Modal comparatives: a cross-linguistic picture

Recent research on epistemic modals and evidentials has made headway in analyzing assertions with various provisos on speaker's certainty (Davis, Potts and Speas 2008, Barker 2009, Fintel and Gillies 2010, Lassiter 2016). We use these advances to address a rarely discussed class of clausal modal comparatives that use temporal adverbs, such as the Romanian *mai degrabă* 'sooner/rather' (lit. 'more early'), as in (1). In these structures, the speaker compares two propositions p = 'John is at home' and q = 'John is in the office' and asserts that she is more willing to believe p than q.

(1) Ion este   **mai de-grabă** acasă decât la birou.   *Romanian*
John be-3.PRES.INDIC.SG more ADV-early home than at office
= 'According to the speaker, it is more plausible that John is at home than that he is in the office.'

The contribution of our investigation is two-fold. Empirically, the paper extends the scope of inquiry into modal comparatives. We make novel observations about their cross-linguistic distribution and account for it using general principles of UG and independently existing phenomena. Theoretically, the paper further contributes an argument in favor of treating a world argument as a syntactically visible entity that can come in (at least) bound and indexical varieties, assimilating it to pronouns and times (e.g. Speas 2004).

I. MODAL COMPARATIVES CROSS-LINGUISTICALLY. Recent interest in modal comparatives has been limited to semantic accounts of German (von Fintel and Kratzer 2014, Herburger and Rubinstein 2014) and Russian (Goncharov 2014). The Romanian example in (1) is morpho-syntactically and semantically similar to modal comparatives in these languages. However, a cross-linguistic investigation indicates that the picture is more complex. Leaving aside languages of the English type, where temporal adverbs, such as *sooner* (or *rather*), cannot be used in modal comparatives with epistemic reading (see 2), we make two novel observations:

(A) *There are* i) *languages that allow modal comparatives with* simple indicative present – *see German (3), etc. (Type I), and* ii) *languages that cannot use the indicative present, like Italian (Type II).*

(B) *The Italian-type (Type II) languages instead require overt* modal support, *expressed by the future, conditional, or (less frequently) imperfective morphology (as in 4).*

(2) *John is **sooner**/**rather** at home than in the office.   *English*
Intended: 'According to the speaker, it is more plausible that John is at home than in the office.'

(3) Hans ist **eher** auf der Arbeit als zu Hause.   *German*
Hans is sooner at the work than at home
'According to the speaker, it is more plausible that Hans is at work than at home'

(4) Gianni *è/√sarà/√sarebbe   a casa **piuttosto** che in ufficio.   *Italian*
Gianni is/be.FUT.3.SG/be.COND.PRES.3.SG at home rather   than in office
'According to the speaker, it is more plausible that Gianni is at home than in the office.'

Based on data from three language families (Romance, Germanic, Slavic), we propose that this split correlates with the presence of indexical present (PRES^{INDX}, see Sharvit 2003, 2008) in the language, as detected by the sequence of tense phenomena (SOT). The unidirectional correlation obtained is as in (5).

(5) **Modal comparative correlation**
SOT languages do not allow modal comparatives with simple indicative present.

As illustrated in the table below, all non-SOT languages investigated permit modal comparatives with the indicative present. In languages where SOT is active, modal comparatives (based on temporal adverbs) must either use modal support (FUT, COND, etc.), or are not possible at all.

Language	**MODAL COMPARATIVE**		SOT	Non-SOT
	Type I – *present indicative*	Type II- *modal support*		
German	√			√
English			√	
Romanian	√			√
Italian		√	√	
Spanish		√	√	
French		√	√	
Russian	√			√
Bulgarian	√			√
Slovenian	√ (?)			√

II. ANALYSIS. Following Herburger and Rubinstein's (2014) analysis of German *eher* 'sooner/rather', we assume that the modal comparative head consists of an epistemic component (EPIST) and a comparative morpheme *–er*. (6) is an abstract LF structure for modal comparatives:

(6) [[*-er* [(than) EPIST [PRES [~~John be~~ at office]]]] [EPIST [PRES [John be at home]]]]

