A new argument for Small Clauses

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The raised small clause subject (SCS) in (1b)—in contrast to the subject of the infinitive in (1a)—must scope above the embedding verb (Williams 1983, Heycock 1995, Stowell 1991).

(1) *Given the fact that a seat is empty in our otherwise crowded classroom...*

a. A student seems to be sick today. $\exists \succ$ *seem; seem* $\succ \exists$

b. A student seems sick today. $\exists \succ$ *seem; *seem* $\succ \exists$

This contrast is generally thought to indicate that SCSs do not reconstruct (Johnson and Tomioka 1998; den Dikken 2008, a.o.). We will show that the generalization we inherit here from Williams is incomplete: a SCS *can* be interpreted inside the small clause (SC) in a narrow set of circumstances. These new facts support the suggestion of Sportiche (2005) that small clauses simply lack the functional structure that introduces quantification. They also confirm the existence of small clauses.

The central data: The SCSs in (2) take scope within the SC. (2a), for instance, can convey that: what seems to me is that in all worlds that satisfy some relevant needs, there is a fridge—but not necessarily the same fridge across those worlds where those needs are satisfied.

(2) a. A new fridge seems to me very necessary. *seem* $\succ$ *necessary* $\succ \exists$

b. Two more Green Party senators seem necessary. *seem* $\succ$ *necessary* $\succ$ *2*

c. Someone or other from France appears likely to win. *appear* $\succ$ *likely* $\succ \exists$

d. Five deck chairs seem appropriate. *seem* $\succ$ *appropriate* $\succ$ *5*

By virtue of being interpreted in the scope of *necessary*, the SCS in (2a) is interpreted in the scope of *seems*. So why can't the SCS scope low in (1b)?

Proposal: The quantificational force of indefinites can be introduced higher in the clause, separate from the NP restrictor (Heim 1982) (and it may be generally true that all quantificational expressions are "split" in this way (Beghelli and Stowell 1997)

(3) $[\ \exists \ldots [\ _{VP} \ldots [\ \ldots \text{NP} \ldots]\ ]\ ]$

Following a suggestion in Sportiche (2005, p. 56–57), we attribute the lack of narrow scope for SCSs in the general case to the absence of quantificational heads like $\exists$ in SCs. What gives rise to narrow scope in (2) is the fact that predicates like *necessary* and *likely* are themselves a source of existential quantification. Without such predicates, i.e. with a garden-variety extensional predicate like *sick* as in (1b), there's no other source for quantification in SCs. **The Details:** For the convenience of giving a simple demonstration, we assume indefinites are property-type expressions (Zimmermann 1992). We will combine property-type indefinites with their selecting predicates by predicate intersection; that derived predicate then combines with $\exists$ ($[\![\exists]\!] = \lambda P_{e,st}.\lambda w.\exists(x)[P(x)(w)]$) This is demonstrated for the infinitive in (1a). Narrow scope of the existential is derived by locating $\exists$ at the top of the embedded clause.

(4) *seems* $[_{TP}\ \exists$ [[*a student*] *to be sick*]] $= \lambda w.\forall w' \in \text{seem}(w)[\exists x$ [*student*$(x)(w')$ & *sick*$(x)(w')$]]

SCs can't host $\exists$, so when they have indefinite subjects they remain predicates—not the right type for the proposition-taking *seems* (5a). The only option is for the indefinite NP to raise, leaving an individual-type trace in the SC (which makes the SC the right type for *seems*), and compose by predicate intersection in the matrix clause, after which $\exists$ applies, as shown in (5b). This gives a wide scope, transparent indefinite.

(5) a. * *seems* [$_{AP}$ [$_{NP}$ *a student*] *sick*]] = [*seems* [$\lambda x.\lambda w.student(x)(w)$ & $sick(x)(w)$]]

b. $\exists$ [[$_{NP}$ *a student*]$_i$ *seems* [$_{AP}$ t$_i$ *sick*]] = $\exists y[student(y)(w_o)$ & $\forall w' \in \text{seem}(w)[sick(y)(w')]]$

Narrow scope SCSs: What gives narrow scope to SCSs in (2) is the nature of modal adjectives, which behave like intensional transitive verbs (Zimmermann 1992 in taking property-type objects. For instance, quantificational expressions like *most*-NPs (which don't have property denotiations) cannot scope under intensional *look for* as in (6a); likewise with *necessary* (6b).

(6) a. John looked for most semanticists. *most* $\succ$ *look for*; **look for* $\succ$ *most*

b. Most of the cans of fish are necessary. *most* $\succ$ *necessary*; **necessary* $\succ$ *most*

This motivates (7a) as a denotation for *necessary*. The LF of the SC construction in (2a) is given and interpreted in (7b); since *necessary* existentially quantifies the property-type NP, then the SCS can be interpreted low.

(7) a. $[\![$ *necessary* $]\!] = \lambda P_{e,st}.\lambda w.\forall w' \in \text{Nec}(w)\ [\exists x\ [P(x)(w')]]$

b. [*seem* [$_{AP}$ *a new fridge necessary*]] = $\lambda w.\forall w' \in \text{Nec}(w)\ [\exists x\ [\text{fridge}(x)(w')]]$

Small clauses We've put to rest the small clause debate: SCSs start low and can be interpreted there. Existential quantificational force may have a number of sources. SCs eliminate one source, and so now the interest of small clauses is their use as a guide to probe the locus of other quantificational expressions in the extended verbal projection.

References

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