effect.

Before beginning the analysis, I must point out that this paper makes no attempt to explain various occurrences of the nonproductive version of *un-,* such as occurs in *unrest, unemployment, unbeliever,* the recent back-formation *unbelieve,* press-related jargon words like *unhave,* etc. These are affective innovations and historical residues of older usages, and are therefore either no longer productive or only marginally productive.[1]

2 *Un-* the Non-Negator

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1 For an interesting discussion on more marginal uses of *un-* in popular culture, see Ben Zimmer's article "The Age of Undoing" in *New York Times Magazine,* 15 September 2009.

As noted above, *un-* operates without regard to gradability. A clearer pattern falls out when one groups adjectives as either subsective, intersective, or privative. The three types can be clarified quite simply by outlining what truth values each entails about the noun it describes.

(1)   subsective

This is a big beetle   →   This is a beetle.

                  ↛   This beetle is big.

                  intersective

This is a kind man.   →   This is a man.

                  →   This man is kind.

                  privative

This is a fake teapot. ↛   This is a teapot.

                  →   This teapot is fake.

The crossed arrows indicate that the following statement is not entailed by the preceding statement. Beetles, for instance, are *small* things compared to humans, but one may refer to a beetle which towers over other beetles as *a big beetle*. It may be obvious—but I shall address it here briefly—that there need only be three such categories, because an adjective which entailed neither such truths would have no linguistic value.[2]

The grammaticality of privative adjectives prefixed with *un-* is remarkably uniform. We might expect that it will create a form synonymous with that adjective's antonym, but this is not the case.

(2)   fake   *unfake

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2   If *this is a blargle teapot* entailed neither *this is a teapot* nor *this teapot is blargle,* what semantic value could *blargle* have?

counterfeit	*uncounterfeit
fictitious	*unfictitious
imaginary	*unimaginary

In all these instances one might conclude that the prefixed form is blocked by a salient antonym like *real*. The same explanation presents itself for subsective adjectives as well, because they are all[3] likewise ungrammatical when prefixed with *un-*.

(3) big   *unbig

small   *unsmall

far   *unfar

near   *unnear

good   *ungood

bad   *unbad

tall   *untall

short   *unshort

In fact the only adjectives with which *un-* can be productive are intersective, though it does not create grammatical forms with all intersective adjectives.

(4) true   untrue

happy   unhappy

kind   unkind

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3   Confusion may arise from certain subsective adjectives that have intersective homophones. The word *intelligent*, for instance, can be subsective in the sense that *this is an intelligent cow* does not entail *this cow is intelligent,* because here the word has a meaning similar to 'clever' or 'smart' (note: *unclever, *unsmart*). But *intelligent* can be intersective in the sense that *this is an intelligent organism* does entail *this organism is intelligent,* because here the word means something like 'having a brain' or 'conscious.' Thus the formation *unintelligent* was likely made from the intersective version of *intelligent*, and later extended as a synonym of *stupid*. I predict that any other apparent counterexamples (except the affective formations mentioned in section I) will also exhibit homophony with an intersective adjective.

clean	unclean
healthy	unhealthy
green	*ungreen
glassy	*unglassy
round	*unround
flat	*unflat

A basic look at the semantics of their components makes the ungrammaticality of forms like *ungreen* and *unround* apparent. Here we must draw a clear distinction: it is from such forms as these that I conclude that *un-* is not a negator except insofar as antonyms overlap with negatives, and that the function of *un-* is to form antonyms rather than negations. A complex idea like *flat*, for instance, can be negated, but does not have a contrary or gradable antonym. What would be the antonym of *flat*? Is it *round, lumpy,* or perhaps *pointy*? There is no singular opposition with which to draw distinction. In this way *un-* contrasts with *non-*, which does indeed form negatives like *non-flat*, the meaning of which is allowed by the semantic value of *non-* to encompass *round* and *lumpy* as well as *pointy* while committing to no particular one. In a sense all these options are antonyms of *flat*, but the relationship is asymmetric, which is why many restrict the term 'antonym' to those oppositions that are gradable and contrary.[4] So perhaps we should take it as a matter of course that the function of *un-* is to create not just an opposition, but an antonym *par excellence*.

3 More Gaps: Markedness to the Rescue?

Many adjectives are not so easily explained. These are adjectives which fit the criteria for production with *un-*: they are intersective and have singular antonyms, yet they do not create

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4   Murphey 2003, 189; Lehrer and Lehrer 1982

grammatical forms when prefixed thus.