We assume that EPIST is quantificational – it supplies an epistemic modal base and carries an 'indirectness presupposition' requiring that both *p* and *q* not be directly settled by the speaker's knowledge (e.g. von Fintel and Gilles 2010). Being quantificational, EPIST must respect the ban on vacuous quantification, i.e. to be well-formed EPIST must bind a world-variable in its scope. We argue that this well-formedness condition is fulfilled in Type I languages. But it is violated in Type II languages resulting in the unavailability of modal comparatives with simple indicative present. We further build on Sharvit's (2003, 2008) account of the SOT phenomenon, and the *Embeddability Principle*. This principle requires that all well-formed sentences be able to be embedded with a simultaneous interpretation, a process which is achieved via binding of the time variable (informally). In non-SOT languages, PRES can be bound allowing the simultaneous reading (see 7). In SOT languages, PRES is indexical (set by the context to overlap with the utterance time), thus cannot be bound, making the simultaneous reading unavailable (8a). The SOT rule rescues the structure by deleting an embedded PAST feature under agreement and creating the relevant configuration for binding (see 8b).

(7) <u>non-SOT</u>: [PAST [John [say [λ_1 [PRES$_1$ [Mary be here]]]]]] (simultaneous)

(8) <u>SOT</u>: a. [PAST [John [say [PRES$^{\text{INDX}}$ [Mary be here]]]]] (*simultaneous)

  b. [PAST [John [λ_1 [say [~~PAST~~$_1$ [Mary be here]]]]]] (simultaneous)

We extend this analysis by arguing that PRES also comes with a world argument (*w*). In Type I languages (Romanian, German, Russian, etc.) where PRES is non-indexical, the world-argument may be bound by EPIST (see 9). Therefore, modal comparatives are well-formed with the indicative present. In Type II languages (Italian, French, Spanish), the world-argument of PRES$^{\text{INDX}}$ is set by the context. As a result, EPIST quantifies vacuously resulting in the ungrammaticality of modal comparatives with the indicative present (10a). However, the structure can be rescued by the addition of overt modality, such as FUT (see 10b), further assuming Condoravdi (2003). We argue that PRES in the future construction is not indexical, i.e. it is not set by the context to the utterance time.

(9) <u>Type I</u>: [EPIST [λ_1 [PRES$_{<t,w>1}$ [John be home]]]]

(10) <u>Type II</u>: a. *[EPIST [PRES$^{\text{INDX}}$ [John be home]]]

  b. [EPIST [λ_1 [PRES$_{<t,w>1}$ [WOLL [John be home]]]]]

Finally, we explain an apparent counter-example to the correlation in (5) presented by Dutch. At first glance, the language might appear to only have PRES indexical (i.e., SOT), while allowing modal comparatives with the present indicative. However, when investigated in more detail, it becomes clear that Dutch 'SOT' is not of the canonical type. We suggest that *past-under-past* in Dutch is ambiguous between real past (that gives the anteriority reading) and subjunctive (that expresses the simultaneous reading). As the question whether Dutch is a true SOT language or uses a different mechanism to fulfill the *Embeddability Principle* is not set, the apparent counterexample does not hold.

III. CONCLUSION. We have analyzed a less studied modal comparative pattern, revealing not only a more refined cross-linguistic picture, but also proposing that the indicative/modal split can be accounted for using independent properties. We have put forward a correlation between modal comparatives and canonical SOT. The main assumption is that a similar principle to the one underlying the *Embeddability Principle* is at work with modal comparatives, once *indexicality* is taken into account. Another important claim we provided further support for is that the world (*w*) argument is syntactically present, contributing to well-formedness conditions.

SELECT REFERENCES. Sharvit, Y. 2003. Embedded tense and Universal Grammar. *LI* 34:669-681. **Sharvit**, Y. 2008. The puzzle of free indirect discourse. *Linguistics and Philosophy* 31: 353-395. **Davis**, C., **Potts**, C., and **Speas**, M. 2008. The pragmatic values of evidential sentences. *Proceedings of SALT 17*. von **Fintel**, K., and **Gillies**, A. 2010. Must…stay…strong. *Natural Language Semantics*. 18(4): 351-383. **Herburger,** E. and **Rubinstein,** A. 2014. Is 'more possible' more possible in German? *Proceedings of SALT* 24: 555-576.