

THE SINGULAR SQUARE: CONTRARIETY AND DOUBLE NEGATION FROM ARISTOTLE TO HOMER^{*}

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“I would by contraries/Execute all things”

—Tempest, II.i

“The contrary bringeth bliss”

—Henry VI Part II, V.v

Abstract:

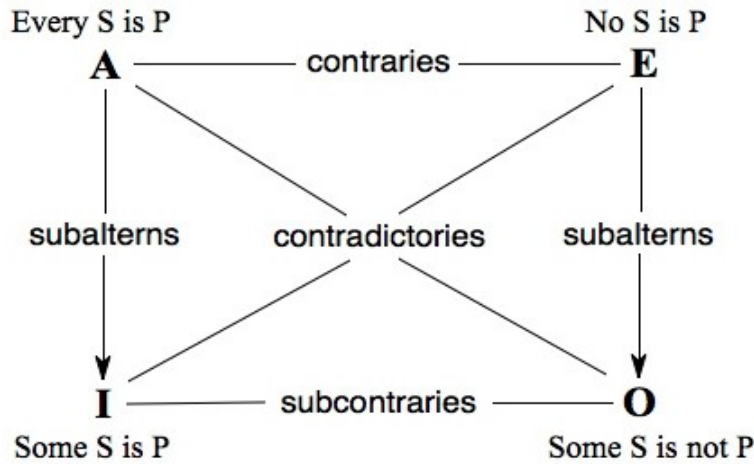
While the traditional Square of Opposition was based on Aristotle’s logic, its first appearance postdates the Stagyrite by five centuries. In the *Prior Analytics I*, Aristotle himself lays out a somewhat different square, which I dub the SINGULAR SQUARE, to formalize his treatment of the interrelation of singular statements (*it’s good, it isn’t good, it’s not-good, it isn’t not-good*). Like the more familiar square, the Singular Square is based on the distinction between contradictory and contrary opposition. This paper focuses on the role of the Singular Square as a device for unmasking the conspiracy of MAXCONTRARY, the natural language tendency for a formal contradictory (apparent wide-scope) negation $\neg p$ to strengthen a contrary of p in a variety of syntactic and lexical contexts. This conspiracy extends from the non-compositional narrow-scope readings of negation interacting with bare plurals, definite plurals, conjunctions, and neg-raising predicates, the prevalence of prohibitives and litotes, the contrary interpretations of affixal negation, and the seemingly illogical behavior of "logical" double negation.

1. INTRODUCTION: MAXCONTRARY AND THE THREE-CORNERED SQUARE

The “Aristotelian” Square of Opposition, presented in (1) below, is designed as a representation of the inferential relations obtaining among a quartet of general (or quantified) statements with a shared predicate, e.g. *All pleasure is good, Some pleasure is good, No pleasure is good, and Not all pleasure is good* (or *Some pleasure is not good*). This geometrical schema, while based on the logic of Aristotle’s *Peri Hermenias* (“*On interpretation*”), dates from the work of the same title written five centuries years later by (probably) Apuleius, the author of *The Golden Ass*. The four vertices of the Square corresponding to the four statement types illustrated above are traditionally labeled **A**, **I**, **E**, and **O**, mnemonic reminders of the first two vowels of the Latin verbs *AffIrmo* (‘I affirm’) and *nEgO* (‘I deny’).

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(1) The traditional (neo-)Aristotelian Square of Opposition (cf. Parsons 2012)



The two central species of opposition (*Categories* 11b17ff., *Metaphysics* 1022b23ff.) are contradiction and contrariety; the subcontrary “opposition” is defined and named not by Aristotle but (by virtue of its placement below the contraries) by the cartographers mapping the square. In fact for Aristotle these “contradictories of contraries”, as he calls them, are “only verbally opposed. Here are the semantic differentiae of the three relations:

- (2) **CONTRADICTIONARIES (A/O, I/E)** “split the true and false between them”
(All dogs are fish/Not all dogs are fish; Some men are bald/No men are bald)
CONTRARIES (A/E) can be simultaneously false but not simultaneously true
(All men are bald/No men are bald)
SUBCONTRARIES (I/O) can be simultaneously true but not simultaneously false
(Some men are bald/Some men aren't bald)

The relation of subalternation holding between a universal and its corresponding particular, is motivated by Aristotle’s observation that whatever holds of all also holds of some, and if a property belongs to none it does not belong to all (*Topics* 109a3).¹

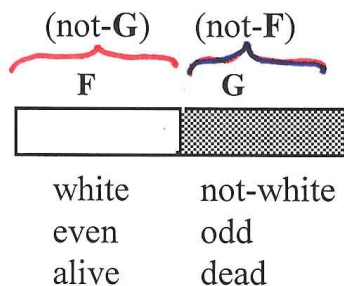
Contradictories and contraries are distinguished by their interaction with Aristotle’s two indemonstrable axioms (cf. Horn 2010), the Law of (Non-)Contradiction, which governs both varieties of opposition, and the Law of Excluded Middle, which applies to contradictory but not contrary oppositions (*Prior Analytics* 51b20-22, 32-33; also in *Categories*, *Metaphysics*, et al.). Here are the two laws in their propositional form, using \neg and \odot to represent contradictory and contrary negation respectively.

- (3) **Law of Non-Contradiction (LNC):** For any proposition p, not (p and not-p)
 $\vdash \neg(p \wedge \neg p); \vdash \neg(p \wedge \odot p)$
Law of Excluded Middle (LEM): For any proposition p, (p or not-p)
 $\vdash (p \vee \neg p); \vdash (p \vee \odot p)$

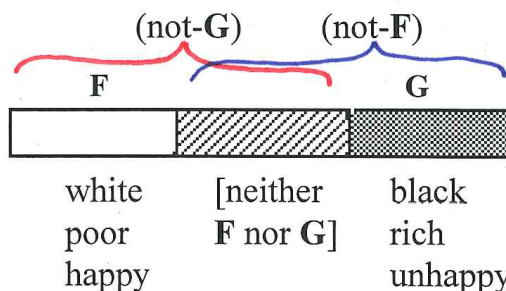
¹ What of existential import? Which of the four statement forms entail or presuppose that the set over which the quantifier ranges is non-null and how does this affect the subaltern and other relations? In particular, if *all* is import-free while *some* is not, doesn’t this vitiate the Square? The fact that other operators (binary connectives, adverbs, modals, deontics) for which existential import is irrelevant can be mapped onto the Square makes such a step as unappealing as it is unnecessary. This leaves a number of options for dealing with questions of import and quantification and their relation to the Square; see Horn (1997) for discussion.

Not just propositions but terms are sometimes taken to be opposed as either contradictories or contraries, although Aristotle himself did not allow for contradictory terms (see Horn 1989: Chapter 1). Contraries allow for an unexcluded middle (a color neither black nor white), while contradictories (an integer neither even nor odd) do not. In (4), the unexcluded middle is indicated by shading.

(4) CONTRADICTORY OPPOSITION



CONTRARY OPPOSITION



1.1. On the contrariety “operator”

I use $\odot p$ to represent a contrary of p , so that by definition p and $\odot p$ cannot both be true but can both be false. (Others have used κ or R for a one-place non-truth-functional contrariety operator corresponding to my \odot .) It should be noted that \odot is not a proposition-forming operator in the way \neg is, since a given proposition may have logically distinct contraries, while this is not the case for contradictories. Geach (1972: 71-73) makes this point with the example in (5).

- (5) a. Every cat detests every dog.
 b. No cat detests every dog.
 c. There is no dog that every cat detests.

While (5a) may have two syntactically distinct contradictories, *Not every cat detests every dog* and *It's not every dog that every cat detests*, co-contradictories of a given proposition will always have the same truth conditions. But (5a) allows two contraries with distinct truth conditions, (5b) and (5c). A more germane example for our purposes is (6a), which allows the three non-identical contraries in (6b-d).

- (6) a. I believe that you're telling the truth.
 b. I believe that you're not telling the truth.
 c. I don't believe that you're telling the truth or that you're not telling the truth;
 I haven't made up my mind yet.
 d. I don't believe that you're telling the truth or that you're not telling the truth;
 I haven't given the matter any thought.

Thus while we can speak of the contradictory of a proposition, Geach observes, we cannot (pace McCall 1967) speak of **the** contrary, but only of **a** contrary, of a proposition.

As Humberstone (1986:fn. 6) points out in response to Geach's critique of McCall, however, the lack of uniqueness “does not prevent one from exploring the logical properties of an arbitrarily selected contrary for a given statement.” For our purposes, the crucial logical property of contrariety is that it unilaterally entails contradiction:

- (7) a. $\odot p \mid - \neg p$

b. $\neg p \text{ | } \neg \text{ } \odot p$

In this respect, contrariety is a quasi-modal notion approximating logical impossibility in that $\Box\neg p$ entails $\neg p$ but not vice versa. (See McCall 1967, Humberstone 1986, and Bogen 1991 for additional considerations.)

1.2. The three-cornered square and the missing O

While the traditional Square and various other competing geometries from the 1950s on (see Horn 1990 and the papers in Béziau & Payette 2012) are symmetrical, natural language makes a case for asymmetry, given that in a wide variety of languages the values that map onto the southeast corner of the Square are systematically restricted in their potential for lexicalization. This crucial asymmetry was perhaps first recognized by St. Thomas Aquinas, who observed that whereas in the case of the universal negative (**A**) “the word ‘no’ [*nullus*] has been devised [!] to signify that the predicate is removed from the universal subject according to the whole of what is contained under it”, when it comes to the particular negative (**O**), we find that

there is no designated word, but ‘not all’ [*non omnis*] can be used. Just as ‘no’ removes universally, for it signifies the same thing as if we were to say ‘not any’ [i.e. ‘not some’], so also ‘not all’ removes particularly inasmuch as it excludes universal affirmation. (Aquinas, *in Arist. de Int.*, Lesson X, Oesterle 1962: 82-3)

Thus alongside the quantificational determiners corresponding to *all*, *some*, *no*, we find no **O** determiner **nall*; we have the quantificational adverbs *always*, *sometimes*, *never*, but never a **nalways* (= ‘not always’, ‘sometimes not’). We may have univerbations for *both (of them)*, *one (of them)*, and *neither (of them)*, but never for **noth (of them)* (= ‘not both’, ‘at least one...not’); alongside the connectives *and*, *or*, and sometimes *nor* (= ‘and not’), we never see **nand* (= ‘or not’, ‘not...and’). Schematically:

(8) The lexicalization asymmetry of the Square of Opposition

	DETERMINERS/ QUANTIFIERS	QUANT. ADVERBS	BINARY QUANTIFIERS	CORRELATIVE CONJUNCTIONS	BINARY CONNECTIVES
A:	all α , everyone	always	both (of them)	both...and	and
I:	some α , someone	sometimes	one (of them)	either...or	or
E:	no α , no one (=all-/-some)	never (=always-)	neither (of them) (=both-/-either)	neither...nor (=[both...and]-)	nor (=and-)
O:	<i>*nall</i> α , <i>*neveryone</i> (=some-/-all)	<i>*nalways</i> (=-always)	<i>*noth</i> (of them) (=either-/-both)	<i>*noth...nand</i> (=[either...or]-)	<i>*nand</i> (=and-/-or)

This asymmetry of lexicalization serves as our entrée into the workings of the conspiracy we call MAXCONTRARY, the tendency for contrariety to be maximized in natural language. As argued more fully elsewhere (Horn 1972: Chapter 4; Horn 1989: §4.5; Horn 2012; cf. also Katzir & Singh 2013), the motivation for this asymmetry is pragmatic: the relation of mutual non-logical inference between the positive and negative subcontraries results in the superfluity of one of these subcontraries for lexical realization; given the functional markedness of negation (see Horn 1989 for a comprehensive review), the superfluous, unlexicalized subcontrary will always be **O**.

