ELSEVIER

Journal of Pragmatics 27 (1997) 261–274

journal of PRAGMATICS

Pragmatics in the last quarter century: The case of conditional perfection☆

Johan van der Auwera*

University of Antwerp (UIA), Linguistics (GER), B-2610 Antwerp, Belgium

Received January 1996; revised version June 1996

Abstract

The paper surveys twenty-five years of work on so-called 'conditional perfection', the phenomenon that *if* is often understood to mean *only if*. The author shows that contrary to what is commonly believed, the phenomenon was not introduced into Western linguistics by Geis and Zwicky (1971), but by Ducrot (1969) or even Bolinger (1952). He further argues that the correct analysis first appeared in the seventies, to be rediscovered once more in that decade, then in the eighties and once more in the nineties, and that it was neglected by those that proposed an alternative account. He tries to explain this succession of these events and non-events.

1. Introduction

This is a historical and methodological analysis of a quarter century of research on a problem in the pragmatics of conditionals, often called 'conditional perfection'. In section 2 I present the problem and what I consider to be its solution. Section 3 traces the relevant research from 1969 to 1995.

2. The problem and a solution

Imagine that a father addressing his son utters the conditional in (1).

☆ This paper is a companion to van der Auwera (1994). The latter focuses on a linguistic phenomenon, this one on the linguists that studied the phenomenon. On a few points, the historical remarks contained in van der Auwera (1994) are at odds with what one can read here and are thereby rendered void. In this respect I am especially grateful to Renaat Declerck, Larry Horn and to Leo Noordman. The present paper was presented at the Moscow conference on 'Linguistics by the end of the 20th century: Achievements and perspectives' (31 Jan to 3 Feb 1995). Thanks are due to Igor' Boguslavsky and the Belgian National Science Foundation.

* E-mail: auwera@uia.ua.ac.be; Fax: +32-3-8202762

0378-2166/97/$17.00 Copyright © 1997 Elsevier Science B.V. All rights reserved
PII S0378-2166(96)00058-6

(1) *If you mow the lawn, I'll give you five dollars.*

In this context, the father will be taken to mean not only the literal meaning in (1), however one may want to analyze this, but also that of (2).[1]

(2) *If you don't mow the lawn, I won't give you five dollars.*

Put in a different way, in the context described (1) will also mean (3).

(3) *Only if you mow the lawn will I give you five dollars.*

Or yet in a third way, (1) will amount to (4), the combination of the literal meaning in (1) and the extra meaning in (3).

(4) *If and only if you mow the lawn will I give you five dollars.*

To use the jargon in use since Geis and Zwicky (1971a), in many contexts speakers and hearers will 'perfect' conditionals (i.e. *if* sentences) into biconditionals (i.e. *if and only if* sentences) and (1) will 'invite' the inference of (2), (3) or (4). This inference seems fairly general and does not seem to be language-dependent.

In my view, the explanation of the conditional perfection phenomenon is Gricean. We are dealing with a scalar Quantity implicature. The type of scale involved is that in (5). The higher assertions entail the lower ones. Standard scalar implicatures arise as negations of the higher assertions, and this is also what we find here. Thus, assuming that I am allowed to use the term 'sufficient condition' for the meaning of *if*, when one supplies only the one sufficient condition *p*, one conversationally implicates that there is no second – and no third, etc. – sufficient condition. One thus implicates that only *p* will do and that if *p* is not fulfilled, *q* will not ensue.

(5) ...
if p, q and if r, q and if s, q
if p, q and if r, q
↑ *if p, q*

Applied to the situation of the lawn moving, mentioning only lawn mowing as sufficient for getting five dollars will implicate that in that context only lawn mowing will do – and nothing else will do.

(6) ...
If you mow the lawn, I will give you five dollars and if you wash my car I will give you five dollars.
↑ *If you mow the lawn, I will give you five dollars.*

---

[1] If one wants to restrict 'mean' and 'meaning' to literal meaning, one should say that (1) is used to 'convey' (2).

This is a nutshell presentation of what I take to be the correct analysis. A full account needs to be more precise about the meaning of conditionals and about the meaning of *only*. I have attempted to do this elsewhere (van der Auwera, 1994, relying on van der Auwera, 1985a,b). I will, however, briefly discuss two alternative accounts and equally briefly argue that they are not correct. Of course, this short rebuttal cannot be definitive, see again van der Auwera (1994) and also Matsumoto (1995: 44–48) – and neither are the latter.[2] In any case, whether or not the account which I consider correct is in fact correct does not influence most of what follows.

3. A quarter century of research

In recent years van der Auwera (1994) and Matsumoto (1995) independently reached a Gricean solution to the problem of conditional perfection. But these papers were not the first to do that. van der Auwera (1994) is in fact an extended and more history conscious write-up of van der Auwera (1990). But what I did not know at that time was that I then merely *re*discovered this analysis. In fact, in the eighties, de Cornulier (1983) had already done it. But he too and again – unwittingly – appears to have *re*discovered the analysis. It was clearly expressed a few years before, in Noordman (1979). But Noordman was not the first either and we apparently have yet another *re*discovery. For the maiden appearance of the analysis we have to go back to Horn (1972).

