## Mysteries of the future

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Tenseless languages are by definition languages whose grammars do not express the ordering relation between utterance time and 'topic time', the time with respect to which an utterance performs a speech act (Klein 1994). Nevertheless, it appears that the grammars of most (if not all; a possible exception is Riau Indonesian (Gil 1994)) tenseless languages impose constraints on future time reference (FTR). This paper compares a few such systems that have been studied in detail, with the goal of discovering and theorizing the strongest valid generalizations.

Two types of constraints will be discussed. On the one hand, there are languages such as Yucatec (Mayan, Mexico and Belize; Bohnemeyer 1998, 2002, 2009), which bar perfective aspect from most FTR contexts, but allow non-perfective clauses with future topic times. Mandarin (Li & Thompson 1989; Lin 2006; Xiao & McEnery 2004) will be argued to implement the same constraint, albeit with slightly different consequences, which may be due to semantic differences in the perfective aspect markers. On the other hand, there is the case of Kalaallisut (or West Greenlandic; Bittner 2005, ms.), which has been claimed to disallow future topic times entirely with assertions. Two languages with traits that combine properties of the two basic types are Ewe (Gbe, Ghana and Togo; Essegbey 1999) and Paraguayan Guaraní (Tonhauser 2011, 2012).

An analysis is sketched based on the situation-theoretical framework of Ginzburg & Sag (2000) and Ginzburg (2012). A subclassification of assertoric speech acts into three types is proposed: assertions about past and present topic times, which are made true by facts; generic statements; and predictions. It is argued that predictions do not operate on future facts, but rather on 'outcomes', abstract objects that describe the evolution of situations (Ginzburg & Sag 2000: 79-80; 98).

The motivation for the dichotomy between assertions in the narrow sense and predictions is proposed to be their different epistemological underpinnings. Assertions about present or past situations are grounded in what the speaker purports to believe to know about these situations. States of knowledge concerning a given situation are causally linked to that situation (Gettier 1963; Kratzer 2002). Accordingly, there can be no direct factual knowledge of future situations. The best available knowledge about future situations links them to present or past situations via outcomes.

Against this backdrop, Yucatec-style constraints that bar perfective clauses from most FTR contexts can be motivated with reference to perfective declaratives being the sole semantic clause type (aside from generic statements) that makes at-issue factual claims. When predictive speech acts are applied to perfectives, a type mismatch results. However, non-perfective clauses are perfectly fine with future topic times in Yucatec. It is argued that predictions about states have distinct properties from predictions about events: they do not require an at-issue commitment to the existence of the state, but merely to its holding at topic time.

In Kalaallisut, declaratives with future topic times are avoided altogether, suggesting that the so-called Declarative and Factual moods of this language are

incompatible with the speech act of prediction. It appears that the language's system ecology has responded to this situation by evolving a conventionalized practice of indirect predictions operating on outcomes of present and past topic situation.

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