Bulletin of the *Transilvania* University of Braşov
Series IV: Philology and Cultural Studies • Vol. 6 (55) No.1 - 2013

PERSPECTIVES ON CONDITIONALITY

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Abstract: *Conditionality is a complex notion as its analysis often requires adopting an interdisciplinary approach. This paper discusses the concept of conditionality from a threefold perspective, philosophical logical, psychological and linguistic, putting forth some of its most influential theories. We also explore the main differences between logical connective if and linguistic marker of conditionality if as well as other aspects of linguistic analysis and argue that an adequate theory of conditionals cannot be single-framework as it should account for the various aspects of the interpretation of these constructions.*

Key words: *conditionality, interdisciplinarity, theories of conditionals.*

1. Conditionality – a threefold perspective

While it is unanimously accepted that the concept of conditionality is in many ways central to human thought and action, the nature of this human ability to think conditional thoughts and to make conditional judgements is a highly controversial subject in fields such as philosophy, logic, psychology or linguistics. Conditionals play a central role in people's everyday thinking about the world as well as in deliberating about appropriate future action, in fact, "much of our inference from evidence is naturally cast in conditional form" (Sanford 2003: 4).

Conditional sentences, whose broadest syntactic frame is illustrated by the [if *p*, *q*] structure, have received extensive theoretical attention even since antiquity. While philosophers have long been puzzling about conditional reasoning, it's only in the last century that logicians, psychologists or linguists joined in.

However, these scientific disciplines have been developing their theories rather independently, fundamentally due to the fact that the goals pursued, methods and data they based their research on are different in each case.

Philosophers are interested in reason and conditionals are of central importance in reasoning. They are interested in how thought relates to the world and, as thought is normally expressible in language, they study how language relates to the world.

Logicians, studying the formal behaviour of artificial languages, add up to all that an abstract formal system of conditionals relying for interpretation on truth conditions and information conditions thus

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presenting us with some of the tools for the analysis of natural languages as it is common knowledge that any study of the semantics of natural language, particularly that of conditional sentences, will at some point rely on or refer to logical issues.

Linguists and psychologists focus on how things are implemented, in grammar and in the mind, respectively, as well as on how they work in detail, that is, how conditional sentences come to mean what they mean compositionally and how speakers who are not trained in formal logic use and interpret them.

Furthermore, as part of the psychological perspective, studies of language acquisition, dealing with the analysis of child language or language acquisition in children, provide valuable data concerning the universal character of grammar or prototypical conditional structures, namely concerning their basic components and the interaction between these and the way in which linguistic form is projected against semantic function.

Despite the salutary existence of some interdisciplinary work on conditionals such as Traugott et al. (1986), among others, quite remarkable in their attempt at combining the different perspectives and suggesting some possible new lines of research, the tradition of philosophical logic, psychology and linguistics will continue their development independently of each other which is, in fact, "inevitable and to some extent to be desired" (Traugott et al. 1986: 4).

2. Some theories of conditionals

In this chapter, we'll put forth some of the most influential theories in the literature on conditionals:

The material conditional is practically the earliest treatment of conditionals and it has also been called the truth functional conditional, now to be found in every logic book. This approach corresponds to the logical notion of material implication: "*the truth value* i.e. the truth or falsity of the material conditional is fully determined by (…) the truth or falsity of its component propositions. Where "if *p*, then *q*" is a material condition, it is false when we have *p* true and *q* false and otherwise it is true." (Evans and Over 2004:13). The semantics of the material conditional is given entirely by its truth table shown below:

p	**q**	**p → q**
T	T	T
T	F	F
F	T	T
F	F	T

However, throughout literature the failure of this theory as a representation of the semantics of conditionals as a whole has been widely acknowledged since "it simply does not account for much basic data about truth-value judgements of conditionals" (Rothchild 2011:10). As well as being generally dismissed, especially in linguistic work, for disregarding what Stalnaker (1968:100) refers to as "the idea of *connection* which is implicit in an *if-then* statement", material implication presents, in point of the match between the formal analysis and the natural language data it might be thought to cover, the shortcoming that disbelief in the antecedent should result in a proportionate willingness to believe [if *p*, *q*], no matter what the consequent might be, because as soon as the antecedent is false, material implication makes the conditional true no

matter what the consequent is, which clearly does not correspond to the actual behaviour of language users (von Fintel 2011b: 1520).