There is no dearth of alternative ideas either. The discovery by Horn (1972) and the rediscoveries by Noordman (1979), de Cornulier (1983) and myself (1990) are to be seen against a background of at least fifty papers addressing or mentioning the problem. The list of these publications is given in Table 1.

Table 1
A quarter century of research: A list

1952 Bolinger, Dwight, Linear modification. Publications of the Modern Language Association 67: 1117–1144. (Reprinted in: Dwight Bolinger, 1965, Forms of English. Accent, morpheme, order, 279–307. Cambridge, MA: Harvard University Press.)

1969 Ducrot, Oswald, Présupposés et sous-entendus. Langue française 4: 30–43. (Reprinted in: Oswald Ducrot, 1984, 13–13; Translation, 1973, Präsuppositionen und Mittverständnisse. In: János S. Petöfi and Dorothea Franck, eds., Präsuppositionen in Philosophie und Linguistik, 241–260. Frankfurt/M: Athenäum.)

1971 Ducrot, Oswald, L'expression, en français, de la notion de condition suffisante. Langue française 12: 60–67. (Reprinted in: Oswald Ducrot, 1973, 133–142.)
Geis, Michael L. and Arnold M. Zwicky. On invited inferences. a. Working Papers in Linguistics (Ohio State University) 8: 140–155. (b. Reprinted in Linguistic Inquiry 2: 561–566.)

[2] Larry Horn (p.c.) takes offense at at least two of the features of my 1994 account: (i) the analysis of *only* (see Horn, 1996), and (ii) the fact that the higher assertions on scales (5) and (6) are conjunctions and that a conjunction is longer than any conjunct (see e.g. Horn, 1990: 464–465).

Table 1 (Continued)

1972 Ducrot, Oswald, Dire et ne pas dire: Principes de sémantique linguistique. Paris: Hermann.
Horn, Laurence R., On the semantic properties of logical operators in English. Doctoral dissertation, UCLA. (Distributed in 1973, Bloomington, IND: Indiana University Linguistics Club.)
Karttunen, Lauri, Counterfactual conditionals. Linguistic Inquiry 2: 566–569.
Lilje, G.W., Uninvited inferences. Linguistic Inquiry 3: 540–542.
Noordman, Leonard G.M., On the interpretation of conditional constructions in different context. Groningen: Heymans Bulletins HB-72-118. (Reprinted in: A. Kraak, ed., 1975, Linguistics in the Netherlands 1972–1973, 263–270. Assen: Van Gorcum.)

1973 Boër, S.E. and W.G. Lycan, Invited inferences and other unwelcome guests. Papers in Linguistics 6: 483–505.
Ducrot, Oswald, La preuve et le dire. Langage et logique. Paris: Mame.
Horn, Laurence R., Greek Grice: a brief survey of proto-conversational rules in the history of logic. In: Claudia Corum, T. Cedric Smith-Stark and Ann Weiser, eds., Papers from the ninth regional meeting of the Chicago Linguistic Society, 205–214, Chicago: Chicago Linguistic Society.
Lehmann, Christian, Latein mit abstrakten Strukturen. München: Wilhelm Fink.

1975 Fillenbaum, Samuel, If: some uses. Psychological Research 37: 245–260.

1976 Fillenbaum, Samuel, Inducements: On the phrasing and logic of conditional promises, threats, and warnings. Psychological Research 38: 231–250.
Gazdar, Gerald, Formal pragmatics for natural language. Implicature, presupposition and logical form. (Distributed in 1977 as Implicature, presupposition and logical form. Bloomington, IN: Indiana University Linguistics Club. Published in 1979 as Pragmatics: implicature, presupposition and logical form. New York: Academic Press.)

1978 Fillenbaum, Samuel, How to do things with IF. In: John W. Cotton and Roberta L. Klatzky, eds., Semantic factors in cognition, 169–214, Hillsdale, NJ: Erlbaum.

1979 Noordman, Leonard G.M., Inferring from language. Berlin: Springer.

1981 Atlas, Jay David and Stephen C. Levinson, *It*-clefts, informativeness and logical form. In: Peter Cole, ed., Radical pragmatics, 1–61. New York: Academic Press.

1982 Prince, Ellen F., Grice and universality: A reappraisal. Unpublished ms.

1983 de Cornulier, Benoît, 'If' and the presumption of exhaustivity. Journal of Pragmatics 7: 247–249.
Levinson, Stephen, Pragmatics. Cambridge: Cambridge University Press.

1984 Ducrot, Oswald, Le dire et le dit. Paris: Minuit.
Fauconnier, Gilles, Espaces mentaux. Aspects de la construction du sens dans les langues naturelles. Paris: Minuit.
In: D. Schiffrin, ed., Meaning, Form, and Use in Context: Linguistic Applications, Washington: Georgetown University Press.
Horn, Laurence R., Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature, 11–42.
Geis, Michael L., On semantic and pragmatic competence, 71–84.

