

Acceptable Ambiguity

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ACCEPTABLE AMBIGUITY
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In a recent article entitled "Unacceptable Ambiguity" (*Linguistic Inquiry*, 1973, IV/1) Hankamer proposes the No-Ambiguity Condition (NAC), which states:

- I. Any application of Gapping which would yield an output structure identical to a structure derivable by Gapping from another source, but with the "gap" at the left extremity, is disallowed. (p.29)

The intent of this condition is to restrict Gapping in such a way that the deletion site must be as far to the left as structurally possible. Thus, the interpretation of 1a must always be 1b, and not 1c:¹

- 1.(57)a. Jack calls Joe Mike and Sam Harry.
b. ... and ✓[Jack calls] Sam Harry.
c. ... and Sam *[calls Joe] Harry.

The first part of the article (pp.17-35) is devoted to exposition and justification of the NAC. It is clear that Hankamer takes it as being valid for English, and, although he stops short of a categorical assertion that it is a universal condition, he comes as close as possible to that position:

- II.a. I consider it established, then, that the NAC is empirically supported, and must be included in an adequate account of natural language. (p.36)
b. If the NAC on Gapping is a universal constraint, as I assume, (p.37)
c. Although I have largely restricted myself to examples from English in demonstrating the operation of the NAC, exactly the same condition restricts Gapping in other languages, and there is every reason to believe that it is universal. (p.38)

This paper takes issue with these claims. In particular, I shall attempt to show that the NAC as formulated is certainly not a universal condition, and that its validity even for English is not as uncontroversial as one might suppose.

Looking briefly at English, it seems clear that there are several problematical cases which arise. The first of these is a set of three types of counterexamples which Hankamer himself raises in his article:

- 2.(68) Massachusetts elected McCormack Congressman, and Pennsylvania, Schweiker.

- 3.(86) ?Max writes plays in the bedroom, and Harvey in the basement.
- 4.(89) Paul Schacter has informed me that the basic order in Tagalog and related languages is VOS; Ives Goddard that the unmarked order in Algonkian is OVS; and Guy Carden that the basic order in Aleut is OSV.

In the case of 2/(68) and 4/(89) Hankamer finds arguments to get around these possible counterexamples. He says that in 2/(68) *Congressman* is not an NP (he does not say what else it might be) and that in 4/(89) *me* is not an NP (it has become a clitic of the verb); therefore they do not violate the NAC. But these examples cannot be dismissed so easily. In an earlier paper (1975), I have given arguments -- which cannot be repeated here for lack of space -- showing that *Congressman* is in fact an NP, and that sentences like 4/(89) exist with undisputed noun phrases as well as with possible-clitic pronouns. As for 3/(86), Hankamer connects the problem with strict subcategorization and the generic nature of *plays*, but ultimately concedes that this sentence does violate the NAC as formulated and that an ad hoc condition will have to be placed on it:²

III. In the absence of some general explanation, it will be necessary to modify the NAC in some way to allow the derivation of sentences like (86). (pp.34-35)

It seems, then, that sentences of these three classes stand as counterexamples to the NAC.

A second difficulty for the NAC in English is that there seem to be gradations of acceptability among sentences which the NAC rules out in an undifferentiated way. Thus, according to the NAC, 1/(57)b, 5/(60)b, 6/(59)b, 7/(38)b, 8b, and 9b -- with a left-peripheral gap -- are possible, while the corresponding c-readings -- with an internal gap -- should all be equally unacceptable. This, however, is not the case.