A more broadly accepted theory of conditionals in the classical philosophical tradition is *the possible worlds approach* which has been developed, in one of its most popular versions, by Stalnaker (1968). Roughly, this analysis, rather than considering [if *p*, *q*] true if *q* is true in *all* worlds in which *p* is true, it selects from the worlds in which *p* is true those that are most similar to the evaluation world and claims that only those most similar *p*-worlds are *q*-worlds. As Stalnaker himself explains it (1968:102) "consider a possible world in which A is true, and which otherwise differs minimally from the actual world. *If A, then B* is true (false) just in case B is true (false) in that possible world." Consequently, according to Stalnaker (idem), this is how we evaluate a conditional: "First, add the antecedent (hypothetically) to your stock of beliefs; second, make whatever adjustments are required to maintain consistency (without modifying the hypothetical belief in the antecedent); finally, consider whether or not the consequent is now true. "

Conditional sentences have traditionally been divided into two categories usually labeled *indicative* and *subjunctive* or *counterfactual*. These two kinds are illustrated in the well-known Adams Oswald/Kennedy minimal pair (in von Fintel 2011a, 2011b): (1) *If Oswald didn't kill Kennedy, someone else did* and (2) *If Oswald hadn't killed Kennedy, someone else would have.* It is clear that the two conditionals differ in meaning: the conditional in (1) is generally interpreted as true and (2) as false. Among philosophers and logicians it is very commonly held that, based on the significant semantic contrast between the two kinds, different approaches are appropriate since it has been a matter of dispute whether a unified theory of conditionals can account for both indicatives and counterfactuals. However, there has been some controversy about how to make the distinction, what kind of account is appropriate for each type. In any case, we can say that, in the vast literature on conditionals, most commonly, indicative conditionals have been associated with the material conditional of propositional logic whereas possible worlds semantics has been argued to be the dominant approach to the analysis of counterfactuals.

Dancygier (1998:15-17), discussing the famous Adams pair, argues that many logical accounts of conditionals have failed to see how conditional interpretations are rooted in the speaker's and hearer's beliefs. For this particular demonstration, she resorts to Smith and Smith's relevant theoretic account of conditionals to point out that, if processed against a different set of assumptions than those in standard analyses, (1) may become false (if the hearer still believes Kennedy to be still alive) and (2) true (if the hearer believes that Oswald participated in a conspiracy of assassins). Faithful to the linguistic tradition, Dancygier insists that treating *if* solely as a logical connective will not lead us to the answers/solutions that the different questions/paradoxes of the different theories of conditionals may arise.

An approach to the semantics of conditionals in linguistics, this time, is the so called *restrictor analysis* which seems to be a radical rethinking of the

compositional structure of conditional sentences rather than an alternative account of the theories discussed so far (von Fintel 2011b: 1527).

This view is originally due to Lewis and was extended in work especially by Kratzer (in Rothchild 2011: 5). Lewis argued that in a sentence like (3) *Usually, if Mary is here, she is angry*, where a conditional is embedded under an adverb of quantification, "usually" doesn't function as a quantifier over times or situations and "if" doesn't function, as in logic, as a connective that joins together the sentences "Mary is here" and "she is angry" to produce some complex sentence which itself is true relative to different situations, but, rather the entire *if*-clause, "if Mary is here", acts as a restrictor on the quantification over times or situations. Consequently, (3) can be paraphrased as (4) *Most situations in which Mary is here are situations in which she is angry*. Thus, the function of *if* in sentences like (3) is simply to mark the fact that "Mary is here" is a restrictor of the situational quantifier "usually". The *if*-clause adds no conditional meaning of its own to the construction, the semantic contribution of *if* is simply to mark the fact that the material following it serves as part of the restrictor. So, basically, the idea is that the only "conditional" operator in the structure is the adverb while *if* merely serves to introduce a restriction to that operator (in Rothchild 2011: 5-6; Fintel 2011b: 1527-1528).

