Thematic Session proposal for a workshop on the concept of possibility and its morphological, syntactic and pragmatic realizations in natural language

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Patrick Duffley (Université Laval) & Olivier Duplâtre (Sorbonne Université)

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The ontological notions of potency (possibility) and act originate from Aristotle, who used them to conceptualize the mechanism of change (*Phys.* 184a 9-192b 5). In the Thomistic development of these concepts, potency is seen as limiting act by constituting a capacity for a definite actualization and not for unlimited being (e.g. the ability to ride a bicycle does not confer the ability to drive a car or to pilot an airplane). As observed by d'Irsay (1926: 410, 421), however, Aristotle does not distinguish clearly between ontological and logical possibility. This raises a couple of general questions: is the ontological vs. logical distinction relevant to linguistic analysis? If so, how is it best operationalized by linguists working on natural languages?

Within linguistics, possibility has been approached in different ways, but generally with circumspection. Palmer (1979: 8) treats it as constituting, along with necessity, the core of the category of modality. In Palmer (2001: 1-2), modality is defined as depicting the reality-status of the proposition in terms of some form of irrealis. This implies that the relation between possibility and irrealis needs to be explored. Mithun (1999: 173) draws a distinction between realis, which presents events as real, actualized or occurring, and irrealis, which presents them as not actualized or "purely within the realm of thought." Bybee (1998: 267) has criticized the notion of irrealis as being too inconsistent crosslinguistically to constitute a useful analytical category and very rarely attested in binary opposition to realis in the languages of the world. On the other hand, von Prince, Krajinović and Krifka (2022) have argued recently that "irrealis is real" and represents a crosslinguistically meaningful notion that can be properly understood if split into two domains – the possible and the counterfactual. They characterize these domains in terms of a branching time framework in which the possible is defined as the successor of the actual and the counterfactual as being neither actual nor possible. But isn't the successor of the actual the future and not the merely possible? And if possibility is a species belonging to the genus of irrealis, what is its relation to the other species belonging to this genus?

The ways in which the notion of possibility is expressed in natural language are extremely diverse. In Indo-European languages it is typically conveyed by verbs like *can* or adverbs like *perhaps*. Japanese has not only verbs and adverbs but also final particles and interjections. Turkic languages use affixes (Johanson 2009). Russian has recourse to adjectives. Tags like *I think* may also express possibility, as in Toc Pisin (see Keesing 1988). In many European languages, possibility is expressed by dedicated adverbs with specific suffixes: *-ly* (English),*-erweise* (German), *-ment(e)* (Romance), etc. The meaning of these adverbs is distinguished from purported synonymous expressions (e.g. *It is possible that*) in that they convey the speaker's position, whereas *it is possible that* does not (Hengeveld

1988). Modal adverbs have been claimed to constitute a predicate that does not scope over the proposition but rather over the truth of the proposition (Bellert 1977; Ernst 2002). Possibility can therefore pertain either to objective modality, in which the speaker effaces himself as much as possible, or to subjective modality, in which the speaker explicitly expresses his stance towards the propositional content (Dik 1997). It remains to be seen whether this dichotomy can be applied to languages such as Mohawk which do not have adverbs but express possibility using particles or matrix verbs (Mithun 1999).

Modal adverbs expressing dynamic possibility occupy a specific place in Cinque (1999)'s functional hierarchy (Mod possibility) and are clearly distinguished from adverbs such as *probably* (Mod epistemic) and *perhaps* (Mod irrealis). However, few studies have been done to test this model. On the other hand, much attention has been devoted to weak epistemic adverbs and the notion of possibility: in English, *perhaps* has been the subject of a number of studies (e.g. Doherty 1987, Suzuki 2018, Rozumko 2022) and has been compared to *conceivably* by Suzuki/Fujiwara (2017); the relationship between *possibly* and modal verbs has been explored by Hoye (1997). One basic question nevertheless needs to be answered: do all weak epistemic adverbs express the notion of possibility? Or do they express it only partially or under certain conditions? A number of other questions also arise. Are *possibly* and its equivalents in other languages (e.g. Fr. *possiblement*, It. *possibilmente*, Ger. *möglicherweise*, *womöglich*) the archetypical expressions of possibility? Can words that are etymologically linked to the notions of potentiality (Eng. *potentially*, Fr. *potentiellement*) or eventuality (Fr. *éventuellement*, Ger. *eventuell*) express possibility as well? If so, how are they to be distinguished from other weak epistemic adverbs? Would it make sense to contrast non-factuality and possibility (Pietrandrea 2007) so as to establish two classes of weak adverbs? Do certain terms (Fr. *peut-être*, Ger. *vielleicht*, etc.) function to block an assertion or are they rather a means of asserting a hypothesis (see Modicom 2016)? Finally, could weak epistemic adverbs be a means of linguistically defining the notion of possibility?

