Negation and Negative Polarity

Negation is a linguistic, cognitive, and intellectual phenomenon. Ubiquitous and richly diverse in its manifestations, it is fundamentally important to all human thought. As Horn and Kato 2000 put it:

“Negative utterances are a core feature of every system of human communication and of no system of animal communication. Negation and its correlates—truth-values, false messages, contradiction, and irony—can thus be seen as defining characteristics of the human species.” (p.1)

Cognitively (COGNITIVE LINGUISTICS), negation is elemental offline thinking; it involves some comparison between a ‘real’ situation lacking some particular element and an ‘imaginal’ situation that does not lack it. The particular element in focus anchors and contextualizes the negative element (which, being constrained by grammar, frequently doesn’t provide enough information for a listener to determine what its focus is intended to be). There are many different conversational (STORY AND DISCOURSE) and written (WRITING AND READING) strategies for indicating and interpreting focus elements, and even more for modulating them.

Formally (LOGIC AND LANGUAGE), a functor called by logicians ‘Negation’ is the only significant monadic functor; its behavior is described by the most basic axiom of logic, the Law of Contradiction (¬(p∧¬p), NKpNp, aka ‘The Law of Non-Contradiction’), which asserts that No Proposition is both True And Not True. Pragmatically (PRAGMATICS), negation provides, among many other concepts, the basic ‘cancellation test’ for presupposition, as well as the fundamental observations that underlie theories of politeness and ironic bonding.

In natural language, negation functions as an ‘operator’, along with quantifiers (QUANTIFICATION) and modals (MODALITY); operators are more basic and have more properties than ordinary predicates or functors. In particular, operators have a ‘scope’; that is, there is always some other element—a negative, modal, or quantifier—of which the focus is ‘in the scope’ of the negative (or modal; quantifiers are said to be ‘bind’ rather than ‘focus on’ another element).

Negation produces significant complexities and occasional ambiguities when it interacts with other scope operators, because the scopes can get twisted about. Every boy didn’t leave is ambiguous, depending on the relative scopes of the negative didn’t and the quantifier every (rather like Every boy read some book, where two different quantifiers produce ambiguity). Negation combines in idiosyncratic ways with modals; e.g., in You may not go, and that’s final! the ‘deontic’ may not means “not possible” but in This may not be the place, the ‘epistemic’ may not means “possibly not”.

Every language develops its own idiomatic sets of negative elements, and its own rules for using them. English negative phenomena are by far the best-studied; examples include syntactic constructions (This is it, isn’t it? Not any big ones, he didn’t), variation (so didn’t I; ain’t got none), morphology (–n’t, -free, un-), (morpho)phonology (do/don’t), intonations (‘Rieght’), and lexemes sporting negation overt (never), incorporated (doubt, lack), calculated (few), entailed (prohibit), or presupposed (only).

Included also is a large, complex, and diverse system of Negative Polarity Items (‘NPIs’—like ever in He didn’t ever see it), which felicitously occur only in the scope of some negative element (*He ever saw it). The details of what ‘scope’ actually is, and of how and which and why NPIs can occur within it, vary among specific negative and NPI elements.

Negative polarity is a variety of ‘negative concord’ (e.g French Je ne regrette rien, lit.’I don’t regret nothing’; Yiddish Lx hob nit kin gelt, lit. ‘I don’t have no money’), but instead of negative concord, which uses negative elements in the focus of another negative, negative polarity uses other, non-negative elements, which can sometimes pick up ‘negativity by association’ and occur without overt negative (could care less < couldn’t care less). An interesting typological question is whether languages like English lacking significant negative concord develop more negative polarity phenomena to compensate.

‘NPI’ is a term applied to lexical items, fixed phrases, or syntactic construction types that demonstrate unusual behavior around negation. NPIs might be words or phrases that occur only in negative-polarity contexts (fathom, in weeks) or have an idiomatic sense in such contexts (not too bright, drink a drop); or they might have a lexical affordance that only functions in such contexts (need/dare (not) reply); or a specific syntactic rule might be sensitive to negation, like Subject-Verb Inversion with Adverb Fronting in Never/*Ever/*Frequently have I seen such a thing.

The grammatical occurrence of NPIs in an utterance is prima facie evidence that it contains some sort of negation, and this allows NPIs to function as ‘indicators’ for various types of semantic opposition and syntactic structure. This has turned out to be a sensitive tool in other research areas of linguistics, and linguists using NPIs have discovered many covert negative phenomena; for instance, NPIs can also occur in questions (Have you ever been there?), hypothetical clauses (Tell me if he ever arrives), and comparatives (He’s better than we ever expected).

Besides NPIs, English also has ‘Positive-Polarity items’ (would rather, sorta), which don’t occur in negative-polarity contexts; ‘Possible-Polarity items’ (tell time), which can occur only within the scope of a Possible-type modal; and combinations, like the ‘Impossible-Polarity item’ fathom, which requires both negative scope and a modal.
Works Cited and Suggestions for Further Reading

(in chronological order, annotated)


The first modern syntactic/semantic study.


After Klima, negative polarity was developed extensively in the GENERATIVE SEMANTICS tradition (Horn, Lakoff, Ross, Lawler, many others), largely using a ‘negative polarity field’ metaphor, along with ‘negative triggers’ and ‘secondary triggering’.


The origins of the ‘downward-entailment’ theory, using visual metaphors like ‘scope’ and ‘focus’.


A then-orthodox generative treatment, using rule-based metaphors like NPIs being ‘licensed’.


Horn’s revision and extension of his 1972 dissertation. The classical Neo–Gricean analysis.


McCawley, James D. 1993. Everything that linguists have always wanted to know about logic (but were ashamed to ask). University of Chicago Press & Oxford: Blackwell.

McCawley’s modern generative semantic analysis; e.g, “In natural language, negation is not truth–functional.”


Negative polarity infiltrates logic.


A useful U. Groningen PhD dissertation.


An excellent survey.


In Horn and Ward (eds) The Handbook of Pragmatics, Blackwell:701-723


Recent evidence of polarity research expansion into other languages.

-- John M. Lawler, University of Michigan
& Western Washington University
Ann Arbor, August 28, 2007

[Items in ITALICIZED SMALL CAPS are cross-references to other articles in the Cambridge Encyclopedia of the Language Sciences.]

- This article is available on the web:
  http://www.umich.edu/~jlawler/CELS-Negation.pdf
- More on Negative Polarity:
  http://www.umich.edu/~jlawler/aue/npi.html
- Latest list of English Negatives and Negative Polarity Items:
  http://www.umich.edu/~jlawler/NPIs.pdf
- Negative Polarity Items and Ross Constraints
  http://www.umich.edu/~jlawler/aue/npislands.html

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