1985 de Cornulier, Benoît, Effets de sens. Paris: Minuit.
Fauconnier, Gilles, Mental spaces: Aspects of meaning: construction in natural language. Cambridge, MA: MIT Press.
Hirschberg, Julia Bell, A theory of scalar implicature. Doctoral dissertation, University of Pennsylvania.
Noordman, Leonard G.M., On contextual constraints of some conditional conjunctions. In: G.A.J. Hoppenbrouwers, P.A.M. Seuren and A.J.M.M. Weijters, eds., Meaning and the lexicon, 302–307, Dordrecht: Foris.
Padučeva, E.V., Vyskazyvanie e ego sootnesennost' c dejvitel'nostju (referencial'nye aspekty semantiki mestoimenij). [The utterance and its relation to reality (Referential aspects of the semantics of pronouns).] Moskva: Nauka.

Table 1 (Continued)

1986 In: Elizabeth Closs Traugott, Alice ter Meulen, Judy Snitzer Reilly and Charles A. Ferguson, eds., On conditionals, 77–99. Cambridge: Cambridge University Press.
Akatsuka, Noriko, Conditionals are discourse-bound, 333–351.
Comrie, Bernard, Conditionals: A typology, 77–99.
Fillenbaum, Samuel, The use of conditionals in inducements and deterrents, 179–195.
König, Ekkehard, Conditionals, concessive conditionals and concessives: Areas of contrast, overlap and neutralization, 229–246.
Sperber, Dan and Deirdre Wilson, Relevance. Communication and cognition. Cambridge, MA: Harvard University Press.
Seuren, Pieter A.M., The self-styling of relevance theory. Journal of Semantics 5: 123–143.
Wilson, Deirdre and Dan Sperber, The self-appointment of Seuren as censor. Journal of Semantics 5: 145–162.

1987 Levinson, Stephen,
a. Minimization and conversational inference, In: Jef Verschueren and Marcella Bertuccelli-Papi, eds., The pragmatic perspective, 61–129, Amsterdam: Benjamins.
b. Pragmatics and the grammar of anaphora: A partial pragmatic reduction of Binding and Control Phenomena. Journal of Linguistics 23: 379–434.

1988 Declerck, Renaat, Studies on copular sentences, clefts and pseudo-clefts. Leuven: Leuven University Press.
Smith, Neil and Amahl Smith, A relevance-theoretic account of conditionals, In: Larry M. Hyman and Charles N. Li, eds., Language, speech and mind. London: Routledge, 322–352.
Van der Sandt, Rob, Context and presupposition. London: Croom Helm.

1989 Horn, Laurence R., A natural history of negation. Chicago, IL: Chicago University Press.

1990 Dik, Simon C., On the semantics of conditionals, In: Jan Nuyts, A. Machtelt Bolkestein and Co Vet, eds., Layers and levels of representation in language theory. A functional view, 233–261, Amsterdam: Benjamins,
Montolío Duran, Estrella, Expressión de la condicionalidad en español. Doctoral dissertation, Barcelona.
Sweetser, Eve, From etymology to pragmatics. Metaphorical and cultural aspects of semantic structure. Cambridge: Cambridge University Press.
van der Auwera, Johan, Conditional perfection. Paper presented at the Barcelona Pragmatics Conference.

1991 Mazzoleni, Marco, Le frasi ipotetiche. In: Lorenzo Renzi and Giampaolo Salvi, eds., Grande grammatica italiana di consultazione. II. I sintagmi verbale, aggetivale, avverbiale. La subordinazione, 751–784, Bologna: Il Mulino.

1994 Mazzoleni, Marco, The pragmantax of some Italian conditionals. Journal of Pragmatics 21: 123–140.
Wakker, Gerry, Conditions and conditionals. An investigation of ancient Greek. Amsterdam: Gieben.
van der Auwera, Johan, Conditional perfection. Paper presented at the 1995 Duisburg LAUD Symposium on Conditionals. To appear in: Angeliki Athanasiadou and René Dirven, eds., On conditionals again. Amsterdam: Benjamins.

1995 Matsumoto, Yo, The conversational condition on Horn scales. Linguistics and Philosophy 18: 21–60.

The list was essentially arrived at by following up references and reading the kind of literature in which conditional perfection was bound to be discussed. Though there is no claim to exhaustiveness, the list must nevertheless give a fairly good picture of what happened in Western linguistics.

In Fig. 1, the papers reappear – except for reprints and translations. I now classify them with respect to the type of analysis they propose and I indicate which conditional perfection analyses authors explicitly refer to in their own analyses of conditional perfection.