- 5.(60)a. The press characterized Agnew as colorless, and Nixon as low-keyed.
 b. ... and ✓[the press characterized] Nixon as low-keyed.
 c. ... and Nixon *[characterized Agnew] as low-keyed.
- 6.(59)a. Max wanted to put the eggplant on the table, and Harvey in the sink.
 b. ... and ✓[Max wanted to put] Harvey in the sink.
 c. ... and Harvey *[wanted to put the eggplant] in the sink.
- 7.(38)a. Max gave Sally a nickel, and Harvey a dime.
 b. ... and ✓[Max gave] Harvey a dime.
 c. ... and Harvey *[gave Sally] a dime.
- 8.a. Alice made the teacher a knitted scarf, and Eric a

- charm bracelet.
- b. ... and [Alice made] Eric a charm bracelet.
 - c. ... and Eric [made the teacher] a charm bracelet.
9. a. Tom told Margaret that Sally was coming, and Bill that she wasn't.
- b. ... and [Tom told] Bill that she wasn't.
 - c. ... and Bill [told Margaret] that she wasn't.

Sentences 1/(57), 5/(60), 6/(59), 7/(38), and some others were tested on a group of informants. For 1/(57) and 5/(60), while there were sporadic c-interpretations, the subjects always made the b-interpretations, and the results correlated well with the prediction of the NAC. For 6/(59), all subjects made the b-interpretation, but a large number also made the c-interpretation; this, however, I attribute to semantic interference, since the b-reading is semantically anomalous, and therefore I shall assume that this example, too, is in accord with the NAC. For 7/(38), however, all subjects still made the b-interpretation, but in addition over half also made the c-interpretation. Here I see no appeal to interference from outside syntax, and I conclude that, at least for some speakers, the NAC does not make the correct predictions about the interpretation of 7/(38). Sentences 8 and 9 were not in the test corpus, but I suspect that those who accept 7/(38)c will also accept 8c and 9c, since the sentence types are quite similar. Furthermore, even some of the speakers who found all of the c-interpretations unacceptable in the absolute sense felt that 7/(38)c and some others similar to it were somehow not as bad as 1/(57)c or 5/(60)c.³ The precise rankings and cutoff point of acceptability vary from speaker to speaker, but the very fact that such variation is possible indicates that we need more than just a blanket prohibition against structural ambiguity.

A third problem for the NAC in English is that the acceptability of certain gappings which are ruled out by the NAC seems to vary with the heaviness -- and perhaps also other properties -- of what is left behind, at least for some speakers. Sentence 3/(86) cited above probably belongs to this category, which is further illustrated by 10-14.⁴

- 10. ??Tom reads the newspaper quickly, and Sandra carefully.
- 11. ?Tom reads the newspaper over breakfast, and Sandra over lunch.
- 12. Tom reads the newspaper in the morning, and Sandra in the afternoon.
- 13. Tom reads the newspaper on the way to work, and Sandra after she gets there.
- 14. Tom reads the newspaper in the morning on the way to work, and Sandra over coffee after she gets there.

Here again, simple comparison of structures as envisioned in the

NAC is inadequate to differentiate among the examples.

The facts which we have just been looking at cast some doubt on the validity of the NAC for English; it may hold for some speakers, but it does not hold for others, and therefore an unqualified claim that English obeys the NAC is too strong.

In discussing the English data above it has been necessary to rely on delicate differences in acceptability which vary from speaker to speaker. In addition, as was pointed out earlier, it is sometimes necessary to motivate an interpretation by supplying stress, intonation, or context. Because of this, it may seem that these arguments are weak or marginal.⁵ I would therefore like to turn to some Russian data which show indisputably that the NAC cannot be a universal condition.

Sentence 15 shows an example of a verb which is subcategorized for three noun phrases, and the sentences in 16 show gapped sentences constructed from sentences like 15:

15. Vanja predstavil Sašu Maše.
V.-NOM introduced S.-ACC M.-DAT
 Vanya introduced Sasha to Masha.
- 16.a. Vanja predstavil Sašu Maše, a Lenju Sereže.
V.-NOM introduced S.-ACC M.-DAT and L.-ACC S.-DAT
 ... and [Vanya introduced] Lenya to Serezha.
- b. Vanja predstavil Sašu Maše, a Lenja Sereže.
V.-NOM introduced S.-ACC M.-DAT and L.-NOM S.-DAT
 ... and Lenya [introduced Sasha] to Serezha.
- c. Vanja predstavil Sašu Maše, a Lenja Serežu.
V.-NOM introduced S.-ACC M.-DAT and L.-NOM S.-ACC
 ... and Lenya [introduced] Serezha [to Masha].