(5)   false   *unfalse

        sad   *unsad

        mean   *unmean

        dirty   *undirty

        sick   *unsick

Nor can we invoke the simple explanation that they are blocked by more salient antonyms,

because then we cannot account for grammatical forms such as in (4). Moreover, the failure of

that explanation in these instances undermines its ability to explain the ungrammatical forms in

(2) and (3).

Much has been said about the role of markedness in antonymy, but this will be incapable

of describing the behavior of *un-* with privative and subsective adjectives because in each of

these groups there are marked and unmarked forms, all equally shunned by *un-*. Nevertheless it

warrants investigation since it may account for the varying applicability of *un-* to intersectives.

But first we must explore the idea of markedness.

Since *markedness* is a linguistic term, its definition depends upon one's field (phonology,

syntax, etc.) and theory. Semantic markedness—this paper's concern—has been treated

according to its alignment with morphological complexity, syntactic distribution, the possibility

of further semantic differentiation, and prototypical versus nonprototypical concepts.[5]

The identification of semantic markedness with the expression of more or less of a quality goes

back to the original work on markedness done by Roman Jakobson.[6] Lehrer captures the

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5   Battistella 1990, 34-45
6   Battistella 1990, 28-33.

situation in the following quote:

> "In looking at the evaluative or connotative 'meaning', the unmarked member has a positive connotation and the marked member has a negative one. Thus *happy, clean* and *friendly*, which come out as unmarked according to the criteria listed above, have favourable connotations, while their antonyms, *sad, dirty* and *unfriendly* have negative connotations.

> Unmarked members of an antonym pair denote more of a quality, while the marked member denotes less. According to the previous criteria, *big, tall, heavy* and *old* are unmarked and indeed these terms denote more size, height, weight and age than their corresponding antonyms *small, short, light* and *young*."

> (Lehrer 1985)

Reading over the words in (5), the question that appears most glaring is this: why should negative evaluation correlate to markedness? It is, one must admit, an empirically tenuous connection between, say, *dirty* and *false*. Lehrer's statement, "unmarked members of an antonym pair denote more of a quality..." makes less sense when one considers more closely the examples *happy, clean,* and *friendly*. Is cleanliness something that one has more of, and dirtiness what encroaches in its absence? Perhaps in a very abstract sense, though the reasoning seems a bit contrived. All the above approaches have their downfalls,[7] and each would define *markedness* in an unhelpfully different way. Therefore let it suffice to identify markedness with an intrinsic affinity for asymmetry in usage. This intrinsicness, however, compels us to analyze markedness as perhaps a lexical feature. But Murphy notes that an approach that would treat markedness as a

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7   I highly recommend reading the criticism offered by Battistella 1990, on pp. 34-45.

lexical feature cannot apply to any contextually dependent markedness.[8] One asks *how good is that book?* but not #*how good is that oil-spill?* or #*how good is your flu?*. This approach also fails to account for antonymy in general, since there are antonymic pairs like *hot* and *cold* (as opposed to *warm* and *cool*) in which neither member is inherently marked with respect to the other.[9]

Although markedness may provide clues in this investigation, I do not think it can be made at all diagnostic. A word like *problematic,* for instance, is patently negatively evaluated, and one would probably label it marked with regard to an antonym like *easy*. And despite the word's morphological complexity, one may find occasion to produce the antonym *unproblematic* in order to fill a perceived gap.[10] Now *problematic* does denote more of a quality, and so may be labeled unmarked according to that criterion, but how are we to determine when a form will follow which criteria? I think that the behavior of *un-* can inform this discussion more than it can be illuminated by it.

4 Antonymy in the Lexicon

The way I propose to analyze negative evaluation adjectives is to break down their semantic values in terms of their positive evaluation counterparts. I believe the existence of a morpheme whose most basic semantic value consists in specifying antonymy, namely *un-*, supports the possibility that {ANTONYM} (hereafter abbreviated {ANT}) may exist

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8   Murphy 2003, 186-188
9   Murphy 2003, 187
10 This brings up another point, namely that *un-* can be used to coerce gradable contrariety. The word *pointy*, for instance, has no distinct antonym when applied to rocks (*round? flat? dull?*) but it could when applied to spears. And in case one hesitates to use *dull* and *sharp* for something that is not quite a blade, *?unpointy* could be formed with a clear meaning in its context, where it would be opposed to *pointed*, 'having a point.' Similarly one cannot describe a food as *?unsweet*, because this does not indicate any particular opposition (*salty? bitter? sour?*). But in the southern United States, *unsweet tea* denotes tea without sugar added. In the context of tea, *sweet* is synonymous with *sweetened*. And so the addition of *un-* to this particular version of *sweet* by analogy produces a synonym of *unsweetened*.