The missing **O** phenomenon extends to the modals and deontics, and is also reflected in the general tendency toward **O** > **E** drift, as manifested by the movement of lexical items or

collocations that formally evoke the **O** corner of the square northward toward **E**. But we will first elaborate the nature of the asymmetry among the quantifiers and related adverbs and connectives in (8), where its operation is particularly robust. This effect is especially striking when it overcomes morphology and etymology. Thus the Old English lexical item *nalles*, *nealles* is not the **nall*-type value it appears to be, but is in fact attested only with the value ‘no, not, not at all’, never ‘not all’. Other OE lexicalizations include *næfre* ‘never’, *næðor* ‘neither, nor’, *náht* ‘nothing’, *nán* ‘no one, none’, and *náhwær* ‘nowhere’, all occupying the northeast **E** rather than the southeast **O** slot. Similarly, Jaspers (2005: 150) cites the Dutch adverb *nimmer*—literally ‘nalways’, but actually denoting ‘never’. Whether it is an **A** or **I** value that is negated, the result is an **E** value lexical item.

The lexicalization asymmetry of the Square extends to alethic, epistemic, and deontic modals (cf. van der Auwera 1996, Béziau 2003), as illustrated by the fact that the inflected negative in (9b) only allows wide scope (**E** vertex) negation, i.e. the Roman Catholic reading, while its unlexicalized counterpart in (9a) allows both wide-scope (Catholic) and narrow-scope (Episcopalian) readings of the negation.²

- (9) a. A priest can not marry. $[\neg \diamond (\mathbf{E}) \text{ or } \diamond \neg (\mathbf{O})]$
 b. A priest {can't/cannot marry}. $[\text{only } \neg \diamond (\mathbf{E}), \text{ not } \neg \diamond (\mathbf{O})]$

The same asymmetry holds for *could not*, although it only shows up in the inflected form, since there is no **couldnot* orthographic lexicalization alongside *cannot*:

- (10) a. You could not work hard and still pass. $[\neg \diamond (\mathbf{E}) \text{ or } \diamond \neg (\mathbf{O})]$
 b. You couldn't work hard and still pass. $[\text{only } \neg \diamond (\mathbf{E}), \text{ not } \diamond \neg (\mathbf{O})]$

The Scottish modal negation *couldnae* is similarly restricted to **E** or impossibility-type meanings (Brown 1991: 82-85):

- (11) a. She could no have told him (but she did). $[\mathbf{O} \text{ (or, without parenthetical, } \mathbf{E})]$
 b. She couldnae have told him (#but she did). $[\text{only } \mathbf{E}]$
 c. He could no have no been working. $[\diamond \neg [\text{he was not working}]]$
 d. He couldnae have no been working. $[\neg \diamond [\text{he was not working}]]$

As with the quantifiers and binary connectives, it is the relation between the modal subcontraries (that of mutual implicature, even if we cannot accept Aristotle's apparent equivalence between them: “whatever may walk...may not walk”—*De Int.* 21b12) that rules out lexicalization of the negative (**O**) subcontrary.

What of **A**-vertex modals? *Must* and *should*, whether understood logically, epistemically, or deontically, can only incorporate an inner negation, resulting in an **E** (or, in the case of *should*, **E**-like) meaning:

- (12) a. You mustn't go. = ‘you must [not go] $[\square \neg (\mathbf{E}), \text{ not } \neg \square (\mathbf{O})]$
 b. You shouldn't go. = ‘you should [not go] $[\text{basically } \square \neg (\mathbf{E})]$

To be sure, the **A** modal *need* yields a lexicalized **O** value, as in *You needn't leave*, but given the negative polarity status of *need* as a modal auxiliary (**You need leave*), negation must scope over *need*, ruling out any **E** reading. (Analogous distributional constraints hold for

² Note that despite the standard dictionary entry for *cannot* in which it is equated to ‘can not’, the former—as a lexicalization—can only get the **E** reading, never the **O**, regardless of the modal flavor involved. The same is true for *couldn't* and *couldnae*, both standardly but misleadingly glossed as contractions of ‘could not.’

- (15) a. It's not likely that Federer will win and not likely that he won't.
 (allows \neg [LIKELY] reading with wide-scope negation)
 b. #It's unlikely that Federer will win and unlikely that he won't.
 (allows only [LIKELY] \neg reading, hence anomalous)
- (16) a. It's not {advisable/desirable} that you go there alone. (ambiguous)
 b. It's {inadvisable/undesirable} that you go there alone. (only a warning not to)

2. EXCLUDING THE MIDDLE: THE POLARIZING DISJUNCTION

As noted, contradictory terms (*black/non-black*, *odd/even*) exclude any middle term, an entity satisfying the range of the two opposed terms but falling under neither of them, a hat that is neither black nor not-black, an integer which is neither odd nor even. Contraries, by contrast, allow a middle: my shirt may be neither black nor white, my sister neither happy nor sad. Yet in certain remarkable circumstances the gap between the contraries narrows and even disappears, the middle effectively excluded or swallowed up.

The centrifugal politics and/or theology of polarization tends to force every entity within the range of the polar contraries to choose one of the two terms to fall under. In this setting, evoked by revolutionists of every stripe, everything is black or white, there are no shades of gray. Hitler, for one, was described by a contemporary as operating under “a two-valued classification scheme where everything was Black (dark, evil, Jewish) or White (pure, good, Aryan)” (Richter 1944: 194). But others, from Jesus on, have endorsed their own binary taxonomies:

- (17) a. He who is not with me is against me. (Jesus, in *Matthew* 12:30 and *Luke* 11:23)
 b. Keiner oder alle. Alles oder nichts. (Bertolt Brecht)
 c. O con noi o contro di noi. (Benito Mussolini)
 d. Either you're part of the solution or you're part of the problem. (Eldridge Cleaver)
 e. Either you are with us or you are with the terrorists. (George W. Bush)

In his seminal investigation of gradable terms, Sapir points to the existence of a psychological excluded middle:

Three-term sets [*superior/average/inferior*, *good/moderate/bad*, *big/medium/small*, *warm/lukewarm/cool*] do not easily maintain themselves because psychology, with its tendency to simple contrast, contradicts exact knowledge, with its insistence on the norm, the "neither nor". (Sapir 1944: 133)

This tacit preference for simple, either-or contrast that the middle term, occupying a ZONE OF INDIFFERENCE, tends to be “quasi-scientific rather than popular in character.”

This yields a productive, if context-dependent, process: polar contraries p and q are treated as mutually exhaustive as well as mutually inconsistent. When we can eliminate all values but p and q , we obtain the disjunction in (18a), which—despite its formal contrariety—functions as an instance of (18b), i.e. the Law of Excluded Middle (LEM).

- (18) a. $p \vee q$
 b. $p \vee \neg p$

LEM applies where it “shouldn't”, based on the possibility of establishing such pragmatic disjunctions between semantic contraries in a given context. As the neo-Hegelian Sigwart

observed, the efficacy of LEM derives from the possibility of establishing just such pragmatic disjunctions between semantic contraries:

We are able, on the ground of our knowledge and of the particular contents of our subjects and predicates, to frame two positive statements, of which we know [as with] contradictory judgments that while both cannot be true together, neither can both be false; and in this case we gain, by denial of either member of the disjunction, a definite, unambiguous affirmation. (Sigwart 1885: 155)

This pattern of inference has been long been recognized as the DISJUNCTIVE SYLLOGISM, the law of MODUS TOLLENDO PONENS, or—if you're a Stoic (cf. Mates 1953)—the “fifth indemonstrable syllogism”:

(19) $p \vee q$
 $\neg p$
 $\therefore q$

As Sigwart recognizes, the crucial step is the first one, the initial establishment in context of the disjunction: “If we could solve all difficult questions by starting right off with ‘it is either so or so’—‘he is either mentally healthy or diseased in mind’, ‘the number is either odd or even’—then indeed the principle of excluded middle would be an invincible weapon. No disjunction of contraries, no LEM; no LEM, no MTP.

But when does this strategy of “divide and assert” extend to semantic contraries? One class of cases has already been mentioned, those resulting from the polarizing tendency of revolutionary credos. When the center does not hold, there are only two possibilities: if everything is either good or evil, and something isn't good, what else can it be? But if *evil* expands to cover the ground of 'not good', *not good* is essentially reduced to 'evil'. Thus a formal contradictory (*not good*, vis-à-vis *good*) is strengthened in terms of the relevant scale to yield the assertion of a contrary (*bad*, *evil*). In such cases, warns Sigwart (1885: 195), “The opposition of predicates [e.g. *good* vs. *evil*, *white* vs. *black*] has substituted itself unnoticed for the mere negation, and the negative statement [*x is not good*, *y is not white*] seems to tell us more than it really does.” Note, however, that while *x is not good* is, as Sigwart notes, “understood as if it applied to the truth of the proposition with the opposite predicate”, i.e. *x is evil*, the same strengthening is less plausible when the negative statement itself involves implicit negation: *x is not evil* \neq *x is good*.

For Sigwart's contemporary and rival, the fellow-neo-Hegelian philosopher Bosanquet, this strengthening of “mere contradictories” to contraries is essentially universal: “The essence of formal negation is to invest the contrary with the character of the contradictory' (Bosanquet 1888: 306). To support his claim that “negation always involves contradiction between contraries” rather than simple contradictory opposition on the one hand or pure contrariety on the other, Bosanquet cites the apparent “mere contradiction” between *He is good* and *He is not good*, where the latter is semantically a relatively weak “non-informative form” which in practice is “filled in”, “so that from ‘he is not good’ we may be able to infer something more than that ‘it is not true that he is good’.” (1888: 310). As a related illustration of the same tendency to “fill in” a literal contradictory, Bosanquet (p. 337) recognizes “...the habitual use of phrases such as *I do not believe it*, which refer grammatically to a fact of my intellectual state but actually serve as negations of something ascribed to reality... Compare our common phrase ‘I don't think that’—which is really equivalent to ‘I think that ___ not’.”

