A movement paradox in Zapotec

George Aaron Broadwell
University at Albany, State University of New York

1. Introduction

Bresnan (2001) has drawn attention to *movement paradoxes* in syntactic theory. These are cases where the category of a constituent in a derived position differs from the category of the same constituent when it is *in situ*. The following pairs of English sentences show that a CP is disallowed as object of a preposition(1a, 2a), but grammatical as subject of the passive (1b, 2b) or when topicalized:

1a.) *This theory accounts for that languages are learnable
b.) That languages are learnable is accounted for by this theory.
2a.) *We talked about that he was sick for days.
b.) That he was sick, we talked about for days.

Theories which use movement to derive passive and topicalization must posit some category-change or other mechanism to account for the facts. In contrast, a theory with base-generated passive subjects and topics faces no such difficulties.

San Dionisio Ocotepec Zapotec (SDZ), an Otomanguean language of Mexico, also shows a movement paradox. For a number of verbs with semantics like 'cover/fill/be spread' which subcategorize for a Theme and a Location, the usual argument realization has two NPs after the V. But if the Theme argument is fronted (e.g as topic or interrogative focus), it optionally occurs with the preposition *cùn* 'with':

3a.) Rr-sè'w nìjs lòò yùù. 'Water covers the floor.'
hab-cover water on floor
b.) (Cùn) nìjs rr-sè'w lòò yùù 'Water [TOPIC] covers the floor.'
with water hab-cover on floor
c.)¿ Xhíí (cùn) rr-sè'w lòò yùù?' 'What covers the floor?'
what (with) hab-cover on floor

However, *cùn* 'with' may not appear if the Theme is *in situ*:

4a.) *Rr-sè'w cùn nìjs lòò yùù. (*intended:* Water covers the floor.)
hab-cover with water on floor
b.) *Rr-sè'w lòò yùù cùn nìjs.
hab-cover on floor with water

From the perspective of a movement-based theory, the initial PPs in (3b,c) are very difficult to explain, since the verbs of this class do not normally allow PP subjects.

2. A lexical rule of Zapotec

In order to account for these facts, I will argue that SDZ has a lexical rule which relates two forms of verbs in the 'cover/fill/be spread' class. In the usual realization, the Theme is realized as an NP subject, but the lexical rule produces an alternate argument realization where the Theme appears as PP subject.

The Zapotec alternation is not found with all Theme arguments, but only with those in the semantic class where the Theme is in complete contact with a location. I will refer to such Themes as Cover-Themes Using a slighly modified version of the formalism of Jackendoff (1990:160ff), the semantic representation of such verbs contains the following:

5.) $[_{\text{Event}}\ \text{INCH}\ [_{\text{State}}\ \text{BE}\ ([_{\text{Thing}}\ ]_i, [_{\text{Place}}\ \ \text{IN}_d/\text{ON}_d\ [_{\text{Thing}}\ ]_j\ ])\ ]\ ]$

IN_d and ON_d are distributive versions of the IN and ON locational predicates.

Studies of similar alternations in English (Jackendoff 1990, inter alia), Korean (Kim, Landau, and Phillips 1999), Hungarian (Ackerman 1992), and Modern Greek (Kordoni 2003). The generalization seems to be that Cover-Themes frequently alternate between a.) the morphosyntax characteristic of Themes and b.) the morphosyntax characteristic of Instruments, whether this is an adposition (Zapotec, English) or a case marker (Korean, Hungarian, Greek).

Thus for SDZ, we want the combination of lexical rule and Lexical Mapping Theory to produce two entries for verbs like *rr-sè'w* 'cover'. (6a) shows the Cover-Theme encoded as Theme; (6b) shows the Cover-Theme encoded as Instrument:

6a.) $[_{Event}\ \text{INCH}\ [_{State}\ \text{BE}\ (\underset{\text{SUBJ}}{[_{Thing}\ ]_i},\ \underset{\text{OBL}_{Loc}}{[_{Place}\ \ \text{IN}_d/\text{ON}_d\ [_{Thing}\ ]_j\ ]})\ ]\ ]$

b.) $[_{Event}\ \text{INCH}\ [_{State}\ \text{BE}\ (\underset{\text{SUBJ}}{[_{Place}\ \text{WITH}\ [_{Thing}\ ]_i\ ]},\ \underset{\text{OBL}_{Loc}}{[_{Place}\ \ \text{IN}_d/\text{ON}_d\ [_{Thing}\ ]_j\ ]})\ ]\ ]$

Regular rules of correspondence between semantic and syntactic categories result in Things being realized as NPs and Places being realized as PPs in SDZ.

3. SYNTACTIC REALIZATION

Assume that the phrase structure rules of SDZ include the following:

7.)

CP –>	(COMP)	(XP)	IP		
	↑=↓	(↑INTERROG)=↓ (↑GF)=↓	↑=↓		
IP –>	(Infl)	(XP)	S		
	↑=↓	(↑TOPIC)=↓ (↑GF)=↓	↑=↓		
S –>	V	(NP)	(NP)	(NP)	PP*
	↑=↓	(↑SUBJ)=↓	(↑OBJ)=↓	$(\uparrow \text{OBJ}_\theta)=\downarrow$	(↑OBL)=↓

The TOPIC and INTERROG functions may be assigned to any XP, but the SUBJ, OBJ, and OBJ-θ positions are restricted to NPs. Crucially, a postverbal PP cannot be a SUBJ.

We then predict that when a verb like *rrsè'w* 'cover' has a lexical entry like (6b), the PP subject will only be possible when it appears in position like [Spec, CP] or [Spec, IP] which allows the SUBJ function to be assigned to any XP.

4. ADDITIONAL IMPLICATIONS

A lexical rule that allows for alternation between NP and PP realizations of Cover-Themes is key to this analysis, but the correct formulation of such a rule must be sensitive to details of Lexical-Conceptual Representation. LFG analyses have occasionally used detailed lexical semantic representations of this kind (Butt 1995, Broadwell 1998, inter alia), but most work uses only labels like *Agent* and *Theme.* Simple labels for Thematic Roles are not sufficient to correctly identify the class of verbs that show this alternation in SDZ, since PP subjects are only available with Cover-Themes, and not for other Themes in the language. Thus an additional implication of the alternation seen in SDZ is that a successful account of the full range of lexical rules in a language requires more articulated lexical semantic representations of the sort found in Jackendoff (1983, 1990).