The typology has three big groups: (i) Gricean, (ii) undetermined, and (iii) non-Gricean. About Gricean and non-Gricean accounts I will say more below. Good examples of studies that leave the explanation open are Geis and Zwicky (1971a) or Gazdar (1976):

"We must conclude that these facts do not lend themselves so easily to explanations of the Gricean sort." (Geis and Zwicky, 1971b: 564)

"[...] conditional perfection remains as puzzling as when Geis and Zwicky first drew attention to it." (Gazdar, 1976 [1979: 87])

Within the Gricean explanation type, there are four subtypes. The first division concerns the question whether or not the analysis goes into any detail. A good example of Gricean position that leaves it open how the implicature comes about is Comrie (1986):

"[...] claiming that many aspects of interpretation that are traditionally assigned to the semantics of a construction or sentence are in fact conversational implicatures (in the Gricean sense)." (Comrie, 1986: 77)

Virtually every Gricean who does go into some detail relates the implicature to the Maxim of Quantity, urging speakers (i) to make their contribution as informative as required, and (ii) not to make their contribution more informative than required (Grice, 1975: 45–46). Most authors connect conditional perfection to the first Submaxim. But there are two ways of doing this, depending on the type of scale assumed to underlie the inference. One is the scale represented in (5) and (6). But there is a competitor, appearing implicitly (as in Ducrot, 1969 [1984: 23–24]) or explicitly (as in König, 1986: 236) and in three shapes. For the lawn-mowing situation, this scale would be (7), in terms of a 'universal concessive condition', (8) in terms of an 'alternative concessive conditional' (see Haspelmath and König (1995) for an analysis of both types of concessive conditionals) or simply (9).

(7) *Whatever may be the case, I will give you five dollars.*
↑ *If you mow the lawn, I will give you five dollars.*
(8) *Whether you mow the lawn or not, I will give you five dollars.*
↑ *If you mow the lawn, I will give you five dollars.*
(9) *I will give you five dollars.*
↑ *If you mow the lawn, I will give you five dollars.*

These scales license an implicature of the negation of the higher assertion, but negating that the transfer of the dollars is unconditional allows for there being more than one sufficient condition, and is thus too wide for the implicature that there is only one sufficient condition.[3]

Some authors relate conditional perfection to the second Submaxim of Quantity – henceforth abbreviated as 'Quantity-2' to distinguish it from the first Submaxim 'Quantity-1'. At first, the relevance of the second Submaxim was not seen, as in Horn (1973: 212), who invokes Grice's 'Relevance'/'Relation' Maxim, and in Atlas and Levinson (1981), who invoke a new principle called 'Informativeness', which was supposed to operate independently of Grice's Maxims, but it became clear as of Horn (1984) – here the second Submaxim of Quantity as well as the Maxim of Relation/Relevance are subsumed under a principle called 'Relation'. The Quantity-2 Submaxim, the Informativeness Principle or the Relation Principle, are considered to generate their own implicatures, called 'I-implicatures' (terminology of Atlas and Levinson, 1981) or 'R-implicatures' (terminology of Horn, 1984). Thus the fact that (10) is often understood as meaning (11) is taken to be an I/R-implicature.

(10) *He turned the key and the engine started.*
(11) *He turned the key and then the engine started.*

There is a scale involved here (in (12)), but different from a Quantity-1 implicature, the I/R-implicature is simply the higher assertion, not its negation.

(12) *He turned the key and then the engine started.*
↑ *He turned the key and the engine started.*

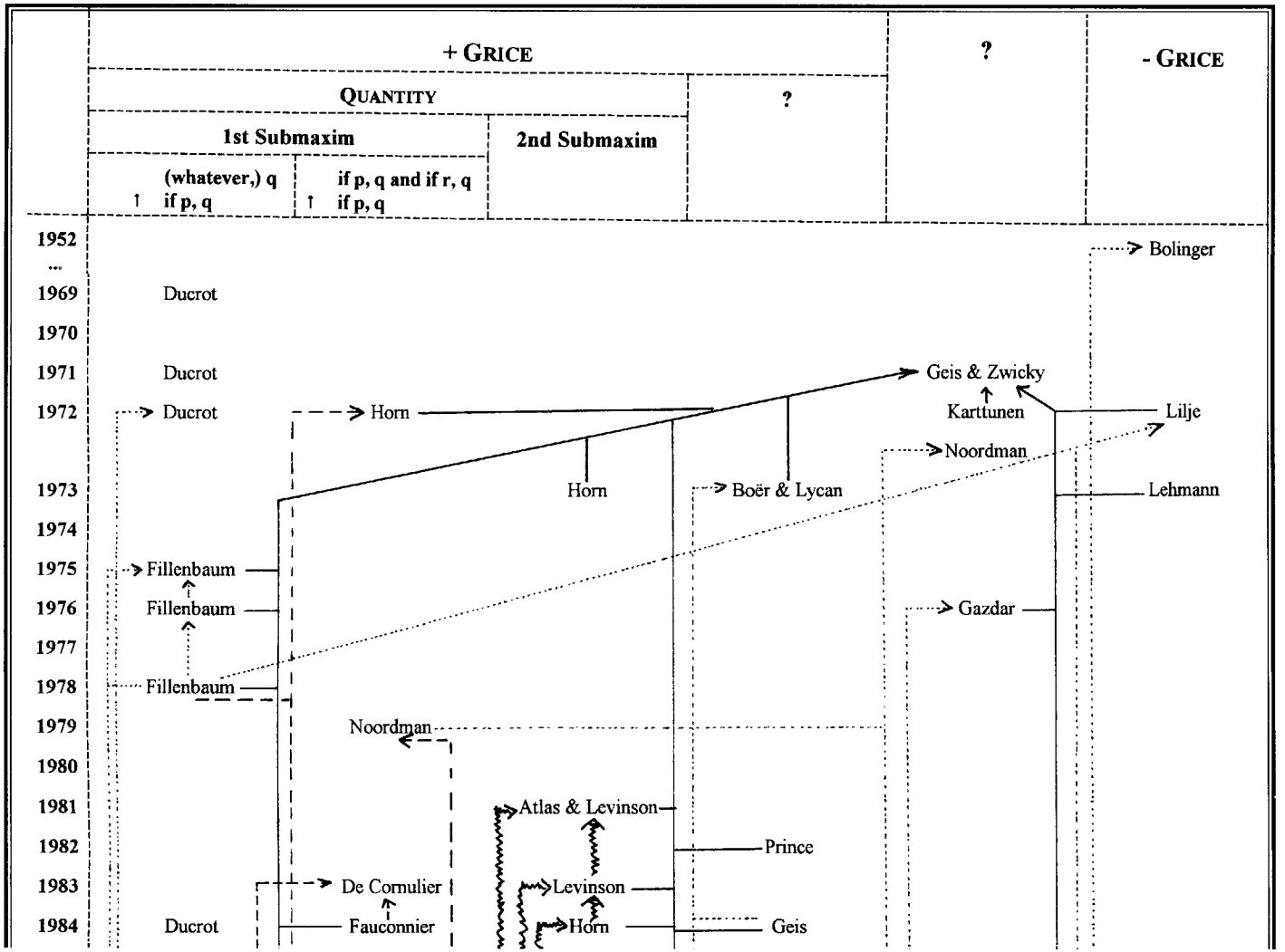
The same is argued to be the case for conditional perfection.