In the verbal domain, the possible worlds model has been used by Kripke (1959, 1972) to distinguish the notions of possibility and necessity by mobilizing the distinction between existential and universal quantification. Possibility is defined via existential quantification, as the case where a proposition is true in at least one but not all possible worlds; necessity is defined by universal quantification, as representing a proposition as true in all possible worlds. One may wonder however whether the distinction between *She may be at work* and *She must be at work* is adequately described by saying that the first is true in at least one and perhaps more but not all possible worlds, while the second is true in all such worlds. Kripke's definition of possibility could also be accused of being circular, as it employs the notion of 'possible worlds' in order to define the notion of 'possible'. In addition, it seems incapable of distinguishing between the two forms of possibility expressed by the modal auxiliaries *can* and *may* in English. The peculiar meaning of epistemic *may* in a use such as *She may be at work* has been characterized by van der Auwera (2001: 28-31) as 'POSS (NOT P)'. In contrast, following Aristotle, he defines the standard notion of possibility ('POSS P') in terms of necessity, as 'NOT NEC (NOT P)'. None of these glosses corresponds however to the meaning expressed by *may* in uses such as *You may go to the washroom now* or *Enrollment information may be found on the Faculty website*, nor to the use of *can* in *She can swim*. This casts doubt on their adequacy as tools for describing the

meanings of these modals in a manner that respects their natural semantic unity. But what tools do we need to achieve this type of description and to handle differences such as that between *can* and *may*?

Kratzer (1991) has added to the modal toolkit the notions of ordering source and modal base. The ordering source is the set of propositions that represents the normal course of events in a given possible world. The modal base is the set of propositions which forms the basis of the evaluation that a given modality obtains, the result of this evaluation being termed the modal force (e.g. 'possible'/'necessary'). Thus *John can open a beer bottle with his teeth* is analyzed as 'Given his abilities, the strength of his teeth, etc., it is possible for John to open a beer bottle with his teeth.' While this framework specifies the setting in which possibility is embedded, one may wonder what it says about the definition of possibility itself. Moreover, it seems to offer no means for distinguishing between the uses of *may* vs. *can* to express permission (*You may/can go to the washroom*): both would be paraphrased as 'Given the fact that the relevant authority-figure has granted permission, it is possible for you to go to the washroom.' Are other models able to capture this difference?

There is also a relation between possibility and negation. Russell (1919) has argued that negation relies on the notion of possibility and that the denial of a proposition assumes the possibility of its truth. In the framework of his tense logic, Prior (1967) maintains similarly that negation presupposes the existence of alternative possibilities in the future or past. However, is that all there is to the relation between possibility and negation? How is it that one can negate a possibility, as in *She can't swim*? Does this involve conceiving the possibility of a possibility? Might this have something to do with the different loci of negation in *I didn't dare to interrupt him* and *I dared not interrupt him* (see Duffley 1994)? And why does it seem that one cannot negate epistemic *may* (*She may not be at work* ≠ 'it is not possible that she is at work')? If, as claimed by van der Auwera (2001), the meaning of *may* in *She may be at work* is 'POSS (NOT P)' and so already contains NOT, where does the negation expressed by *not* apply in *She may not be at work*?

We invite any and all proposals concerning the concept of possibility, its definition, its morphological, syntactic and pragmatic realizations in any language, its interaction with negation, whether it be a cross-linguistic study or one devoted only to a particular language. All theoretical frameworks are welcome.

Please submit your proposal before November 15th to both Patrick.Duffley@lli.ulaval.ca and olivier-duplatre@wanadoo.fr

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