Schematically, at least three related scenarios for contrary negation in contradictory clothing can be recognized English, one (not observed by Bosanquet) for the conventionalized strengthening of negative affixes (cf. Jespersen 1917: 144; Horn 1989: §5.1; Horn 1991) and the two noted just above, the simple litotes or understatement of *it's not good* and the “neg-raising” effect of *I don't think that p*:

- (20) a. *contrary readings for affixal negation* (conventionalized strengthening)
 He is unfriendly (stronger than, i.e. unilaterally entails \neg [He is friendly])
 She was unhappy (stronger than, i.e. unilaterally entails \neg [She was happy])
 I disliked the play (stronger than, i.e. unilaterally entails \neg [I liked the play])
- b. *litotes/understatement in simple denials* (online pragmatic strengthening)
 He's not happy with it (pragmatically stronger than \neg [He's happy with it])
 She doesn't like fondue (pragmatically stronger than \neg [She likes fondue])
 I'm not optimistic that p (pragmatically stronger than \neg [I'm optimistic that p])
- c. “*neg-raising*” effects (short-circuited implicature; cf. Horn & Bayer 1984)
 I don't believe it'll snow (\approx I believe it won't snow)
 I don't want you to go (\approx I want you not to go)
 It's not likely they'll win (\approx It's likely they won't)

In each case, the negation of an unmarked positive scalar value implicates a stronger (contrary) negation, based on a pragmatically motivated assumed disjunction: In a context licensing the pragmatic assumption $p \vee q$, to assert $\neg p$ is to R-implicate q , where R-based implicature is a strengthening rather than upper-bounding implicature that may undergo subsequent conventionalization (cf. Horn 1984, 1989).

2.1 Neg-raising and MaxContrary: the insufficiency of pragmatic strengthening

As St. Anselm (1033-1109) observes, “*non...omnis qui facit quod non debet peccat, si proprie consideretur*”: not everyone who does what he *non debet* ('not-should') commits a sin, if the matter is considered strictly (i.e. with the contradictory reading of negation as suggested by the surface structure). The problem, as he sees it, is the standard use of *non debere peccare* to convey the contrary *debere non peccare*, rather than the literal wide-scope contradictory (= ‘it is not a duty to sin’). A man who does what is not his duty does not necessarily sin thereby, but (because of the interference of the NR reading) it is hard to stipulate e.g. (21a)—the proposition that a man need not marry—without seeming to commit oneself to the stronger (21b), an injunction to celibacy (Henry 1967: 193ff.; cf. Williams 1964, Hopkins 1972, Horn 1978b: 200).

- (21) a. *non debet ducere uxorem* lit., 'NEG [he should take a wife]'
 b. *debet non ducere uxorem* lit., 'he should NEG [take a wife]'

For Henry (1967: 193), Anselm's take on the scope interaction of the negative and modal is “complicated by the quirks of Latin usage,” spurring his recognition that “*non debet*’, the logical sense of which is ‘It isn't that he ought’, is normally used not to mean exactly what it says, but rather in the sense more correctly expressed by ‘*debet non*’ (‘he ought *not*’).” Henry's assessment parallels that of logicians and epistemologists seeking to debug English of a similar flaw, from Quine's dismissal (1960: 145-6) of the “familiar quirk of English whereby ‘ x does not believe that p ’ is equated to ‘ x believes that not p ’ rather than

to ‘it is not the case that x believes that p ’ as an “idiosyncratic complication” to Hintikka’s complaint (1962: 15) that “the phrase ‘ a does not believe that p ’ [$\sim B_a p$ in his notation] has a peculiarity...in that it is often used as if it were equivalent to ‘ a believes that $\sim p$ ’ [$B_a \sim p$]” and Deutscher’s acknowledgment (1965: 55) that *I do not believe that p* can be “unfortunately ambiguous” between disbelief and simple non-belief. Grammarians, too, find NR readings more to be censured than explained; for Vizitelly (1910), *I don’t believe I’ll go* and *I don’t think it will rain* are “solecisms now in almost universal use. Say, rather, ‘I believe I will not go’; ‘I think it will not rain.’” In fact, Quine’s “quirk”—the lower-clause understanding of higher-clause negation over a semantically coherent but somewhat variable range of predicates and operators—is far more than an unfortunate foible or error in English (or Latin) usage. For some, it reflects a rule of grammar.

Fifty years ago, Fillmore (1963: 220) proposed “the Transposition of NOT (EVER)” as a cyclical rule within a fragment of generative grammar, basing his analysis on the (putative) paraphrase relation between (22b) and (one reading of) (22a).

- (22) a. I don’t believe that he wants me to think that he did it.
 b. I believe that he wants me to think that he didn’t do it.

The golden anniversary of this rule has now been marked by a major monograph, Collins & Postal 2014, which marshals old and new evidence in support of a syntactic approach to neg-raising (NR). In so doing, Collins & Postal are bucking a trend (as seen in the chronology reviewed in Horn 1978b and Horn 1989: §5.2). Over the years, empirical and theoretical considerations have gradually led linguists down the trail blazed by Jackendoff (1971: 291): “The synonymy between *John thinks that Bill didn’t go* and one reading of *John doesn’t think that Bill went* is inferential in character and has nothing to do with the syntactic component—it may even have nothing to do with the semantic component.” Further, it is unclear whether (22a,b) do constitute synonyms; as recognized a half-century earlier by the grammarian Poutsma (1928: 105), “the shifting of *not* often has the effect of toning down the negating of a sentence.”

The result has been largely a return to the traditional view purveyed in grammars of English that tend to subsume NR (if it’s noticed at all) under the more general pattern of formal contradictory negation (paraphrasable as ‘It is not that case that p ’) strengthened to a contrary, as when *She’s unhappy* or even *She’s not happy* are understood as making a stronger negative claim than a mere denial that she is happy. These can be viewed as expressing lexicalized and virtual (or on-line) contrariety respectively; cf. (20b,c) above. Jespersen (1917: 53), for example, presents the use of *I don’t think* to “really mean” *I think he has not come* as both an instance of specialization of negative meaning and an illustration of “the strong tendency in many languages to attract to the main verb a negative which should logically belong to the dependent nexus.”

But just how and why is the hearer led to strengthen the weaker contradictory, *I don’t believe that p* understood as \neg (I believe that p), to the force of the contrary *I believe that $\neg p$* ? The classic recipe is given by Bartsch (1973) in a paper that wears its conclusion on its sleeve: “‘Negative transportation’ gibt es nicht.” Like Jackendoff, Bartsch (1973: 3) rejects any ambiguity for (23), but proposes that while (23a) entails (23b), there arises in certain contexts a mirroring *pragmatische Implikation* from (23b) to (23a).

- (23) Peter doesn’t believe that Hans is coming.
 a. Peter believes that Hans is not coming.
 b. It is not the case that Peter believes that Hans is coming.

This implication derives from the assumption that the subject a can be assumed to have given some thought to the truth of the complement p and come to some conclusion about it, rather than that a hasn't thought about p or is neutral as whether p or $\neg p$. Propositional attitudes ('think', 'believe', 'want') express the subject's cognitive or psychological stance toward the complement, inducing a disjunctive pragmatic presupposition of the form "[a believes that p] or [a believes that $\neg p$]." Thus so-called neg-raising is not a rule of grammar or semantic interpretation but a (mere) pragmatic implication; (23a,b), while semantically distinct, can express the same information relative to a given *Sprechsituation*. Bartsch's inference schema in (24) is an instance of the disjunctive syllogism expressed in (19) above.

- (24) (i) $F(a, p) \vee F(a, \neg p)$ (the pragmatically presupposed disjunction)
 (ii) " $\neg F(a, p)$ " (the proposition actually asserted)
 (iii) $F(a, \neg p)$ (the proposition conveyed)

The key step is the presupposed disjunction in (i): if you can assume I either want to go or want to stay (= not-go) and I say (out of diffidence, politeness, cowardice, etc.) that I don't want to go, you can infer that I want to stay.

This is an attractive story, and others have arrived independently at something similar. Klooster (2003) undertakes his own quasi-Bartschean analysis of NR by invoking a 'BLACK AND WHITE' EFFECT for verbs like *think* and *want*, given that "in a discourse where judgements and intentions are relevant, but reserving or deferring them are not, verbs of the considered type are easily interpreted as dichotomous" (Klooster 2003: 3-4). This suggests a neutralization of contradiction and contrariety for such predicates—

In a sentence containing a matrix verb of the type in question, its contrary can thus (indirectly) be expressed simply by introducing negation. That is, where P is an NR verb, x the subject, and p the complement clause, the following seems to hold:
 $\neg P(x, p)$ iff $P(x, \neg p)$.

—but there's many a slip between what "seems to hold" and what does hold. Klooster ultimately rejects this equivalence, given (inter alia) the non-synonymy of the higher-clause and lower-clause versions of pairs like that in (22) and the difficulty of pinning down exactly what qualifies as "an NR verb."

In fact, Bartsch's proposed solution to the NR puzzle cannot handle variation within and across languages as to just which NR candidates can substitute for F in (24). When is the middle-excluding disjunction in (24(i)) actually assumed? Membership in the class of propositional attitudes is not necessary; neg-raised readings—as recognized by Anselm, the patron saint of neg-raising with his analysis of *debere*—are available for a range of a variety of deontic and epistemic predicates that are not obviously propositional attitudes, e.g. *be supposed to*, *falloir* 'must', *be advisable*, *be likely*, and so on (see Horn 1989: 308ff. and references therein). Nor is propositional-attitude-hood, membership of a predicate in the knowledge and belief class, a sufficient condition, given the fact that factives like *know* and *realize* and related strong epistemics like *be certain* and *be sure* fail to allow lower-neg or contrary readings or the apparent ambiguity in contexts like (23).

And then there is the problem of variation, both within and across languages. While German *hoffen* and Dutch *hopen* neg-raise, their English sister *hope* (usually) doesn't; Latin *sperare* 'hope' neg-raised but its French derivative *espérer* doesn't (while *souhaiter* 'wish, hope' does). Parenthetical *guess* is a neg-raising propositional attitude in Southern U.S. English but not in other U.S. or U.K. varieties. And so on; see Horn & Bayer (1984) for further discussion and a proposed fix. Gajewski (2007) takes the existence of lexical exceptions (non-NR attitude predicates) as indicating that excluded middle for NR must be

treated as a “soft” presupposition, while Collins & Postal (2014) see this muddle as further evidence for a grammatical rather than pragmatic account of NR readings.

But Bartsch’s model of neg-raising as pragmatic strengthening via disjunctive syllogism, while not a good fit for the purpose for which it was designed, turns out to function as an excellent template for several other linguistic phenomena where assumed disjunctions are contextually invoked to massage contradictories into virtual contraries with functional excluded middles, e.g. bare plurals, plural definites, conditionals, and conjunctions.

