On one alleged subtype of strict NPIs

Mojmír Dočekal (MU, Brno CZ), Jakub Dotlačil (University of Amsterdam)

Background. Negative Polarity Items (NPIs) are usually divided into (at least) two classes, weak NPIs (*any + N, ever etc.*), which are licensed in Downward entailing (DE) environments, and strict (strong) NPIs (*until + N, in weeks*), which are licensed in a subset of DE environments. A common approach to explain the difference between strict and weak NPIs with respect to licensing is to say that weak NPIs appear in environments that are DE in their assertion, whilst strict NPIs have to appear in environments that are DE in assertion and in their implicated/presupposed meaning (Chierchia (2013), Gajewski (2011)). For example, *At most 5 doctors have seen anyone* is grammatical due to the DE nature of *at most*, but the same version with a strict NPI yields ungrammaticality (*At most 5 doctors have seen Mary in weeks*) because of the existential implicature carried by *at most*.

Our contribution. We provide new data on strict NPIs that strongly support different treatment for at least one of the key subclasses of strict NPIs (in Slavic languages). The data come from an experimental study originally targeting Neg-Raising (NR) in SL (60 Czech native speakers, run online on IBEX, acceptability judgments on 5-point Likert scale, 40 items in 5 conditions, 30 fillers; results of the study are reported in Authors (2015)).

The study revealed that two (alleged) types of strict NPIs differ in their acceptability across environments. The first type is *ani jeden* ‘even one’ – (1-a), the second type is *až do* ‘until’ + a time expression (the closest parallel to the English temporal preposition *until*) – (2-a). ‘Even one’ was fully acceptable in negated clauses but it was significantly degraded in clauses embedded under neg-raising (NR) predicates (*p < .001*), as in (1-b), and even more degraded in clauses embedded under non-NR predicates (*p < .001*), as in (1-c). In this respect, ‘even one’ showed a behavior expected from a strict NPI: fully licensed by the clausemate negation, licensed, to some extent, by non-local NR predicates, and not licensed by non-local non-NR predicates. In contrast, *až do* ‘until’ showed a suprising behavior: it was judged as worse than ‘even one’ with the clausemate negation (*p < .001*), as in (2-a), but it was *better* when embedded under NR predicates (*p < .05*) as in (2-b), and under non-NR predicates, (2-c) (*p < .05*). The difference between ‘until’ and ‘even one’ is shown in Fig.~1, which presents boxplots for the three environments, split by the type of NPI (‘even one’ is fully acceptable in the neg environment, the leftmost column; since the first and third quartiles are the value 5, the boxplot appears only as a red line).

(1) a. Nezmizela *ani jedna kniha*.
   neg-was-lost even one book
   ‘Even one book wasn’t lost.’

b. Náš nový knihovník si nepřeje, aby zmizela *ani jedna kniha*.
   our new librarian SE neg-wishes C lost even one book
   ‘Our new librarian doesn’t wish even one book to be missing.’

c. Náš nový knihovník neslyšel, že zmizela *ani jedna kniha*.
‘Our new librarian didn’t hear that even one book was lost.’

(2) a. Vojáci se nevystřídají až do půlnoci.
   ‘Soldiers will be not exchanged until midnight.’

   b. Velitel stráže nechce, aby se vojáci vystřídali až do půlnoci.
   ‘Chief of guards doesn’t want the soldiers to exchange until midnight.’

   c. Velitel stráže neříkal, že se vojáci vystřídají až do půlnoci.
   ‘Chief of guards didn’t say that soldiers will be exchanged until midnight.’

**Discussion.** Based on the experimental data we argue for the following: i) ‘even one’ is a real strict NPI; ii) ‘until’ is an aspectually sensitive expression that requires its local predicate to be homogeneous (in fact the most frequent occurrences of the Czech ‘until’ in the SYN2010 corpus are homogenous, upward entailing clauses with imperfective verbs). ‘Until’ is less acceptable than ‘even one’ in negated clauses with perfective predicates, as in (2-a), because it is parsed as a VP modifier and consequently, its homogeneity requirements are not satisfied by the predicate. ‘Until’ can be also parsed above negation and since negation transforms heterogeneous predicates into homogeneous ones (De Swart (1996)), ‘until’ is satisfied. However, this parsing goes against the word order seen in (2-a): the order of (2-a) does not signal that ‘until’ scopes higher than the clausal negation and this is problematic since Czech, as other Slavic languages, strongly relies on word order to resolve scope. For NR sentences like (2-b) our analysis follows Romoli (2013) scalar implicature (SI) approach to NR: schematic truth conditions for (2-a) are then \( \Diamond [\neg p_{\text{until}}] \) where the scope of negation is the whole embedded proposition \( p \) (the NR interpretation follows in Romoli’s theory from the implicature \( \Diamond [p] \lor \Diamond [\neg p] \) plus the assertion \( \neg \Diamond [p] \)). Since the whole embedded proposition is negated and nothing in the word order signals that the embedded negation has higher scope than ‘until’, ‘until’ can be parsed freely, e.g., as having scope that satisfies its homogeneity requirement. This, then, explains why ‘until’ is worse in the clausemate negation but better under NR predicates compared to the baseline strict NPI, ani ‘even one’. Finally in telic sentences embedded under negated non-NR predicates like in (2-c) (which were judged as worse than (2-b) conditions) the embedded predicate isn’t homogenized by negation as there is no NR at all, consequently ‘until’ clashes with the telic eventuality of its local predicate.

**Implications for the until debate.** Our data support theories that postulate one lexical entry for until (Krifka (1989), De Swart (1996) a.o.) and argue against theories that assume two entries for until (one entry for positive clauses, requiring homogeneity, and a separate entry – a strict NPI – for negative contexts - Karttunen (1974), Giannakidou (2002) a.o.). We claim that at least for Slavic languages it suffices to assume only one lexical element and in fact, doing so might have a better empirical coverage than postulating an NPI ‘until’ just for negative contexts.