Kratzer showed the analysis can be expanded very widely, making her point very clear: "The history of the conditional is the story of a syntactic mistake. There is no two-place *if . . . then* connective in the logical forms for natural languages. *If*-clauses are devices for restricting the domains of various operators. Whenever there is no explicit operator, we have to posit one" (in von Fintel 2007: 16; 2011b: 1528).

Other interesting linguistic theories that address specific uses or interpretations of conditionals will be given some brief consideration in the following lines:

Conditional Perfection (*CP*) is a central issue in the pragmatics of conditionals and it defines the tendency among ordinary speakers to interpret *if* as meaning *only if*. So, basically, according to this view, a conditional sentence such as (5) *If you mow the lawn, I'll give you five dollars* is often taken to mean not only its literal meaning, but also (6) *If you don't mow the lawn, I won't give you five dollars* and will equally "invite the inference" (cf. Geis and Zwicky 1971) of (7) *Only if you mow the lawn, I'll give you five dollars* or (8) *If and only if you mow the lawn, I'll give you five dollars* (in van der Auwera 1997: 262).

Conditionals as definite descriptions, a theory defended by Schein, Schlenker and Bhatt & Pancheva (in von Fintel 2011b: 1529), explores an alternative to the restrictor analysis that gives *if* a more substantial role to play. Basically, it suggests that *if* should be seen as the form taken by the word *the* when it is applied to a description of possible worlds. This theory points out a series of syntactic and semantic ways in which *if* -clauses behave similar to definite descriptions, particularly, free relatives.

Conditionals are topics, according to Haiman (1978), who argues that a review of analyses of conditionals (in the philosophical literature) and of *topics* (primarily in linguistics) reveals that, in fact, their definitions are very similar and

that it is possible to motivate revisions to these definitions by which they become virtually identical. Conditionals, like *topics*, are *givens* which constitute the frame of reference with respect to which the main clause is either true (if a proposition), or felicitous (if not).

3. Conditionality in linguistics

Discussing philosophical contributions to the study of conditionality, Edgington (2011: 32) argues that "none of the main theories of conditionals is incoherent. All are possible ways in which speakers and thinkers could use *if*. It is an empirical question which theory fits our practice best." Indeed, as previously discussed, the tools and goals that best fit the practice of the linguist are quite different from those of logicians or philosophers. As pointed out throughout linguistic approaches to conditionals, the implication to which a linguistic conditional construction introduced by *if* gives rise is different from that of the logical connective *if.*

While the semantics of the conditional in logic is given entirely by its truth table shown above, a conditional construction introduced by *if* in natural language, as pointed out by Rodriguez Rosique (2008: 77-78), couldn't possibly express the second and third values, that is, we cannot have a true protasis and a false apodosis or the other way round. Consequently, the protasis of a linguistic conditional construction should be understood as a framework of reference for the apodosis, so if one is true, the other one has to be also true, like in (9) *If it doesn't rain, we'll go swimming* or if one is false, the other one has to be false, too, like in (10) *If she is clever, I'm Einstein.*

As previously discussed, *material implication* has long been considered an inadequate representation of the semantics of conditionals not only because of its failure to become a convincing account of all conditionals, but also because of its main "paradox" of making a conditional true not only when both clauses are true, but also when the antecedent is false, which clearly does not correspond to the actual behaviour of language users. For example, a sentence like (5) above, as Dancygier (1998: 15) notes, is never interpreted to mean that failure to mow the lawn will also result in the addressee getting the money, though such an interpretation is logically correct. In actual communication, the sentence will be interpreted in such a way that only mowing will be paid for.

In fact, contrary to what happens with the logical connective *if*, linguistic marker of conditionality *if* establishes a sort of semantic relation between the two members of the conditional construction which has normally been interpreted as causal. Thus, a sentence like (11) *If the weather is fine, we shall go for a walk,* in Podlesskaya's (2001: 1000) cross-linguistic analysis of conditionals, receives a correct interpretation because of the general experience that fine weather can naturally be connected with going for a walk.