(13) *if and only if p, q*
↑ *if p, q*

The basic problem with this account (but see van der Auwera, 1994, and Matsumoto, 1995, for discussion) – at least with respect to conditional perfection – is that the I/R-implicature is trivial. The higher assertion is the combination of the literal meaning (*if*) and the Quantity-1 implicature (*only if*). Any such combination is always more informative than only the literal meaning and can thus be said to be I/R-implicated, also the one in (14) for example – with 'some and only some' equalling 'some' and its Quantity-1 implicature 'not all'.

(14) *Some and only some voted for Muriel.*
↑ *Some voted for Muriel.*

[3] A derivation in terms of (9) has a further problem: negating the higher value amounts to the proposition that it is false that the speaker will give the hearer five dollars, which is not the same as the proposition that it is not unconditional that the speaker will give the hearer five dollars.


+ GRICE
QUANTITY
1st Submaxim
↑ (whatever,) q if p, q
↑ if p, q and if r, q if p, q
2nd Submaxim
?
?
- GRICE
1952
...
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
Ducrot
Ducrot
Ducrot
Ducrot
Horn
Horn
Boër & Lycan
Bolinger
Geis & Zwicky
Karttunen
Lilje
Noordman
Lehmann
Fillenbaum
Fillenbaum
Fillenbaum
Gazdar
Noordman
Atlas & Levinson
Prince
De Cornulier
Levinson
Fauconnier
Horn
Geis
Ducrot

