Towards an explicit model of *Common Ground*: Implications for information structure

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Although most approaches to information structure emphasise that it is impossible to explain most related phenomena without taking into account *Common Ground* (CG), in practice few attempts have been made to reach a testable model of CG. Such a model would significantly increase the descriptive adequacy and psychological plausibility of theories of information structure.

As a typical example, consider the commonly accepted definition of *focus* as a means of "evoking alternatives" (Rooth 1996: 276). Although elaborate formalisms have been created in order to model the integration of focus into logical representations, the question of how the set of alternatives can be restricted remains problematic. This problem disappears if we assume that the set of alternatives is a product of contextual processes (thus given in CG) rather than a semantic effect of the sentence under consideration. Or, as Rooth (1996: 279) puts it: "(…) focus interpretation introduces a variable which, like other free variables, needs to find an antecedent or be given a pragmatically constructed value".

In order to describe those processes in an exact way, an explicit CG theory is required. This paper wants to make a contribution to such a model, based on *Relevance Theory* (RT, Sperber/Wilson 1996; Wilson/Sperber 2012). We make use of Sperber/Wilson's (1996) notion of *mutual cognitive environment*. In a mutual cognitive environment, the speaker forms hypotheses about the degree to which the hearer is able to mentally represent an assumption and holding it as a true or probably true at a given moment. The notion of a mutual cognitive environment is thus related to recent psycholinguistic approaches such as *interactive alignment theory* (Pickering/Garrod 2004): in order to achieve maximal relevance in conversation, the interlocutors make an unconscious effort to align their mental models.

A mutual cognitive environment consists of a set of assumptions contained in the mental models of both the speaker and the hearer. Our model of CG thus satisfies the claim made by Jacobs (2001: 650-651) that "the speaker-hearer knowledge at a given moment in the conversation can be viewed as a set of propositions that represents the relevant assumptions that the speaker and the hearer share at that moment". However, such a set should have a high degree of interior organization, or, in Jacobs' terms, "the speaker-hearer knowledge seems to have more internal structure than a set of propositions" (Jacobs 2001: 651). In RT, the internal structure of sets of assumptions is described in terms of the scalar notion of *manifestness* of an assumption, specifying in particular a set of currently activated assumptions (stemming from previous knowledge, from actual perception, from linguistic input and from inference), called *context*. The relevance of an utterance is then measured in terms of the quantity of assumptions concerned by the utterance within this context (elimination, confirmation, strengthening, implication of assumptions). If relevance is not achieved in this initial context, the interlocutor needs to update her mental model, i.e. extend the context by "adding to it assumptions used or derived in previous deductive processes" (Sperber/Wilson 1996: 140). In other words, the relevance of an utterance is a function of the hierarchical order of accessible contexts in their hearer's CG.

Such a hierarchy of manifestness and actualization of assumptions (or propositions contained in the CG) allows for a definition of the set of alternatives that focus works on and of the effects that focus has on this set. Focus can be shown not to "evoke alternatives". Rather, we could say that the set of manifest assumptions activated by the previous discourse contains alternative assumptions competing among each other for assertability. *Focus* is the element of an utterance that is distinctive of one of these alternatives. The contextual effects achieved by the use of focus can thus be described as a strengthening of one of these assumptions, and the elimination of false assumptions. In contrast to comparable formulations of focus in theories of dynamic semantics such as DRT (as, for instance, in Von Heusinger

2004), this theory of Common Ground allows us to capture the fact that focus not necessarily answers to assumptions that are explicit in the discourse.

This approach further allows for defining the function of *topic* in a less metaphorical way than terms like *link* (Vallduví 1992), *anchor* (Ward/Birner 2001) or *file card* (Reinhart 1982), namely as an act of activating a set of assumptions from the CG, moving it to the "context". Finally, information-structural functions like *frame-setting/contrastive topic* can be described as a process of pre-selecting a set of assumptions for the final selection made by the focus.

This brief discussion of the implications of an explicit model of CG for informations structure suggests that in terms of Krifka's (2007) division between *Common Ground Management* and *Common Ground Content*, our model emphasises the importance of Common Ground Management as a factor in the analysis of information structure. In addition, we want to explore if an RT-based model of CG has explanatory power for other issues such as the resolution of implicatures, the description of definiteness and discourse particles, etc. Given that quantitative definition of relevance allows for an experimental approach to measuring relevance (Van der Henst/Sperber 2004; Noveck/Sperber 2007; Meibauer 2012), we will also identify possibilities for an experimental verification of our model.

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