16a has a left-peripheral gap, 16b has an internal gap, and 16c has a discontinuous gap including the right periphery. All three are normal, unimpeachable sentences of Russian; 16b and 16c also are counterexamples to the NAC. Hankamer states, referring to the NAC,

- IV. In short, the condition insures that if the output of Gapping is structurally interpretable with a left-peripheral gap, it will be so interpreted, even if this interpretation forces a reading on which the sentence is ungrammatical because of a selectional or agreement violation... (p.30)

16a shows that there is structurally a left-peripheral interpretation for the sentences in 16, but no such interpretation is assigned to 16b or 16c. It may be thought that the morphological information contained in 16b and 16c accounts for their failure to obey the NAC by disambiguating otherwise-identical structures. Hankamer does not specify just which level of structure is to be

compared under the NAC, but he makes reference only to configurations of major-category nodes like V and NP, and he does make it clear that he is not talking about terminal strings.⁶ Further, he seems to rule out morphology when he says:

- V. The fact that it is structural ambiguity which is prohibited, and that semantic or morphological disambiguation cannot force the suppressed structural interpretation, will be of significance later in distinguishing the kind of ambiguity avoidance observed here from other phenomena of a quite different nature. (p.31)

On the basis of sentences like those in 16, it would seem that at the very least the NAC must be modified so as to be sensitive to morphological information, since it is precisely that information which allows the sentences to be interpreted in only one way, and therefore makes them not ambiguous. Such a modification could be made without too much difficulty, but even this step will not save the NAC, because the morphological information contained in the surface structure is not always unambiguous. Sentence 17/(84) is put forward by Hankamer as an example which is ruled out by the NAC; however a similar Russian example, 18, is perfectly acceptable.

- 17.(84) *The chess club elected Tony treasurer, and the outing club president.
- 18.a. Literaturnyj kružok vybral Sašu predsdatelem, a èkonomičeskij kružok sekretarem.
literature club elected Sasha chairman and economics club secretary
 The literature club elected Sasha chairman, and the economics club secretary.
- b. ...a èkonomičeskij kružok sekretarem
 *and economics-ACC club-ACC secretary-INST
 ...*and ✓[the literature club elected] the economics club secretary.
- c. ...a èkonomičeskij kružok sekretarem.
 and economics-NOM club-NOM secretary-INST
 ...and the economics club ✓[elected Sasha] secretary.

Here the morphology does not help, since *èkonomičeskij kružok* can be either nominative or accusative. The accusative reading 18b has a left-peripheral gap and is the one predicted by the NAC; although structurally possible, it is of course semantically absurd, and is rejected by speakers of Russian. The nominative reading 18c has an internal gap and is explicitly ruled out by the NAC, since a left-peripheral gap is structurally possible; but this interpretation is the normal one, and is the only one which is commonly made. Further cases where Gapping produces both structural and semantic ambiguity in Russian -- and where

the morphology cannot help -- are given in 19-22. Examples 19 and 20 are simple sentences of the same type as 15.

19. Smirnova predstavila Ivanova Petrovu.
S.-f-NOM introduced I.-m-ACC P.-m-DAT
 Ms. Smirnov introduced Mr. Ivanov to Mr. Petrov.
20. Smirnov predstavil Donskoj Kostrovu.
S.-m-NOM introduced D.-f-DAT K.-f-ACC
 Mr. Smirnov introduced Ms. Kostrov to Ms. Donskoy.

If we make 19 and 20 into right conjuncts, we can gap them and get 21 and 22; but these sentences are now structurally and semantically three ways ambiguous.