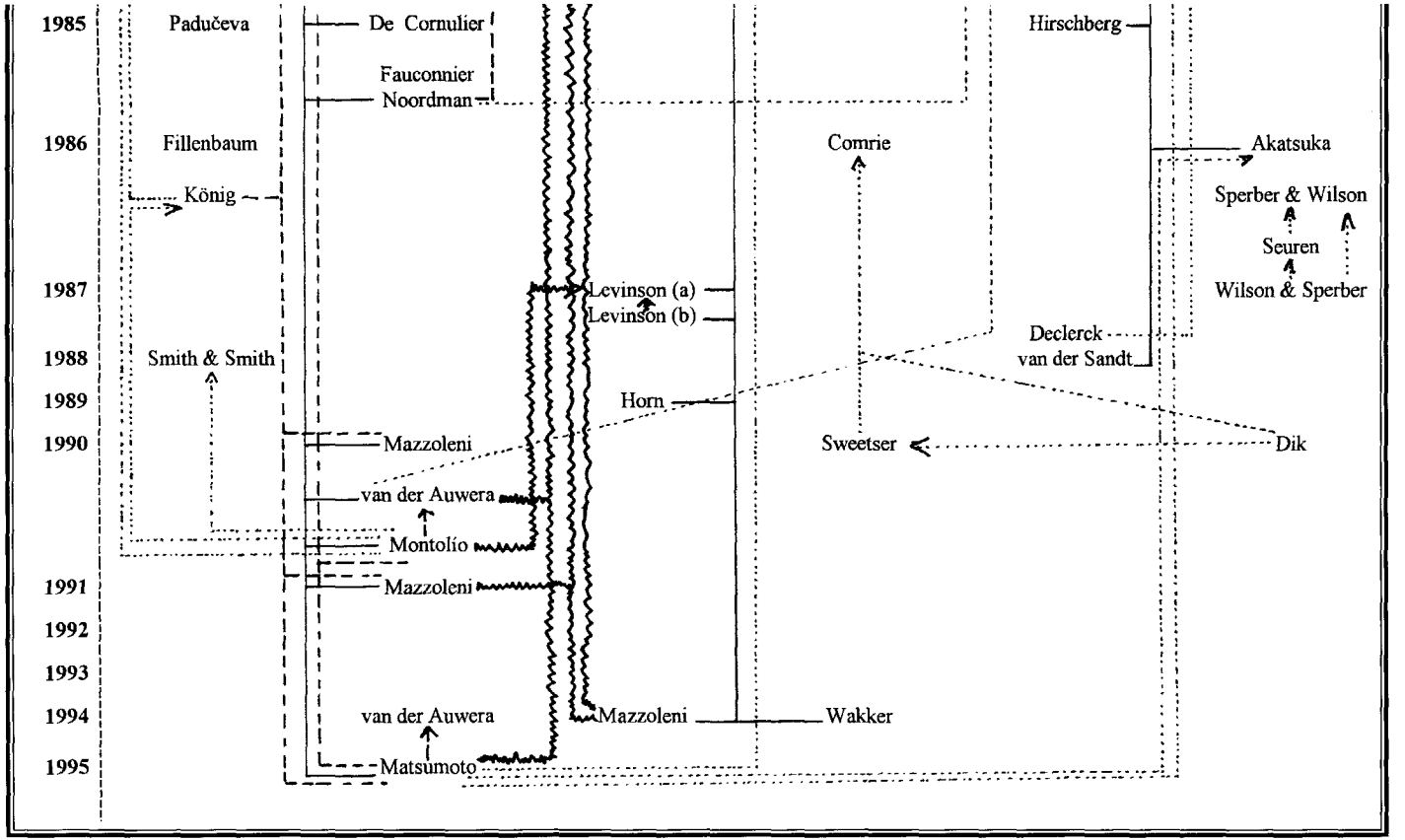


Fig. 1. A quarter century of research: A typology.

——— : reference to Geis & Zwicky
– – – : reference to Horn-Noordman-de Cornulier-van der Auwera
~~~~~ : reference to Horn-Atlas-Levinson
····· : other references
~~~~~

Nobody in his/her right Gricean mind would propose (14); *ergo* nobody should propose (13) either.

Finally, there are non-Gricean proposals that do not follow the Atlas–Levinson proposal, as in the context of Relevance Theory (Sperber and Wilson, 1986: 82–83), but they have not been elaborated in any detail.[4]

Fig. 1 also shows to what extent linguists working on conditional perfection refer to previous accounts. Cross-references are marked only if they relate to conditional perfection. Consider the fact that Fig. 1 does not contain any arrow from Levinson (1983) to Gazdar (1976). In fact, Levinson refers a lot to Gazdar, yet he does not do that when he discusses conditional perfection. Another condition is that the reference has to be explicit. Smith and Smith (1988), for instance, discuss conditional perfection with the lawn-mowing example, which ultimately goes back to Geis and Zwicky (1971a), but they do not refer to Geis and Zwicky.

Let me make some observations about the intertextual web of conditional perfection research.

(i) Trivially, some scholars are more conscious of or interested in previous scholarship than others. There are two extremes: Montolío (1990) and van der Auwera (1994)[5] mention and/or discuss quite a bit of what other linguists have said before, and Smith and Smith (1988) mention nobody. There is no connection between the quality of an analysis and the degree to which the author relates it to previous research. The least one can say is that if the research is unconnected to earlier work the author can lay no claim on being original.

(ii) The *locus classicus* of conditional perfection is Geis and Zwicky (1971a). Most authors that later discuss the issue refer to this paper and use the terminology introduced there, i.e. 'conditional perfection' and 'invited inference'. It is Geis and Zwicky (1971a) that is central to entries in the *Comprehensive Bibliography of Pragmatics* (Nuyts and Verschueren, 1987) or in terminological dictionaries such as Demjankov (1982). However, contrary to Gazdar's (1976 [1979: 87]) statement that "Geis and Zwicky first drew attention to it", they were not the first to introduce the issue into Western linguistics. As far as I know now – thanks to Renaat Declerck (p.c.) – we have to go back further than just a quarter century, viz. to Dwight Bolinger (1952, reprinted in 1965). Bolinger (1965: 247) notes conditional perfection and further claims that it occurs more naturally if the antecedent follows. It is precisely this connection between interpretation and word order that is of interest to him, for it exemplifies his general hypothesis of 'linear modification', stating that what follows modifies or semantically narrows what precedes.

Apart from Declerck (1988: 244, 248) nobody has heeded this observation and its explanation. Why? At least part of the non-acclaim is that Bolinger's point is just

---

[4] Relevance Theory could, of course, be considered 'Gricean' too, in which case '+Grice' is to receive a fifth subtype.

