

Formal Semantics
Until in English and Japanese

Introduction. A well-known puzzle about *until* is that it modifies homogeneous predicates, but not achievements and accomplishments, as in 1). The contrast disappears in negative sentences as in 2). Japanese *made* ‘until’ also shows the same distribution.

The goal of this paper is to shed a new light on the analysis of English *until* by comparing it with Japanese. Specifically, we will (I) show that English *until* is ambiguous while Japanese *made* is not and (II) suggest that the homogeneity requirement is not lexical. In doing so, we will provide a compositional analysis of *until* and *made*.

(I) One or two *untils*? Karttunen (1974) explains the contrast in 1) and 2) by saying that *until* is ambiguous between a durative and a punctual negative polarity meaning. Mittwoch (1977) claims that the apparent ambiguity is reduced to scope differences. Crucial data for the ambiguity thesis is what is called ‘event actualization’ of *not...until*. English *not...until* construction strongly suggests the existence of the event in question. Thus 2)b cannot truthfully be followed by *In fact, he didn’t come at all that day*. If English has only one *until*, a similar event actualization should be expected for *until* in positive sentences, which is not the case. Japanese *made* in negative sentences on the other hand does not have such implications. The contrast shows that *made* can be given a straightforward scope analysis whereas *until* cannot.

Although the two *until* thesis is supported by many linguists, no compositional analysis has been given to the NPI *until*. The difficulty is to derive the event actualization compositionally from the semantics of the NPI *until* and negation. We propose that the NPI *until* itself has a negative meaning. When licensed by negation, it necessarily yields a positive event actualization.

(II) The homogeneity requirement. The homogeneity requirement of *until* has often been attributed to its semantics. The denotation in 6) makes *until* only compatible with homogeneous predicates. Although *until* and *made* show the same distribution, the universal semantics for *made* does not seem to work for two reasons. One is that *made* sentences with non-homogeneous predicates improve with an overt adverb of quantification as in 7). The other is that Japanese has another lexical item *made-ni*, which seems morphologically related to *made*. Then the denotation of *made-ni* should be derived compositionally from that of *made* and *ni*. Embedding the universal force into the semantics of *made* prevents it. This is because *made-ni* may modify non-homogeneous predicate as in 8) and their semantics should be something like 9). This also explains the difference between 3)a and 8)a; the former requires the sleeping time to last up to noon while the latter does not. We propose that the homogeneity requirement comes from the covert adverb \forall which shows up in the absence of overt adverbs. Thus the sentences in 7) have the structure 10). This, together with the semantics given in 11) and 12), explains the contrast in 7).