21. Smirnova predstavila Orlovskogo Maksimovoj,
 a Ivanova Petrovu.
S.-f-NOM introduced O.-m-ACC M.-f-DAT
 a. and *I.-m-ACC P.-m-DAT*
 b. and *I.-f-NOM P.-m-DAT*
 c. and *I.-f-NOM P.-f-ACC*
 Ms. Smirnov introduced Mr. Orlovsky to Ms. Maksimov, ...
 a. ... and ✓[Ms. Smirnov introduced] Mr. Ivanov to Mr. Petrov.
 b. ... and Ms. Ivanov ✓[introduced Mr. Orlovsky] to Mr. Petrov.
 c. ... and Ms. Ivanov ✓[introduced] Ms. Petrov [to Ms. Maksimov].
22. Smirnov predstavil Orlovskogo Maksimovoj,
 a Donskoj Kostrovu.
S.-m-NOM introduced O.-m-ACC M.-f-DAT
 a. and *D.-f-DAT K.-f-ACC*
 b. and *D.-m-NOM K.-m-DAT*
 c. and *D.-m-NOM K.-f-ACC*
 Mr. Smirnov introduced Mr. Orlovsky to Ms. Maksimov, ...
 a. ... and ✓[Mr. Smirnov introduced] Ms. Kostrov to Ms. Donskoy.
 b. ... and Mr. Donskoy ✓[introduced Mr. Orlovsky] to Mr. Kostrov.
 c. ... and Mr. Donskoy ✓[introduced] Ms. Kostrov [to Ms. Maksimov].

The three interpretations of 21 and 22 are all normal, acceptable readings for these sentences, and correspond to three different sources for the reduced clauses. Only one of these in each case is the sentence from which we started: 19 lies behind 21a and 20 lies behind 22a. The b and c sentences come from other sources, which have internal and right-peripheral gaps, respectively. This is in direct contradiction to the NAC, which asserts that 21a and 22a are the only allowable readings and that 21b, 21c, 22b and 22c are consequently impossible.

The existence of sentences like 21 and 22, as well as 18, also contradicts a further claim made by Hankamer. Generalizing from the NAC, he proposes the Structural Recoverability Hypothesis (SRH) and a Structural Recoverability Condition (SRC) based on it. These attempt to limit the application of deletion rules by prohibiting them from introducing structural ambiguity, since structural ambiguity introduced by deletion rules, according to Hankamer, "is not tolerated in natural language." (p.31)

- VI.a. SRH: Deletion rules involving variables are universally subject to a transderivational condition which prevents them from applying in such a way as to introduce structural ambiguity. (p.40)
- b. SRC: If a deletion rule operating over a variable would introduce structural ambiguity by yielding the same output upon application to two different sources, both applications of the rule are blocked. (p.41)

It is apparent from 18, 21 and 22 that Gapping in Russian does operate in such a way as to introduce ambiguity, both structural and semantic, and that no application of the rule to the possible sources of those sentences is blocked.

Counterevidence to the NAC can also be found in other languages. Cases from Polish where the NAC (and also the SRH and SRC) encounter difficulty have been cited by Fedorowicz-Bacz (1973).⁷ She points out three types of constructions: those which depend on morphological syncretism, like the ones we have seen in Russian; those which involve *że* complements; and those which involve *żeby* complements. These latter two types do not carry over into Russian, but provide interesting additional evidence against the NAC, of a type quite different from the morphological examples.⁸ It is not surprising that examples based on morphology turn up in Polish as well as in Russian, and they can also be found in Czech, which offers an even more fertile field for this purpose because of the extensive syncretism which has affected large classes of nouns and adjectives. I suspect that similar evidence could be found in many, if not all case languages; they should at least have examples of the type discussed in 16, and to the extent that they had case syncretism, I would expect them to have examples on the order of 18, 21 and 22.