independently as a semantic value available for inclusion anywhere in the lexicon. Thus the

word *true* would have the semantic value {TRUE}, but *false* would have the value {ANT,

TRUE}, specifying it in the mental lexicon as the antonym of {TRUE}. So too would *untrue*

have the value {ANT, TRUE}. And thus the reason for uniformly preferring *true* to its would-be

synonym **unfalse*, is that the former would have the simple value of {TRUE} while the latter

would heap semantic values together redundantly with the value of {ANT, ANT, TRUE}, which

is interpretable but inefficient. The answer then, if this analysis be correct, is a blocking effect

which compels speakers to avoid such inefficiency at the level of semantic composition. Now let

us turn our attention to privative and subsective adjectives.

This analysis accounts for privative adjectives easily. All of them can be identified

semantically as the asymmetrically abundant antonyms of *real*, since they draw their

characteristic shared feature through opposition to that concept. This gives us two reasons why

privatives avoid *un-*. First, they run into the same redundancy problem as the **unfalse* example.

Second, they have the same asymmetry as *flat*, in that they do not have clear antonyms *par*

excellence. Therefore the privative category would seem, below the surface, to be derivative of

the intersective category. Alternatively, Partee considers privatives to be really subsectives

opposing such concepts as *real*.[11] With that view, privatives can be dealt with implicitly in the

following excursus on subsective adjectives. In any case, privatives will be seen ultimately to

belong to one of the other two categories.

Subsective adjectives pose an interesting dilemma. Here we have a set of positive and

negative evaluation words, clear gradable and contrary antonyms *par excellence,* and yet no

possibility of affixation with *un-*. The reason is that subsective pairs locked in a catch-22 that

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11 Partee 2010

admits of no such derivation. They are logically codependent because their opposition is what gives them meaning; but they are semantically independent because deriving one from the other would require the other to be logically independent. A subsective without an equal but opposite subsective antonym cannot be a subsective at all. For instead of creating dichotomies recursively, an unopposed subsective would create only a scale of degree, making it indistinguishable from and therefore equal to an intersective. In order to use *un-* to create an antonym to a subsective, it would have to be attached to one of an already existing pair of subsectives, which would result in the same sort of indirectness of express that we encounter with redundancy. For example, a pair like *big* and *small* may decompose into simply {BIG} and {SMALL}. Thus *unsmall* {ANT, SMALL}, meaning 'big,' and *unbig* {ANT, BIG}, meaning 'small,' are not avoided merely because they are more complex than their alternatives *big* {BIG} and *small* {SMALL}, but also because they circumvent another semantic prime. Compare the following competing forms.

(6a)   *unfalse*   {ANT, ANT, TRUE} competes with   *true*   {TRUE}

(6b)   *untrue*:   {ANT, TRUE}   competes with   *false*:   {ANT, TRUE}

(6c)   *unbig*:   {ANT, BIG}   competes with   *small*:   {SMALL}

This reasoning accounts for all the data and, if it is correct, should help inform further investigations of markedness.

Support for my breakdown may be found in the work of Wierzbicka and Goddard, who include in their list of semantic primes the notions BIG and SMALL, as well as GOOD and BAD, FAR and NEAR.[12] But although they also include TRUE,[13] one notices the absence of

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12 Goddard and Wierzbicka 1994, 37-47
13 Goddard 2002

*FALSE. Their reasoning derives for the most part from cross-linguistic universality, which, if it is correct, would have interesting implications for my analysis. Furthermore if my analysis is correct, it may be necessary to add ANTONYM to their canon of primes. In any case, the next step in investigating this phenomenon is to attempt to model similar patterns in languages besides English.

5 Conclusion

The prefix *un-* can be applied to any adjective which is logically able to stand in a relationship of antonymy *par excellence* with another adjective. The difficulty of using markedness alone to explain the distribution of *un-* disappears when one considers its semantic value as that of {ANTONYM} and that this same semantic value may be inherent in certain intersective adjectives, which are thus stored in the lexicon as antonyms of other concepts[14]. Antonymy in the mental lexicon thus accounts for the distribution of *un-*.

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14 As an interesting mental exercise, consider the processing time required to draw out the meaning from phrases like *John lacks a dearth of paucity of books*.

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