2.2 Beyond Bartsch: MaxContrary and negation

In the Bartschian picture of NR, it is the nature of the predicate that evokes the Law of Excluded Middle as a disjunction between contraries $p \vee q$, so that the formal negation of p results not merely in a simple contradictory $\neg p$ but in the affirmation of q . In other cases, LEM arises from the nature of the term phrases, in particular the subject, in the negated sentence. One instance of this is “ALL-OR-NONE” effect identified by Janet Fodor (1970: 158–168) in which an apparent sentential negation with a definite plural or generic bare plural scopes under the (explicit or implicit) quantification within subject and object terms. Thus if I saw the boys, this generally amounts to my having seeing them all, but the possibility for negation to outscope a universal as in (25a) is unavailable with the plural definite in (25b).

- (25) a. I didn’t see all the boys, but I did see some of them.
 b. #I didn’t see the boys, but I did see some of them.

Similarly, the sentences in (26b), unlike those in (26a), “leave no room for disagreements about different women.”

- (26) a. All women enjoy washing dishes.
 All women do not enjoy washing dishes. [on ‘not all’ reading]
 b. Women enjoy washing dishes.
 Women do not enjoy washing dishes.

In each case, the set in question, whether designated as a definite or bare plural, behaves as a monolith, rendering any literal wide-scope contradictory reading of the negative versions difficult or impossible to get.

Fodor’s all-or-none with implicit quantification in bare and definite plurals resurfaces as the GENERIC EXCLUDED MIDDLE of von Stechow (1997: 31)—“When a kind is denied to have a generic property P_k , then any of its individuals cannot have the corresponding individual-level property P_i .” As von Stechow notes, his principle is a direct descendant of the HOMOGENEITY or UNIFORMITY PRESUPPOSITION of Löbner (1985), which is explicated through the interpretation of negative responses to questions like *Do mammals lay eggs* or *Are the children asleep?* Löbner’s homogeneity principle—“If the predicate P is false for the NP, its negation not- P is true for the NP”—is later reformulated as the PRESUPPOSITION OF INDIVISIBILITY: “Whenever a predicate is applied to one of its arguments, it is true or false of the argument as a whole” (Löbner 2000: 239). Either mammals lay eggs or mammals don’t lay eggs.

These different formulations are clearly variations on a theme. In each case, the members of a set A either homogeneously exhibit a property (e.g. egg-laying) or homogeneously exhibit the opposed property (e.g. non-egg-laying); the possibility that there might be an $a \in A$ in one camp and a $b \in A$ in the opposite camp is excluded from consideration. The Law of Excluded Middle, in the form of the all-or-none, homogeneity, or indivisibility, strengthens apparent wide-scope sentential negation (‘No, it’s not the case that mammals [in

general] lay eggs'] into a contrary of the positive ('Mammals are such they [don't lay eggs]'), by virtue of the nature of the implicitly quantified terms with which negation interacts, or rather fails to interact.

Another case in point is that of mass nouns: it's hard for me to deny your claim in (27a) by uttering (27b) without seeming to commit myself to a characterization of (all) meat, precisely as with the bare plural generics in (26). The "middle" possibility that some meat might be healthful and some not is tacitly ruled out.

- (27) a. Meat is good for you.
 b. No, meat isn't good for you. [contrary, not mere contradictory, of (27a)]

Some time before Fodor, Löbner, and von Fintel, Aristotle formulated his own all-or-none (or more technically both-or-neither) for the case of "dialectical" or conjoined questions like that of A in the exchange in (28)

- (28) A: Are Coriscus and Callias at home?
 B. No.

According to Aristotle, B's negative response to A is ill-formed if just one of them is home, for "this is exactly as though he had asked 'Are Coriscus and Callias at home or not at home?', supposing them to be both in or both out" (*Sophistical Refutations* 175b40-176a17; cf. *De Int.* 20b12). In his commentary, Ackrill (1963: 145) points out that B's negative answer above technically just commits him to an inclusive disjunction of negations (= 'Coriscus isn't at home or Callias isn't at home'), contra Aristotle's view that A's question "normally presupposes that they are both in or both out, and that the answer 'no' inevitably accepts this presupposition". But note the difference between (29) and (30), where B is assumed to know that Austria is in the E.U. but Switzerland isn't:

- (29) A: Are both Austria and Switzerland in the E.U.?
 B. No.
 (30) A: Are Austria and Switzerland in the E.U.?
 B. ?No.

While Ackrill's objection would hold for the exchange in (29), Aristotle's misgivings about (28B) as a possible answer if just Coriscus is at home generalize to the case of (30).

In characterizing Aristotle's view of (28) as invoking a presupposition, Ackrill anticipates the Fodor-Löbner view on the all-or-none for bare and definite plurals⁴, as well as the Bartsch-Gajewski treatment of NR via excluded middle. But is excluded middle really a presupposition at all (even a soft one), or is it more like an implicature? Note that "all-or-none presuppositions" can often be overridden:

- (31) Almost all the new media of that day [17th c. France] were working, in essence, for kinglouis.gov. Even later, full-fledged totalitarian societies **didn't burn books**. **They burned some books**, while keeping the printing presses running off such quantities that by the mid-fifties Stalin was said to have more books in print than Agatha Christie. (Adam Gopnik, *New Yorker*, 14 & 21 Feb. 2011, p. 125)

⁴ Bypassed here is the extension of MaxContrary to the phenomena motivating the principle of Conditional Excluded Middle (cf. Stalnaker 1981, von Fintel 1997, Williams 2010 for discussion and references), based on the plausibility of the assumed disjunction ([if A then C] v [if A then ¬C]).

- (32) DIANE (Laughs): No, David. You would hate it. You hate people.
 DAVID: **I don't hate people. I hate...some people.**
 (“The Good Wife”, CBS TV, 4 Mar. 2012)

The boldface rebuttals in such cases can perhaps be considered to be instances of metalinguistic or echoic negation, but this is not obviously a requirement, as (33) (*gratia* Elena Herburger) and (34) indicate, although for me the full negative rebuttals in sound a bit less natural as contradictory sentence negations than the reduced versions.

- (33) A: The children are asleep.
 B₁: Not true, I can hear someone traipsing around upstairs.
 B₂: ?No, the children aren't asleep, I can hear someone traipsing around upstairs.
- (34) A: Mammals give live birth.
 B₁: No, you're wrong: platypuses lay eggs.
 B₂: ?No, mammals don't give live birth—platypuses lay eggs..

Krifka (1996) has argued that the homogeneity effect is not a presupposition but derives instead from pragmatic strengthening. He observes that while the universal reading is preferred in positive plural predications like (35), the negated existential is preferred in (36).

- (35) a. The windows are made of security glass.
 b. $\forall x[x \subseteq \text{THE WINDOWS} \rightarrow \text{MADE OF SECURITY GLASS}(x)]$ (←preferred)
 c. $\exists x[x \subseteq \text{THE WINDOWS} \wedge \text{MADE OF SECURITY GLASS}(x)]$
- (36) a. The windows are not made of security glass.
 b. $\neg \exists x[x \subseteq \text{THE WINDOWS} \wedge \text{MADE OF SECURITY GLASS}(x)]$ (←preferred)
 c. $\neg \forall x[x \subseteq \text{THE WINDOWS} \rightarrow \text{MADE OF SECURITY GLASS}(x)]$

The relevant generalization is that “In predications on sum individuals, the logically stronger interpretation is preferred” (Krifka 1996: 12); that is to say, “If grammar allows for a stronger or weaker interpretation of a structure, choose the one that results in the stronger interpretation of the sentence, if consistent with general background assumptions” (Krifka 1996: (39)). Krifka suggests that this principle might be assimilated to the R-based implicatures of Horn (1984, 1989) that license a speaker to underspecify the force of her utterance while counting on the hearer to recover, in Krifka's formulation, “the strongest possible interpretation that is consistent with the background knowledge.”

3. VIRTUAL CONTRARIETY IN THE LEXICON

There are two significant properties of negatively prefixed adjectives, as described by Jespersen (1917: 144), one related to their logical status and one to their emotive content:

The modification in sense brought about by the addition of the prefix [*un-*] is generally that of a simple negative: *unworthy* = 'not worthy', etc. The two terms [*X*, *unX*] are thus contradictory terms. But very often the prefix produces a “contrary” term...*unjust* (and *injustice*) generally imply the opposite of *just* (*justice*); *unwise* means more than *not wise* and approaches *foolish*, *unhappy* is not far from miserable, etc.

The same general rule obtains in English as in other languages, that most adjectives with *un-* or *in-* have a depreciatory sense: we have *unworthy*, *undue*, *imperfect*, etc., but it is not possible to form similar adjectives from *wicked*, *foolish*, or *terrible*.

In fact, the production (or coercion) of a contrary term by the addition of a negative prefix not only applies “very often” but in circumstances in which it might not be expected. This has consequences not only for the scope of the MaxContrary principle but for the emergence of unexpected ventures into Sapir’s “zone of indifference” between the two (virtual) contraries thus generated. We will explore this zone after surveying the role of contrariety and privation in affixal negation.

3.1 Coercing contrariety: the *un-*word

While prefixal negation applies productively to derived adjectives with *-able* or participial suffixes to yield contradictory negatives (*unreadable*, *uninteresting*, *uneaten*), undervived adjectives in general take negative prefixes only when contrary, scalar, and, in general, emotively “negative” meanings are produced (see Horn 1989: §5.1 and references therein). Thus, for example, warm weather or greetings can’t be described as “uncool”, but an agent or action lacking panache or self-control may be. An odd number is not “uneven”, given the contradictory nature of the opposition, the lack of emotive content or scalar structure, and the blocking effect. But contradictories may be coerced into contraries in the right context. Despite their apparent contradictory opposition, both *alive* and *dead* do allow un-formations, at least marginally:

(37) **unalive** (not in AHD5 = *American Heritage Dictionary*, 5th ed.)

I wait for them [artificial flowers] to droop as in a natural cycle. But they are stubbornly unalive and therefore unwilting.

(Charles Baxter, *The Feast of Love* (2000), p. 106)

undead (also deadjectival noun: *the undead*)

‘No longer living but supernaturally animated, as a zombie’ (AHD5 entry)

The distinction is significant: we expect flowers to be alive and corpses to be dead, and it is the disappointment of these expectations that motivate the productive un-adjectives. Similarly, *unfunny* is used to describe not tragedies but failed comedies (e.g. *Sister Act 2*, deemed by a reviewer to be “wretched, unfunny, soporific; quite likely the year’s worst movie.” As I have argued at greater length elsewhere (Horn 2002, 2005), *un-* when attaching semi-productively to simple bases (e.g. *unhappy*, *unjust*) is licensed in adjectives and, more recently, nouns (*uncola*, *unpolitician*) by Aristotelian PRIVATION: the absence of a property in an entity and at a time in which that property might be expected to adhere (*Categories* 12a26ff.)—whence the preferential restriction of *unX* to cases in which X constitutes the unmarked, default, or expected value for a given category, and hence usually an evaluatively positive value (*unhappy* vs. **unsad*). Marked in Greek by the “privative *a-*” prefix of *atheist* or *atypical*, privation is for Aristotle the primary contrariety (*Metaphysics* 1055a34).