In conclusion, then, it would seem that, whereas the NAC may work for some dialects of English, it does not appear to hold for all; and it certainly does not work for Russian. Thus, it cannot be a universal condition or even an unqualified English-specific condition as proposed. We have seen that the condition which restricts Gapping cannot rule out all applications which produce ambiguity, structural or otherwise. Further, the relevant condition cannot be stated simply in terms of

constituent structure, but must be able to take morphological or relational information into account; and even this information may not be sufficient for stating the constraint.⁹

FOOTNOTES

1. The numbers in parentheses are Hankamer's example numbers. Where grammaticality judgements are given to sentences with Hankamer's numbers, they represent his judgements, as they appear in his article. Judgements of sentences identified only with my numbers are my judgements. Roman numbers identify quotations from Hankamer's text.
2. I do not agree with Hankamer that the generic nature of the object is of relevance here, but this matter is far from the discussion at hand, and will not be pursued. What is relevant is that Hankamer agrees that the NAC cannot account for 3/(86).
3. A problem in assigning judgements to many of these sentences is that they belong to oral rather than written style. They are therefore more likely to seem "peculiar" when read and may be adjudged worse than the same sentences would be if they were heard. A complementary problem is that the interpretation is highly dependent on stress and intonation, and this information is absent when the sentence is presented on paper. Perhaps the most significant factor, though, is context, which also is usually lacking when sentences are tested. Appropriate context can often significantly increase the acceptability of a gapped sentence which violates the NAC, e.g.,
 - i. All of the children in the crafts class thoroughly enjoyed themselves, and, to show their appreciation, Alice made the teacher a knitted scarf, and Eric a charm bracelet.
 - ii. The twins are very good at finding unusual birthday presents for their parents. Last year Bob gave their father a fur-lined nose warmer, and Allan an electric nutcracker.
4. This set of examples was suggested by sentence 12, which is taken from D. Perlmutter and S. Soames, *Problems and Arguments in Syntax*, in preparation.
5. While I think there is nothing wrong with having to seek out such differences and motivation, since speech varies syntactically, has phonological properties and occurs in a discourse context, I do agree that patent examples which are unquestionably acceptable make a more convincing argument.
6. Hankamer says, "Note that it is identity of structure that is specified as crucial in this condition, and thus it is

structural ambiguity that is disallowed. Gapping is blocked in (52c), even though there is no grammatical sentence with a left-peripheral gap having the same sequence of morphemes:

- (52)a. *Jack asked Mike to wash himself, and Sue to shave himself.
 b. *... and ✓[Jack asked] Sue to shave himself.
 c. ... and Sue *[asked Mike] to shave himself.

This condition thus blocks Gapping in cases where there could be structural ambiguity as to the location of the 'gap'." (p.30)

7. This article was recently brought to my attention by Ivan Sag.

8. Fedorowicz-Bacz worries that the accidental nature of case syncretism is not "systematic" and that therefore these examples do not "constitute a real counterexample to the NAC." (p.47) The fact remains, however, that Gapping here is producing structurally ambiguous sentences, which the NAC says it cannot; and these syncretisms can be quite far-reaching in Russian, as is seen from examples like 18, 21 and 22. Furthermore, I see nothing wrong with seeking examples where they are to be found. A proposed condition should account for the facts, and the facts of Russian are that Gapping can apply to different inputs to produce the same output, thereby creating ambiguity.

9. After this paper had been completed, I had the opportunity to see a recent unpublished study by Kuno (1974), in which he examines Gapping from the functional point of view. The basis of Kuno's analysis is a functional pairing or matching procedure to relate the surviving constituents in the gapped conjunct to corresponding constituents in the ungapped conjunct. This matching procedure is affected by many factors, including anaphoricity, remoteness in processing, and interpretive tendencies.

Kuno's proposal strikes me as being very much on the right track, and it can account very nicely for most of the problems and observations noted here. In particular, it offers an obvious way of incorporating the morphological and relational information which we have seen is necessary for Russian into the analysis of Gapping: the pairing procedure, among other things, can look for a match in case. Furthermore, this proposal offers a natural reason for why word order, intonation and context have such a dramatic effect on the acceptability judgements of gapped sentences (see footnote 3 above and Kuno, pages 10-13). Although the matter bears further investigation, it seems to a first approximation that Kuno's analysis accounts very well for Gapping in Russian.

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