[5] I did not draw any lines out of van der Auwera (1994). The literature I was aware of then is essentially everything shown on the figure. I explicitly referred to most of the Gricean studies, with the following important exceptions: Bolinger, Declerck, and Noordman, which I did not know of yet, and Matsumoto (1995), which appeared afterwards.

one of the many illustrations he offers of his principle of linear modification. He does not focus on the phenomenon as such, does not give it a name, for instance, and if the analysts of the last quarter century are correct, then Bolinger must be taken to overestimate the effect of word order. Perhaps it is correct that a postposed antecedent facilitates conditional perfection, but conditional perfection seems natural for preposed antecedents too. This is not noted by Bolinger, let alone, explained. Interestingly, when Declerck (1988) cites Bolinger (1952), he at least implicitly also relates the phenomenon to Grice and implicatures (Declerck, 1988: 30, 248), but he does not work out the details.

(iii) Were Geis and Zwicky at least the first to look at conditional perfection from a Gricean perspective? No, this merit goes to the French linguist Oswald Ducrot (1969). Ducrot actually offers Grice *avant la lettre*. Ducrot does not appear to have known about Grice yet – nor about Bolinger (1952) for that matter, and he does not speak about scales. He does, however, independently (cf. Fauconnier, 1976; de Cornulier, 1983: 248; Horn, 1984: 19) develop an analogue to Grice's first 'Submaxim of Quantity', which he calls "une espèce de loi d'économie" (Ducrot, 1969 [1984: 23]). The Gricean Quantity proposal that one can reconstruct from Ducrot (1969) is not the one that I consider to be correct, but at least, right from the start of Western conditional perfection research, as practised by linguists, we are on the right track and closer to the solution than the Geis and Zwicky independent introduction two years later.

Unfortunately, previous to van der Auwera (1994), hardly anybody seems to have taken notice of the early Ducrot paper. It did get a German translation in 1973, and it was reprinted in 1984, but neither the translation nor the reprint got due attention either. Why this neglect? I see four factors. First, Ducrot himself, who returns to conditional perfection in three later publications (Ducrot, 1971, 1972, 1984), does not refer to his early study. Second, not everybody reads French. Still, many of the later conditional perfection investigators are in fact French themselves (de Cornulier, Fauconnier) or read French (Fillenbaum, Horn, Lehmann, Mazzoleni, Montolío, König, and myself), and all of these show proof of having read Ducrot, but not, as it happens, this early Ducrot. Third, the paper appeared in a journal that had only just started and the early issues might not be widely available. Still, the reprint and the translation were neglected too. Fourth, Ducrot discussed the phenomenon, but like Bolinger he did not give it a name. This contrasts with Geis and Zwicky (1971a), who patented the name 'conditional perfection' – a suggestion by Lauri Karttunen (Geis and Zwicky, 1971b: 562), which they further claimed was a special case of a general phenomenon, which also got a name, 'invited inference'. New terminology does not always catch on, but in this case it did.

(iv) To my knowledge, elements of the 'correct' account first appear in Horn (1972: 107–108). This fact too did not get enough attention. The following two factors may have something to do with it. First, Horn (1972) is the unpublished dissertation, so it was not widely available. Still, the dissertation was also distributed by the Indiana University Linguistics Club and was cited a lot, also by later conditional perfection researchers (e.g. Gazdar, 1976), but they did not refer to the treatment of conditional perfection. Second, Horn changes his mind, first in Horn (1973: 212), an

account that invokes the Maxim of Relation/Relevance – but in a context that foreshadows both the Atlas–Levinson work and his own later work – and a decade later in Horn (1984). Only in the mid nineties do van der Auwera and Matsumoto pay tribute to the initial work by Horn.

(v) To my knowlege, it is Noordman (1979: 82) that marks the first published appearance of the 'correct' account. Noordman does not betray any awareness of Horn (1972). Conversely, none of the linguists that I am aware of – including myself at the time of writing the 1994 companion paper – seems to have taken note of this work. Why? At least in part because Noordman works in a different discipline, viz. the area of experimental psychology and psycholinguistics. Different from the pragmaticians of conditional perfection, whose reconstructions of what speakers mean and convey are primarily based on introspection, Noordman's reconstructions are based on observing the behavior of real people, set up in an experimental situation. Interestingly, the actual experiment was conducted in 1972, and reported on earlier, but without Gricean explanation or reference to Geis and Zwicky, yet with an acknowledgment to Larry Horn. Both the 1972 and the 1979 publications also discuss the earlier psychological and psycholinguistic literature.

(vi) There is a second rediscovery of the 'correct' account in de Cornulier (1983). De Cornulier refers to neither Horn (1973) nor Noordman (1979) and not too many people noticed de Cornulier (1983), whether to agree or to disagree with it. Previous to van der Auwera (1994) and Matsumoto (1995), it is cited only by König (1986) and cited with approval by the Romance scholars Fauconnier (1984, 1985), Mazzoleni (1990) and Montolío (1990). The fact that the linguists that noticed de Cornulier (1983) read French should not really be important, for although de Cornulier usually writes in French, this time he writes in English, and the journal is the *Journal of Pragmatics*, widely available in libraries across the globe.