3.2 Coercing contrariety: pragmatic strengthening of sentential negation

As we saw in §2, MaxContrary applies not only to prefixal negation but to sentential negation. But its application is asymmetrical. The negation of a favorable (unmarked) term typically conveys the affirmation of an unfavorable (marked) term, but not necessarily vice

versa. Parallel to the contrast between *unhappy* and **unsad*, we thus have the strengthening to a contrary in (38a) but not in (38b).

- (38) a. Alex isn't happy: \neg [happy (a)] +> © [happy (a)]
 b. Alex isn't sad: \neg [sad (a)]

The asymmetry is attributable to politeness (“Respect negative face”), yielding the practical maxim “If you have something negative to say, don't say it directly” (cf. Bolinger 1972, Ducrot 1973, Brown & Levinson 1987, Horn 1989: §5.3). Thus Ducrot stresses the pragmatic asymmetry of negation revealed by the distinction between (39a,b):

- (39) a. Pierre n'est pas gentil. ‘Pierre isn't nice’
 ≈ Pierre est méchant. ‘Pierre is {naughty/nasty}’
 b. Pierre n'est pas méchant. ‘Pierre isn't {naughty/nasty}’
 ≠ Pierre est gentil. ‘Pierre is nice’

(39a) typically has the force of a contrary, [© *gentil (pierre)*], while (39b) can only be a contradictory, [\neg *méchant (pierre)*].

It should be acknowledged that some negated “negative” assessments can take on contrary meanings in certain contexts. Thus *not bad*, as expected, can Q-implicate not good either, i.e. middling, but it can also—in the form of a commendatory *not bad (at all)*!—R-implicate pretty damn good. The latter has the feel of a euphemism, grounded in the covert taboo against direct positive evaluations, particularly when emotion or assessment of self-worth or well-being is involved, a verbal knocking on wood. In French, there is a further degree of conventionalization: *pas mal de* is a quantifier denoting ‘many’, *pas mal* describing personal appearance, suggests ‘attractive’ (see Horn 1989: §5.3 for elaboration). *Ceteris paribus*, however, it is positive assessments whose negation yields contrariety.

But the canonical case of negated negative assessments involves affixal negation in the scope of a negative marker, as exemplified by the *not un-* construction in English (and its cross-linguistic analogues), and is to that domain that we now turn.

3.3 Doing nuance: the case of litotes

“Either you are with us or you are with the terrorists.”
 —George W. Bush, address to Congress, 9.20.01

“Joe, I don't do nuance.”
 —George W. Bush to Joe Biden, quoted in *Time* 2.15.04

For rhetoricians, the figure of LITOTES has a number of overlapping definitions, but we can begin with the OED gloss as ‘a figure of speech in which an affirmative is expressed by the negative of the contrary’. In this sense, it can be traced back to the Greek term of *antenantiosis* or the Latin counterpart of *negatio contrarii*, as in this passage from Servius (4th century, quoted in Hoffmann 1987: 28-9; cf. Lausberg 1960: 304-5):

‘non tarda [‘not slow’]—*id est strenuissima* [‘very quick’]; *nam litotes figura est. Non parva est res* [‘it's no small matter’] *pro maxima res est* [for ‘it's a major matter’]: litotes as a figure in which **we say less and mean more** (*‘minus dicimus et plus significamus’*).

A similar practice was earlier identified by the Auctor ad Herennium (90 B.C.E.) under a different label, as in this passage cited in Hoffmann (1987: 24-5; my translation):

Understatement [*deminutio*] is when we say that...we or our clients possess an advantage which, to avoid arrogant ostentation, we diminish and attenuate in our speech, in this fashion: ‘...I have striven to be no laggard in military discipline.’ If the speaker had said ‘...to be the best’, he might have spoken truly, but would have seemed arrogant. This way he has said enough **to avoid envy and garner praise...** [Here and below, **boldface** added.]

Or similarly, in defending a client accused of theft: “‘Avarice? His father had left him a patrimony that was—I do not wish to exaggerate—not the smallest.’ ...Calling it ‘large’ or ‘very large’ was avoided.

The great 1st c. C.E. rhetorician Quintilian likewise recommends such figures (*figurae*) as double negation as a way to vary one’s expression: “Instead of ‘I know’, we say ‘I am not ignorant’, or ‘The fact does not escape me’, or ‘I have not forgotten’, or ‘it can be doubted by none’” (*Inst. Orat.* X.i.12). This technique is related to PERIPHRAISIS (CIRCUMLOCUTIO), applying to ‘what might have been expressed with greater brevity, but is expanded for purposes of **ornament**’” (*Inst. Orat.* VIII.vi.59-61). Another classical era rhetorician Hermogenes (2d c. C.E.: Hoffmann 1987: 30-1) elaborates on Quintilian and the Auctor ad Herennium in describing the motivation for the ornamental double negative:

The negation sometimes has the same force as the positive, sometimes less (‘when we restrict our speech **for safety's sake**’, e.g. Homer's *not-evil*, *not-witless* in lieu of the stronger *good*, *sensible*, when latter attributions cannot be confidently ascribed), but sometimes more, for **rhetorical effect** (*not the weakest* = ‘the strongest’; *not glad* = ‘very much distressed’).

The Janus-faced motivation for double negation is also appreciated by the rhetoricians of the 16th century:

You shouldn't be left uninformed [!] that we use this sort of diction in two ways: for the sake of modesty, especially if we're talking of ourselves, and the sake of amplifying. For we say correctly and gracefully “not ungrateful” for “very grateful”, “not vulgarly” for “singularly”. Erasmus (*Colloquia* [1517] 1965: 617-18)

Leptotes [sic] is when the speaker by **a negation equipollent** doth seem to extenuate the which he expresseth...Thus, He is not the wisest man in the world, that is, he is not wise at all: this and such like forms of speaking are used **for modesties sake**, or it were not so seemly to say that he lacketh wit or that he is a fool...This form of speech tendeth most usually to praise or dispraise, and that in a modest forme and manner. Peacham (1593: 150-151)

[In ‘Liptote’] we temper our sense with words of such moderation, as in appearance it abateth but not in deed...it becomes us many times better to speak in that sort qualified, than if we spake it by more forcible terms, and nevertheless is **equipollent in sense**. [exx: *I know you hate me not* ‘you love me very well’, *I am not ignorant* ‘I know well enough’, *Such a man is no fool* ‘He is a very wise man’]...Such moderation of words tend[s] to **flattery, or soothing, or excusing**.

Puttenham (1589: 184)

Litotes has not always enjoyed such a favorable press, however, especially when etched with the vitriol-dipped pen of “Martinus Scriblerus” (1727: 115)—a pseudonymous stand-in for the triumvirate of Alexander Pope, Jonathan Swift, and John Arbuthnot—whose *Art of Sinking* defaces our figure as “the peculiar Talent...of Ladies, Whisperers, and Backbiters.”

Closer to our own time, Jespersen (1924: 332) observes that even when *duplex negatio affirmat*, as in *not uncommon* or *not infrequent*, the affirmation in question is not the one flanked by the double negation:

The two negatives...do not exactly cancel one another so that the result [not uncommon, not infrequent] is identical with the simple common, frequent; the longer expression is **always weaker**: “this is not unknown to me” or “I am not ignorant of this” means ‘I am to some extent aware of it’, etc. The psychological reason for this is that the détour through the two mutually destructive negatives weakens the mental energy of the listener and implies...**a hesitation** which is absent from the blunt, outspoken common or known.

For at least one British normative grammarian, such hesitation or diffidence is a mark of (national) character:

The very popularity of the [not un-Adj] idiom in English is proof enough that there is something in it congenial to the English temperament, and it is pleasant to believe that it owes its success with us to **a stubborn national dislike of putting things too strongly**. It is clear that there are contexts to which, for example, not inconsiderable is more suitable than considerable; by using it we seem to anticipate and put aside, instead of not foreseeing or ignoring, the possible suggestion that so-and-so is inconsiderable.

(Fowler 1926: 383; cf. Horn 1991 on motives for logical double negation)

This national trait emerges in a passage in Ben McIntyre’s review (NYT 26 May 2013) of Rick Atkinson’s *The Guns at Last Light: The War in Western Europe, 1944-1945*: “When the D-Day invasion proves successful, the most one British officer can come up with is a diffident double negative: “We were **not unpleased** with ourselves.”

But not everyone is so sanguine about such British diffidence. Swift’s literary heir George Orwell in particular shares his predecessor’s negative assessment of double negatives:

Banal statements are given an appearance of profundity by means of the *not un-* formation...It should be possible to laugh the *not un* formation out of existence...One can cure oneself of the *not un* formation by memorizing this sentence: *A **not unblack** dog was chasing a **not unsmall** rabbit across a **not ungreen** field.*
(Orwell 1946: 357, 365)

Of course, Orwell’s target in this case is carefully chosen, there being no extant contraries *unblack*, *unsmall*, or *ungreen* for negation to target and there being no scalar or emotive dimension that might be conveyed by such virtual contraries if they existed. Indeed, Orwell’s own prose—in work ranging from *Down and Out in Paris and London* (1933) to *Looking Back on the Spanish War* (1942)—is replete with instances of men and women who are *not unhappy*, grins that are *not unfriendly*, and policy statements that are *not untruthful*.

To depict individuals (and their marriages and routines) as not unhappy yet, by implication, not happy either is to tacitly invoke a scale <*not unhappy*, *happy*> in accordance with which a weaker property ...W... is affirmed or conceded but a stronger alternative

...S... denied. Here, for example, is Philip Lopate, in the introduction to his 1981 memoir *Bachelorhood*: “I do not pretend to be a “pure” bachelor. I was married for five years, and it was, to use a cowardly double negative, **not an unhappy experience.**” But while the expectation is that $\neg(\textcircled{[_{\text{ADJ}}X]})$, the negation of a contrary like *unhappy*, should be weaker than $[_{\text{ADJ}}X]$, $\neg(\neg[_{\text{ADJ}}X])$, the negation of a contradictory (*not impossible, not untruthful*) should be identical to $[_{\text{ADJ}}X]$. What could be *not conceivable* without being *conceivable*?