This presupposed correlation between the protasis and the apodosis in natural language conditionals does not carry over to material implication as the author exemplifies (idem) with these two sentences, taken from Comrie and Akasutka, respectively: (12) *If Paris is the capital of France, two is an even number* and (13) *If Confucius was born in Texas,*

I'm Dracula. In (12), a logically indisputable conditional with a true protasis and a true apodosis appears linguistically unacceptable since a causal relation cannot be established between the two clauses. In (13), while both *p* and *q* are false, which, according to the truth table, makes the conditional as a whole true, the actual interpretation in discourse imposes a correlation between the degree of absurdity in the protasis and the degree of absurdity in the apodosis (the claim that Confucius was born in Texas is as absurd as the claim that the speaker is Dracula).

Furthermore, it is precisely such semantic relations between *p* and *q* that allow us to explain how conditional constructions in natural language can receive a CP reading. This pragmatic value by means of which a conditional is "perfected" into a biconditional (i.e. *if and only if* sentence) cannot be explained from a logical perspective (Rodriguez Rosique 2008: 78).

Also, it has been admitted in linguistic studies that not only *material implication*, even pragmatically enriched (see Dancygier: 15-16), but more broadly accepted theories of conditionals, such as *possible worlds*, are generally dismissed for focusing on "the truth - conditional meaning of conditional sentences, practically disregarding differences in linguistic form" (Dancygier 1998: 2).

When defining and classifying conditionals, linguistic analysis considers various aspects which are basically different from philosophical accounts, illustrating the complex nature of these constructions. Verb forms are a primary focus, but, contrary to the philosophical logic tradition which distinguishes between two types, indicative and subjunctive, linguistic accounts acknowledge (especially in some recent work, such as Dancygier 1998 and Montolio 1999, among others) that time reference in conditionals is more varied than it has generally been considered to be and that it is not completely linked to the verb forms used.

Another aspect of linguistic analysis which is disregarded in logical accounts is the contribution to the overall interpretation of conditional constructions of other conditional conjunctions or other formal elements added to the canonical form [if p, q], such as *if*-compounds (*only if, even if*) and apodosis marker *then*.

Also, in accounting for important aspects of conditional interpretations, one should acknowledge the importance of inference and context (cf. Dancygier 1998; Gauker 2005) because, as Evans and Over (2004: 6) note, "we are not going to get very far in our quest to understand the use of *if* in everyday discourse without consideration of the pragmatic level". And, indeed, the study of conditionals in discourse illustrates yet another difference between the goals pursued by linguistic analysis and classical philosophical logic approaches. In this respect, the relation between clause order in conditionals and discourse functions or the uses of conditionals in different genres, spoken or written texts are bound to add valuable data to overall conditional interpretation.

Finally, equally important in the linguistic approach to conditionals is providing linguistic universals based on the analysis of data from a variety of languages (even typologically different) as well as explaining their interaction with related domains (causals, temporals or concessives).

4. Concluding remarks

The concept of conditionality, as has hopefully emerged from this article, is most complex. However, the different theories, philosophical logical or even the more specific linguistic ones discussed in chapter 2, despite their obvious contribution to our understanding of the nature of conditionality, have not been able to account for all the various aspects of conditional interpretation and, consequently, have not led to what has been the yet unfulfilled goal of many such theories - a unified theory of conditionals. In order to achieve such a unified theory of conditionals with linguistic validity, conditionals should be treated as "wholes" (cf. Dancygier: 17), giving equal consideration to all these different aspects of their interpretation referred to above. Also, such a unified theory cannot be single -framework - as most theories discussed actually are -, it should adopt an interdisciplinary view combining grammatical, logical, cognitive, semantic or pragmatic analyses. Conditionals clearly require such an interdisciplinary approach, because, as Traugott et al. (1986: 8) point out, these grammatical constructions, not only describe relations between situations expressed in propositions but also situations between speakers.

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