(vii) I plead guilty to rediscovering the Horn–Noordman–de Cornulier account yet once more, in van der Auwera (1990). This rediscovery has anecdotal value only, for it remained unpublished and by the time this paper got written up (in van der Auwera, 1994), I had learned of at least some of the account's ancestry.

(viii) Another partial explanation for why the ideas in Horn (1972), Noordman (1979) and de Cornulier (1983) remained unappreciated was that in 1981 an alternative account appeared, in English, authored by Atlas and Levinson, two Anglo-American protagonists in the field of pragmatics, and supported by the textbook authority of Levinson (1984). This account won over two supporters of the Horn–Noordman–de Cornulier view, viz. Horn himself (Horn, 1984, 1989) and Mazzoleni (1994). Previous to van der Auwera (1994) and Matsumoto (1995), there was no attempt on either side to rebut the alternative account.

(ix) Further elements, of a very general nature, that help to explain the conditional perfection episode in later 20th-century semantics and pragmatics include (a) the fact that all linguists suffer from limitations of time (even if one is free from the 'publish or perish' threat), linguistic limitations (not everyone easily reads French) or financial limitations (not everyone's library contains the necessary books and journals), (b) the 'introspectivity danger', luring students of meaning into believing that each has sufficient access to data (viz. intuitions about meaning) and that inspection of

other investigators' views would thus become less urgent, and (c) there is no database that when questioned about 'conditional perfection' generates List 1, let alone Fig. 1. To illustrate the problem, the *Comprehensive Bibliography of Pragmatics* (Nuyts and Verschueren, 1987) gives only Geis and Zwicky (1971a) and Boër and Lycan (1973).

The story of conditional perfection is not one of normal science in Kuhn's (1962) sense: it is not a matter of accumulating knowledge when phenomena and ideas show a sequence of neglect and rediscovery. Neither are we dealing with Kuhn's revolutions. If it is neither normal nor revolutionary science, what is it then? In the ideal world, linguists keep up with the literature in more than just English, and they have a database allowing them to locate previous analyses, thereby preventing rediscoveries and forcing them to refute at least the interesting old analyses before introducing new ones. The case of twenty-five years of work on and around conditional perfection shows that the ideal world is still far off.

It is impossible to say to what extent elements of the story of conditional perfection research are typical of latter-day semantics and pragmatics in general. I strongly suspect that the answer is not flattering.

Despite everything, I can end my ruminations in an optimistic vein. It is striking that it is only the account which I take to be the correct one which after its discovery was rediscovered at least three times. In the experimental sciences, one demands to be able to repeat an experiment and if a second, third, and fourth investigation independently reaches the same conclusion, the hypothesis is strenghtened. For explaining conditional perfection, one cannot do any experiments, yet we do here witness four investigators independently reaching the same conclusion. It seems to me that this constitutes circumstantial evidence for at least taking the account seriously.

References

Table 1 +

Demjankov, V.Z., 1982. Tetradi novyx terminov # 39. Anglo-Russkie terminy po prikladnoj lingvistike i avtomatičeskoj pererabotke teksta. Vypusk 2. Metody analiza teksta [Notebooks of new terms. English and Russian terms on applied linguistics and automatic text processing. Volume 2. Methods of text analysis]. Moskva: Akademija Nauk.

Fauconnier, Gilles, 1976. Remarque sur la théorie des phénomènes scalaires. Semantikos 1: 13–36.

Grice, H. Paul, 1975. Logic and conversation. In: Peter Cole and Jerry L. Morgan, eds., Syntax and semantics, Vol. 9: Pragmatics, 41–58. New York: Academic Press.

Haspelmath, Martin and Ekkehard König, 1995. Concessive conditionals in the languages of Europe. To appear in: Johan van der Auwera with Dónall P. Ó Baoill, ed., Adverbial constructions in the languages of Europe. Berlin: Mouton.

Horn, Laurence R., 1990. Hamburgers and truth: Why Gricean explanation is Gricean. In: Kira Hall, Jean-Pierre König, Michael Meacham, Sondra Reinman and Laural A. Sutton, eds., Proceedings of the Sixteenth Annual Meeting of the Berkeley Linguistics Society, 454–471. Berkeley, CA: Berkeley Linguistics Society.

Horn, Laurence R., 1996. Exclusive company: *Only* and the dynamics of vertical inference. To appear in: Journal of Semantics.

Kuhn, Thomas S., 1962. The structure of scientific revolutions. Chicago, IL: The University of Chicago Press.
Nuyts, Jan and Jef Verschueren, eds., 1987. A comprehensive bibliography of pragmatics. 4 volumes. Amsterdam: Benjamins.
van der Auwera, Johan, 1985a. Language and logic. Amsterdam: Benjamins.
van der Auwera, Johan, 1985b. *Only if*. Logique et Analyse 28: 61–74.