For Frege (1919: 361) $\neg(\neg\phi)$ is simply a different way of garbing the thought or proposition ϕ : “Clothing a thought in double negation does not alter its truth value.” But this applies only to pure contradictory negations. What if a negation isn’t (just) a semantic contradictory, but a virtual contrary?⁵ Consider, for example, *not impossible*, which functions as a weaker scalar alternative to *possible*, as confirmed by the standard scalar diagnostics—

- (40) a. She was happy, or at least not unhappy. (#*not unhappy, or at least happy*)
 b. It’s possible he can do it, or at least not impossible.
 (#*not impossible, or at least possible*)
 c. It’s not inconsistent, indeed it’s consistent. (#*consistent, indeed not inconsistent*)

—and by naturalistic cues for *not impossible, not inconsistent, and not untrue*, especially with syntagmatic priming by an earlier occurrence of the adjective, marked here by underlining:⁶

- (41) He wanted to have life, and have it more abundantly. He wanted to get away from home. Only Boniface could have made it possible, no, **could have made it not impossible** for Clement’s father to let him go.
 (Mary Gordon (1993), “Immaculate Man”)

- (42) “Is that consistent with your recollections, Ann?”
 “It’s **not inconsistent**, anyway.”
 (Erik Rosenthal (1988), *Advanced Calculus of Murder*)

- (43) At this unique distance from isolation,
 It becomes still more difficult to find
 Words at once true and kind,
 Or **not untrue and not unkind**. (Philip Larkin (1944), “Talking in Bed”)

As the ancients recognized, the motivation for litotes may vary, from the modesty of Erasmus’s renaissance courtier, the talent of Swift and Pope’s backbiter, and the diffidence of

⁵ The negative prefix *non-* typically functions as a contradictory and often forms minimal pairs with other contrary-forming negative prefixes (*non-scientific* vs. *unscientific, non-artistic* vs. *inartistic*; cf. Horn 1989: §5.1). Thus we have cases in which the contradictory *non-*adjective is explicitly rejected as too weak:

In Talmudic days myrtles were used at funerals. Nowadays, the custom of flowers at a funeral...is **not merely non-jewish but positively unjewish**.

(Contribution to mail.jewish net list, April 1991)

A scale of the form $\langle x \text{ is non-Jewish, } x \text{ is un-Jewish} \rangle$ is clearly in play here.

⁶ While most speakers can be counted on to grasp the nuance of weakness conveyed by the negated negative, those with impairments in Theory of Mind, like the high-functioning autistic savant Daniel Tammet have difficulty in determining the motivation for, and therefore the interpretation of, litotic structures:

Certain sentence structures can be particularly hard for me to analyze, such as: “He is **not inexperienced** in such things,” where the two negatives (*not* and *in-*) cancel each other out. It is much better if people just say: “He is experienced in such things.” (Tammet 2006: 162)

Fowler’s stiff-upper-lip Englishman to the cowardice of Lopate’s not unhappy husband or frustrated hopes of Larkin’s (barely) not untrue lovers. The double negative does have its more ominous uses, however. Asked by Sen. Ron Wyden (D-Ore.) on March 12, 2013 whether the National Security Agency “collect[s] any type of data at all on millions or hundreds of millions of Americans”, National Intelligence Director James Clapper replied “No, sir...not wittingly.” After later revelations, Sen. Wyden voiced his reservations about Clapper’s honesty, and Clapper conceded, in a June 10, 2013 interview, “I responded in what I thought was the most truthful, or least untruthful manner, by saying no” (<https://tinyurl.com/mop7k8m>). Presumably the least untruthful answer is somewhat less truthful than the most truthful one might have been; at least it seems to permit a bit more wiggle room. If Orwell was tuned in on his posthumous NSA link, he has no doubt been whirling in his grave ever since.

3.4 Unexcluding the middle: the double *not*

In the litotic constructions considered so far, (at least) one of the negators is incorporated, typically as a prefix (*not un-*). As we have seen, the *un-*prefixed adjective can itself function as a contrary, either semantically (*not unhappy*) or, by coercion, pragmatically (*not impossible*). But it is not impossible for negation to target an unincorporated negator, even though—unlike *not un-Adj*—*not not* sequences are systematically flagged as ill-formed by Microsoft’s grammar check.

Typically in such cases the negated contrary is primed by the positive or simply negated modifier, as in (44a,b), although the priming need not be overt. One popular variant is that of (44c), which wears its unexcluded middle on its nuanced sleeve.

- (44) a. **not p and not not-p** $\neg(p \wedge \neg\textcircled{p})$
 b. **neither p nor not-p** $\neg(p \vee \textcircled{p})$
 c. **not ({exactly/quite}) p and not {exactly/quite} not-p**

Our attested illustrations of these patterns begin with those for the (44c) frame:

- (45) The words were **not English, and yet not quite not English** either.
 (Diana Gabaldon (1991), *The Outlander*)
- We went back a long way, and while **we weren’t exactly friends, we weren’t exactly not friends**.
 (Robert B. Parker (2008), *Rough Weather*)
- He didn’t exactly threaten me, but he didn’t exactly not.**
 (Sara Paretsky (2011), *Breakdown*)

More frequently, the two negators rub shoulders without the intermediary of a mollifying *exactly* or *quite*:

- (46) “So what do you think, is Tori connected to that other girl [who was murdered]?”
 Milo’s lie was smooth. “I can’t say that, Mr. Giacomo.”
 “But **you’re not not saying it.**” (Jonathan Kellerman (2006), *Gone*)
- (47) Helen (Gwyneth Paltrow) to James (John Hannah), whose pass she has just gently intercepted:

“Oh God, James, don’t, ohhh, I’m sorry...I...uh...I know this is...an ideal sort of kissing moment—you know, night, moon, boat, water lapping—you know, it’s...um, it’s perfect, and **I’m...not NOT feeling that it would be nice**. But I don’t really know anything about you, and I’m...I’m still on the rebound...”
(*Sliding Doors*, 1998 film)

We now turn to three properties of the double *not*: polar asymmetry, scalarity, and intonation.

3.4.1 Polar asymmetry

Recall from §3.2 our evocation (following Ducrot on *pas gentil* vs. *pas méchant*) of the asymmetry in the tendency to strengthen contradictory negation to contrariety. Consider in this light these two attested examples of MaxContrary operating on the double *not*:

- (48) “Do you support the [anti-vivisection] movement?” Hathor asked.
“**No**,” I said. “But I **don’t not support it**, either. I want to understand its dynamics, get a fix on who’s attracted to the cause and why.” $\neg p \wedge \neg \textcircled{p}$
(Blaire French, *The Ticking Tenure Clock* (1998), p. 104)
- (49) “We’re **not endorsing it or not endorsing it**.” $\neg(p \vee \textcircled{p})$
(Trent Lott [then Republican senator from Mississippi and House minority whip],
quoted in NYT, 17 April 1985, on deficit-reduction package)

(Lest the latter quote appear incoherent, Lott’s remark was helpfully glossed by the *Washington Post*: “We’re not [either] endorsing it or not endorsing it.”) The key point for our purposes is that an inherently negative verb could not successfully replace the positive *support* or *endorse* in these contexts, since this would preclude the kind of virtual contrariety that makes the examples in (48) and (49) (relatively) intelligible. By contrast, the variants in (48) and (49) can only be read as violations of the laws of Non-Contradiction and Excluded Middle respectively.

- (48’) #I don’t reject the movement but I don’t not reject it, either. $(\neg p \wedge \neg \neg p) \leftrightarrow (p \wedge \neg p)$
(49’) #We’re not opposing it or not opposing it. $\neg(p \vee \neg p)$

3.4.2 Scalarity

We saw in (40)-(42) that *not un-Adj* tends to function as weaker than the corresponding positive adjective, as confirmed by the standard scalar diagnostics illustrated in (40). The same is true for the double *not*, as seen in (50) and (51).

- (50) “She touched me so lightly—it tickled.”
“It sounds like maybe you liked it.”
“**I didn’t not like it**.”
“That’s what you call a double negative—do you mean that **you liked it**?”
“**I wouldn’t go that far**.” (A.M. Homes (2012), *May We Be Forgiven*, p. 275)
- (51) I have a dog. I got him because I am allergic to cats and I wanted my children to be happy...I love my children. I love my husband. They love the dog. **I don’t not-love him, exactly**. (Judith Warner, “Dogged By Guilt”, NYT 28 Aug. 2008)

In (50) the narrator and confessed ticklee indicates that he “wouldn’t go that far” along the relevant scale of the form $\langle I \text{ didn't not like } X, I \text{ liked } X \rangle$. In (51) Warner invokes a similar scale, $\langle I \text{ don't not love } X, I \text{ love } X \rangle$.

3.4.2 Concessive contour

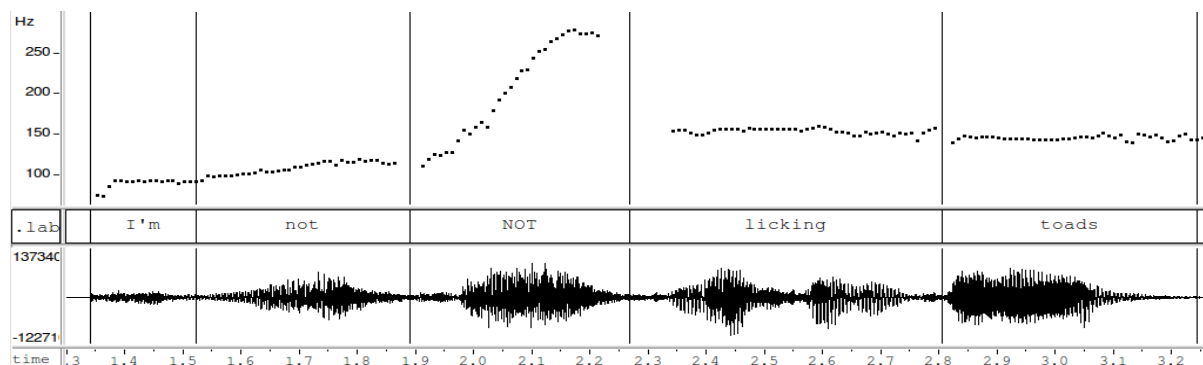
In the contexts of (50) and (51), in which a double-*not* coerces a middle between two virtual contraries, a weaker scalar double negative is acknowledged en route to (implicitly) denying that a stronger scalar value (the simple affirmative) holds. This concessive effect is often signaled by the use of a characteristic L*+H rise-fall contour, as in this exchange from a 2001 episode of the WB family drama 7th Heaven:

- (52) LUCY: “Are you friends with Mary?”
 ROBBIE: “I’m **not NOT** friends with her.”

There may also be a sentence-final rise (LH%) accompanying such responses, but in response to an earlier claim of mine, Liberman (2012) points out that while “the rise+fall is an essential characteristic of this pattern, the terminal contour can be falling, level, or rising.” Liberman’s observation is empirically supported by Homer Simpson. A memorable instance of the concessive pattern arises on the “Missionary Impossible” episode originally aired 20 February 2000 (<http://www.youtube.com/watch?v=3Xd9CnUK3jA>). Homer is in Microasia, the (fictional) land of the celebrated hallucinogenic red toads, and Bart, speaking to him from Springfield, has become suspicious of his father’s unusual (even for him) conversational behavior, whence the exchange in (53).

- (53) BART: “Dad, are you licking toads?”
 HOMER: “I’m **not NOT** licking toads.”

The rise-fall on the second **NOT** and the level final contour can be seen in the pitch track for Homer’s double *not* available at <http://languagelog ldc.upenn.edu/myl/Toads2.png>:



There is a substantial difference between (52) and (53), however. The former is an unremarkable exchange playing off the accepted middle ground between being friends and being not friends (with the latter interpreted as a contrary), while it’s hard for anyone but an inebriated Homer Simpson to maintain that he or she is neither licking nor not licking toads. We could imagine Bart responding to his father’s disingenuous double negation with a disjunctive tautology invoking the Law of Excluded Middle (cf. Ward & Hirschberg 1991):

- (53') BART: “Dad, either you’re licking them or you’re not licking them.”

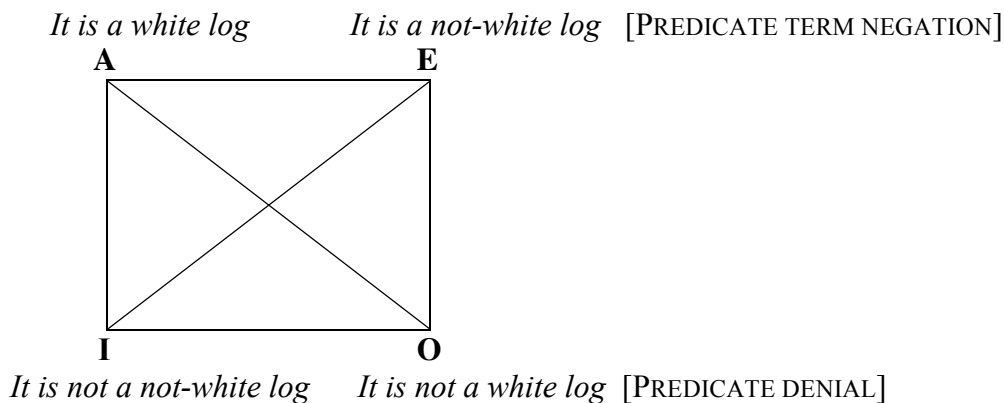
3.5 Mapping negation on the Singular Square

Centuries before inspiring the traditional post-Aristotelian square of opposition relating the **quantified** statement types in (1), the Stagyrite himself—in Chapter 46 of *Prior Analytics I*—provided architectural instructions for constructing a square for singular statement types. This SINGULAR SQUARE, as we shall dub it, specifies positions for two distinct varieties of negation, predicate denial (with the semantics of wide-scope sentential negation) and predicate term negation (essentially narrow scope constituent negation), corresponding to contradictory (**O**-vertex) and contrary (**E**-vertex) opposition respectively (see Horn 1989 for elaboration). Crucially, the two operators are not truth-conditionally interchangeable but can be characterized by unilateral entailment:

The expressions ‘it is a not-white log’ and ‘it is not a white log’ do not imply one another's truth. For if it is a not-white log, it is a log: but that which is not a white log need not be a log at all. (*Prior Analytics I*, 51b28-30)

If we rotate the square Aristotle in fact defines for representing the relations in question and replace his Greek-letter vertex labels *A/B/I/Δ* with the now more familiar Latin mnemonics for the vertices, we obtain the diagram in (54).

(54) The Singular Square, white log edition (*Prior Analytics I*, Chapter 46)



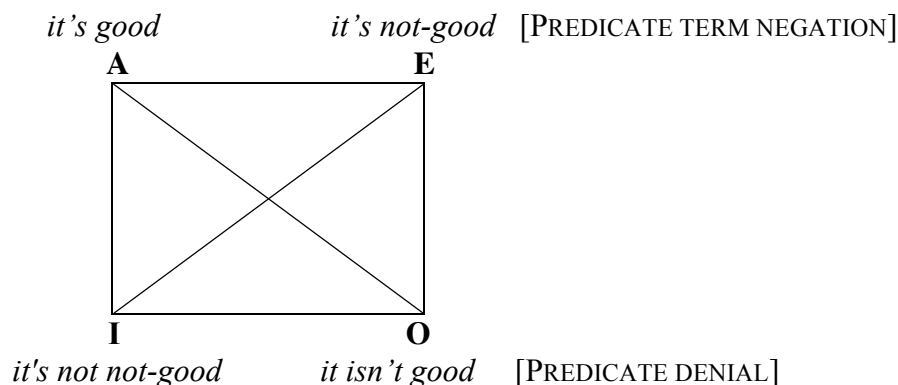
The distinction between the two negations extends to ordinary predicate adjective statements:

Hence it is evident that ‘it is not-good’ is not the negation of ‘it is good’. If of any statement is either an affirmation or a negation, and this [‘it’s not-good’] is not a negation, it must be a sort of affirmation, and must have a negation of its own, which is ‘is not not-good’ [*ouk estin ouk agathon*]...

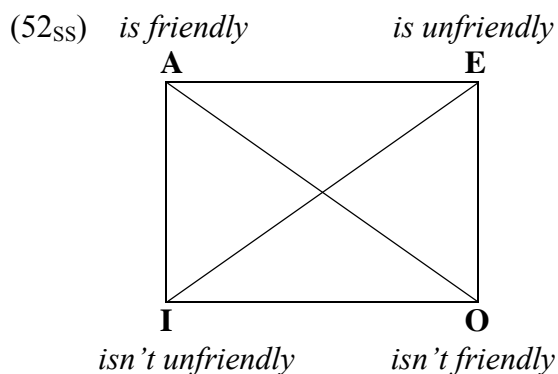
If it is true to say ‘it is not-white’ [*estin ou leukon*], it is true also to say ‘it is not white’ [*ouk esti leukon*] but not vice versa. (*Prior Analytics* 51b31-42)

Note that in Greek the key distinction is marked by word order, as seen in the English analogues of the non-finite versions of the two constructions, e.g. *einai mê leukon* ‘to be not-white’ (**E**) vs. *mê einai leukon* ‘not to be white’ (**O**). (55) gives the singular square on which *it’s not good* (lit. ‘good not is’) is distinguished from *it’s not-good* (lit., ‘not good is’), and the double negation *is not not-good* from the simple affirmative *is good*, given that “a thing cannot be both good and not-good”, but it can be neither (*Prior Analytics* 51a36).

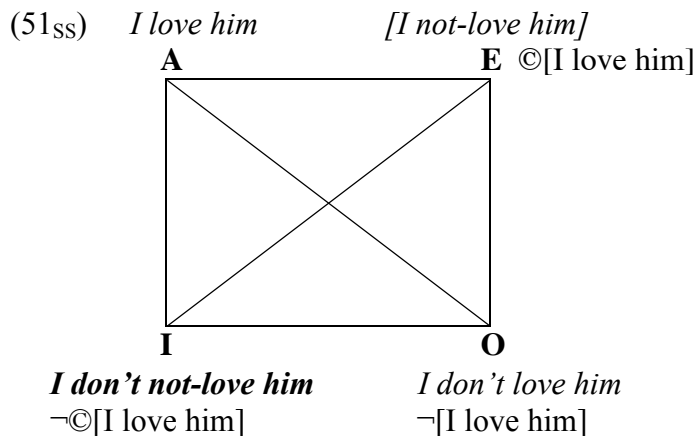
(55) Singular Square for predicate adjectives



We are now ready to diagnose the pragmatic strengthening of apparent contradictories to virtual contraries and the asymmetry between exemplifications of this tendency, as in the garden varieties of pragmatic strengthening in (50)-(52), and the exploitations of it, as in the Homeric line in (53). Consider first the schematic representation for the quartet of affirmations and negations in (52_{SS}), essentially the adjectival counterpart of (52):

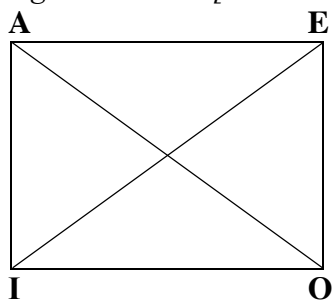


X isn't unfriendly is a negated contrary of *X is friendly*, allowing for *X* to be neither friendly nor unfriendly. While the possibility of incorporating negation into adjectives like *friendly* is typically unavailable for nouns (and often for verbs), the operation of MaxContrary is essentially parallel in such cases. Thus Robbie's *I'm not not friends with her* in (52) allows a middle ground between his being friends with Mary and his not being friends (or being not-friends) with her. While there is no surface verb *not-love* for Warner to negate in (51), the effect is the same, as the representation on the Singular Square indicates:



The exchange in (53) appears to be parallel, where the negated verb *not-lick* is massaged into temporary existence in the same way as the ad hoc verb *not-love* in (52) (or the ad hoc noun *not-friends* in (51)):

(53_{SS}) *I'm licking toads* [*I'm not-licking toads*]



I'm not not-licking toads *I'm not licking toads*

Homer's insistence that he's not not licking toads strikes us as disingenuous, while Robbie's claim that he's not not friends with Mary or Judith Warner's that she doesn't not-love the family dog are commonplace instances of strengthening to a contrary. But why?

What the acceptable examples share is the subjective or evaluative function of the predications involved: loving or not loving, being friends or not friends with someone. In Homer's case, there is simply no middle to be massaged into existence: maybe he's licking a red toad, maybe he's not licking it, but—to paraphrase Arlen and Mercer—there's no room for Mr. In-Between. The pretense that there could be a middle ground is too nuanced for even a Homer Simpson to get away with.

3.6 Strengthening to the contrary, blocking of the contradictory, and semantic change

The subtle distinctions between positive and doubly-negative assessments and the concomitant need to innovate nonstandard predicates for negation to target emerge eloquently from Kingsley Amis's 1979 novel *Jake's Thing*. Jake's thing is a bit of a problem he's been having in being aroused by his wife Brenda, for which the two of them are receiving some well-meant but ultimately ineffective therapy. (As usual, boldface is added.)

“You're not enjoying this are you, me stroking you? Your face went all resigned when I started. Are you?”

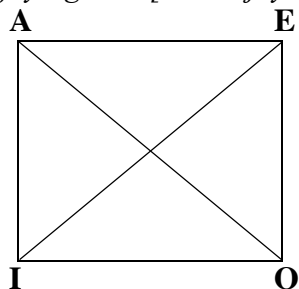
“I'm **not disenjoying** it.”

“Thanks a lot”, said Brenda, stopping stroking.

(p. 57)

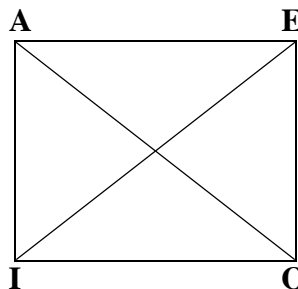
As our hero later confides to a friend, “I'm supposed to be working out what I feel about her. I **don't dislike** her, which is a start of a kind” (p. 217). Thus we have these singular squares:

(56) *enjoying it* [*“disenjoying” it*]



not disenjoying it *not enjoying it*

I like her *I dislike her*



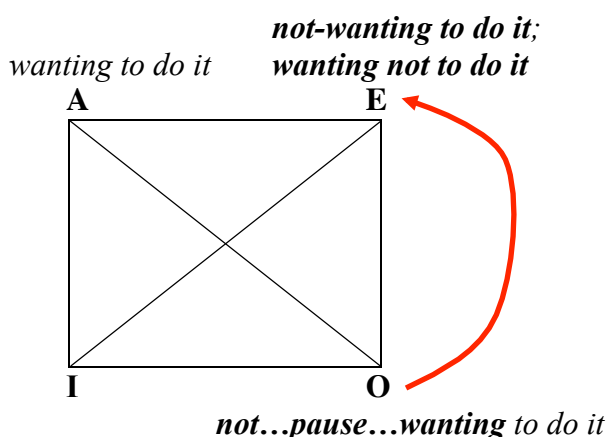
I don't dislike her *I don't like her*

He goes on to fill his friend in on the “libido therapy” he’s been undergoing:

[M]y “therapist” works on the principle that the way of getting to want to do something you don’t want to do is to keep doing it. Which seems to me a handy route **from not...pause...wanting** to do it **to not-wanting, wanting not**, to do it. But I am paying him to know best. Brenda wants affection, physical affection...My chap is always on at me to go through the motions of it on the principle I’ve described. I’m a bit scared of being shifted **from not-pause-wanting** to do that **to not-wanting** to do it. (Kingsley Amis, *Jake’s Thing*, pp. 217-8)

We have already encountered Jake’s unwanted shift from the not-pause-wanting to the not-wanting (i.e. wanting not) in the form of the **O > E** drift from contradictory to contrary:

(57)



What prompts Jake’s innovative verb forms (*not...pause...wanting*; *not-pause-wanting*) is the inevitability that the simple negative (*not wanting*) will be understood as a neg-raised **E** contrary rather than the **O** contradictory it appears to be (see the discussion in §2.1 above).

This inevitability is paralleled by a much-discussed development in the history of French, as described here by the French Jespersen, Philippe Martinon (with my translation):

[À] la phrase *je veux que vous sortiez* correspond [as a negative counterpart] uniquement *je ne veux pas que vous sortiez*. Cette tournure a en effet accaparé le sens de *je veux que vous ne sortiez pas*, qui ne se dit pas. Il est assez probable que cette forme illogique a été employée d’abord dans le dessein d’atténuer la rigueur de la défense; mais la défense est devenue tout aussi rigoureuse dans cette nouvelle forme, dont elle a fait disparaître le sens propre...Par analogie, *je ne veux pas sortir* signifie également *je veux ne pas sortir*, et le sens propre ne peut plus s’exprimer que par un équivalent approximatif, comme *je ne tiens pas à sortir*.

(Martinon 1927: 536)

The sentence *I want you to leave* has the sole negative counterpart *I don’t want you to leave*. This construction has in effect monopolized the sense of *I want you not to leave*, which is not said. It’s likely that this illogical form was first used with the idea of attenuating the rigor of the prohibition; but the prohibition has become as rigorous in this new form, whose proper sense it has caused to disappear...By analogy, *I don’t want to leave* equally signifies *I want not to leave*, and its literal sense can no longer be expressed except by a semantically related construction like *I’m not anxious to leave*.

As Martinon adds, the same shift is found with *falloir* ‘must, be necessary’: *Il ne faut pas {sortir/que vous sortiez}*, while literally negating ‘One must leave’ and ‘You must leave’, “represent in reality *il faut que vous ne sortiez pas* and *il faut ne pas sortir*” respectively, with embedded negation, while the corresponding structures with embedded negation are awkward at best. But has the **O** reading (= ‘needn’t’ rather than ‘mustn’t’) in such cases become totally unavailable, as Martinon and others have maintained? To be sure, Martinon’s cases typically behave in the manner he describes:

- (58) a. *Il ne faut pas sortir.* ‘One mustn’t leave’ [**E** reading only, $\Box\lrcorner$]
 #*Il faut ne pas sortir.*
 b. *Il ne faut pas que vous sortiez.* ‘You mustn’t leave’ [**E** reading only, $\Box\lrcorner$]
 #*Il faut que vous ne sortiez pas.*

—cf. Cornulier 1973, and also Horn 1978a: §5 on the strong cross-linguistic tendency to avoid non-finite embedded negation. So far so good, but as Pierre Larrivé and Paul Postal have pointed out to me (cf. Larrivé 2004: 104), it’s not that hard to find examples that retain a compositional (contradictory, rather than contrary) interpretation, particularly in the past tense *Il n’a pas fallu* construction:

- (59) *Il n’a pas fallu y aller.* ‘It wasn’t necessary to go there’ [**O** reading, $\lrcorner\Box$]
 (60) γ *Il n’a pas fallu attendre les amères expériences de la crise de l’euro pour comprendre que les Européens ne jouent pas collectif.*
 ‘We didn’t have to wait for the bitter fallout from the Euro crisis to realize that Europeans don’t play well together’ [my translation]

In other syntactic frames both contradictory and contrary interpretations are available, contra Martinon, depending on the discourse context:

- (61) a. γ *Il ne faut pas s’inquiéter.* ‘Don’t worry’ [**E**, $\Box\lrcorner$], ‘No need to worry’ [**O**, $\lrcorner\Box$]
 b. γ *Il ne faut pas que tu t’inquiète.* ‘You {shouldn’t [**E**]/don’t need to [**O**]} worry’
 c. γ *Il ne faut pas s’excuser.* usually = ‘No need to apologize’ [**O**, $\lrcorner\Box$]

MaxContrary, while a powerful force in determining the expression and interpretation of negation, remains in essence a pragmatic tendency, one that (in the absence of lexical conventionalization) can be overridden in context—although the context often has to work with some diligence to rein it in.

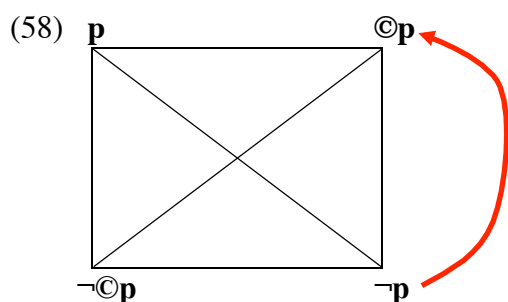
4. CONCLUSION

The tracks of MaxContrary we have followed can now be placed on display:

- Contrariety tends to be maximized in natural language. This is illustrated by the tendency for **E** values to lexicalize more readily than do **O** values, by the attested instances of **O** > **E** drift, and by the prevalence of prohibitives (and the absence of corresponding “exemptives”).

- LEM, the Law of Excluded Middle, applies where it “shouldn’t”, invoking pragmatic disjunctions between semantic contraries. This results in the tendency for “ $p \vee \textcircled{p}$ ” to be read as an instance of $p \vee \neg p$; recall the invocations of this tendency by Jesus, Mussolini, Cleaver, and Bush.
- Similar assumed disjunctions between contraries result in the pragmatic strengthening of negation in its interaction with neg-raising predicates, plural definites, bare plurals, mass terms, conjunctive questions, conditionals, and unmarked positive predications, yielding contraries in contradictory clothing.
- LDN, the Law of Double Negation, fails to apply when it “should”, when **not not p** amounts to $\neg\textcircled{p}$ rather than $\neg\neg p$, thereby unexcluding the middle, especially when **p** is an unmarked positive evaluative predicate.

Geach (1972: 80) remarks that a double negation, **not (not (P))**, “looks like an added piece of meaning” and so might well be thought to involve a different sense from that of the basic element **P**. But given LDN, how can this be? Recalling Frege’s (1919: 361) observation that “Clothing a thought in double negation does not alter its truth value,” Geach concludes that “the right rejoinder is just to deny that the doubly negated predicate has got a different sense.” But, as we have seen, not all doubly negated predicates are alike. After Aristotle’s *Prior Analytics*, Chapter 46, we have described a generalized schema for representing singular opposition and the tendency for the contradictory to be strengthened to a contrary:



As we described in the previous section, the transgressive nature of Homer’s protest that he’s not not licking toads is as memorable as it is⁷ because of the nature of the predication involved. If \textcircled{p} and $\neg p$ collapse together, as with episodic action predications (*not licking, not kicking*), then **not not p** will indeed reduce to **p**. But with the evaluative and dispositional predications in §3.3 and §3.4 (*not supporting, not endorsing, not loving, not enjoying*), there is a coerceable middle ground between *Fing* and *not-Fing*—whence the distinction between the possibility of **not not-liking** the family dog and the impossibility of **not not-licking** a hallucinogenic frog.

On our account, we can always move from **p** to **not not p** but not (or not always) from **not not p** to **p**. This is reminiscent of the Intuitionist negation version of LDN (Heyting 1956), where double negation can be introduced but does not cancel out, so that $p \supset \neg\neg p$ but not vice versa. On the account urged here, however, **p** does follow from $\neg\neg p$; it just doesn’t follow from $\neg\textcircled{p}$.

⁷ See <http://www.myspace.com/notnotlickingtoadstunes> for the eponymous Austin-based rock band.

5. CODA: UNTYING THE RARE TRIPLE-NOT

Let us join the table at an over-the-hill French restaurant in Westish, Wisconsin in Chad Harbach's 2011 novel *The Art of Fielding* as Pella Affenlight shares an awkward dinner with her unpleasant estranged architect husband David. David is attempting to reminisce with Pella about they made love the previous Christmas after he gave her a pair of sapphire and platinum earrings—the earrings that he now dramatically produces. Pella doesn't remember either the sex or the earrings, but she concedes to herself that the latter do look somewhat familiar as well as undeniably gorgeous, and she muses to herself:

She'd have to be crazy not to remember those earrings, and she was
clearly not crazy. Opaquely not crazy. Not not not crazy.

On my reading (although see the comments in the Liberman 2012 blogpost for alternative analyses), Pella's **not not not crazy** here is (not just opaquely but clearly) compositional here, rather than being (as in every other *not not not* example extant on the web) simply emphatic. In Pella's internal monologue, each *not* has its real semantic value, yielding a scale of sanity (or non-insanity): < *not not not crazy, opaquely not crazy, clearly not crazy* >.⁸ Being **not not not-F** stands in the same (i.e. weaker) relation to being **not-F** that being **not not-F** stands with respect to being **F**: *We're not not friends; I don't not-love the dog; I'm not not not crazy.*

I have argued that apparent contradictory negations are systematically strengthened pragmatically to contraries and that negating such virtual contraries yields the perception of weakened negative force through the recovery of an unexcluded middle. I hope to have convinced you that such a story is clearly not implausible, or at least not not not implausible.

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⁸ This is effectively a scale of sanity, although negatively expressed. Similarly nuanced instantiations of positively described sanity scales are not inextant:

We stood watching him. It was strangely riveting. Half-Dead Fred hadn't even acknowledged the presence of others in the room, so entranced was he with discovering the tools that would allow him to rescue the princess locked in a dungeon by a nefarious wizard in cyberworld...

"Is he mad?" I asked Mike.

"As in crazy? No, I don't think so. But *sane* would be a little too strong."

(J. Martin Troost (2004), *The Sex Lives of Cannibals*, p. 260)

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