“Does the English relative pronoun *whose* in inanimate contexts violate the Subset Principle?”

*Wh*-operators functioning as relative pronouns are restricted based on the animacy of their antecedent.

(1) Human
   the woman *who* left
   *the woman *which* left

(2) Animate
   the dog *who* ran away
   the dog *which* ran away

(3) Inanimate
   *the book *who* fell
   the book *which* fell

However, in American English the only possessive relative pronoun is *whose*; animacy distinctions are neutralized (Radford 1988:483; Johansson 1991:97 for references).

(4) the woman *whose* daughter left
   the woman {*which/*which’s*} daughter left

(5) the book *whose* cover tore
   the book {*which/*which’s*} cover tore

We can informally refer to this as the *which’s* gap. A striking fact about this syncretism is there is neutralization to a more marked form which ordinarily should be ruled out as being too specific. In all other contexts, *whose* only refers to animates, e.g. matrix/embedded questions and free relatives.

(6) Whose cover is this?
    He knows *whose* cover tore.
    Whoever’s~whosever car that is got towed!

The main question this snippet asks is whether the data in (5) violate Distributed Morphology (DM)’s Subset Principle by virtue of the fact that animate *whose* is used in an inanimate context?

The Subset Principle (Halle & Marantz 1993:122) – a major desideratum of realizational models such as DM – states that a vocabulary item (VI) /V/ is inserted into a morpheme {M} iff (i) the morphosyntactic features [F] of /V/ are a subset of the morphosyntactic features [F] in {M}, and (ii) /V/ is the most specific Vocabulary Item that satisfies (i). Let us assume the VI for *whose* is /huz/, rather than /hu/ + clitic /z/. Returning to (5), because the antecedent √BOOK does not bear an [ANIMATE] feature (animacy hierarchy - Comrie 1989:185), it follows that the operator morpheme does not as well. Therefore, the insertion of the VI /huz/ introduces the feature [ANIMATE] rather than expones it, a prima facie counter-example to the Subset Principle.

One way to square these data is a homophonous *whose* analysis. Here, a form *whose*1 has the feature [ANIMATE] and is used in the contexts in (6). In contrast, *whose*2 is unmarked for animacy but is marked for [REL] (Bianchi 1999:186-192; cf. Wiltschko 1998:146), used only in (headed) relative clauses (5 above).

(7) Homophonic *whose* analysis
    (a) *whose*1 ↔ [WH] [POSS] [ANIMATE] Ø
    (b) *whose*2 ↔ [WH] [POSS] Ø [REL] (cf. *which’s*)

In general, *wh*-words used as relative pronouns do not show the same exact distribution as in questions (American English *the book what fell*).

One issue with homophonous *whose* is that it does not capture the fact that English has several places where combing [POSS] with [INANIMATE] is prohibited or avoided, forming a morphological conspiracy: (a) there is a gap for [POSS] plus [INANIMATE] in both relative contexts and in questions (*which’s cover tore?, *what’s cover tore?*), (b) there are no independent possessive pronouns for inanimates (*they’re hers, *they’re its - O’Brien 2009), and (c) animacy is greatest predictor for using [X’s Y] vs. [Y of X] (Leech *et al.* 1994).
I propose an alternative which directly references the morphological conspiracy, but comes at the cost of violating the Subset Principle, which I refer to as the *whose-as-repair analysis*. Assume that there is no dedicated VI for possessive inanimate contexts (the *which’s* gap). Two possibilities are (a) use a less specific form, or (b) import a related morphological form *whose* for this context, albeit one which is a more specified form:

(8) **Whose-as-repair analysis**: \( \text{whose} \leftrightarrow [\text{WH}] [\text{POSS}] [\text{REL}] [\text{ANIMATE}] \)

I call the introduction of [ANIMATE] here ‘feature smuggling’: if an inserted VI /V/ bears features [F][G][H] but its morphosyntactic context bears only [F][G], the feature [H] is said to be ‘smuggled in’. Although unorthodox, feature smuggling is not without precedent (*Irish* - Lahne 2008:109), and relates to a larger family of operations which insert features post-syntactically (e.g. dissociated insertion - Embick & Noyer 2007; enrichment – Müller 2007). Smuggling is distinct in that the /VI/ itself introduces the post-syntactic feature. If we allow for a constraint-based approach to DM (e.g. Trommer 2001, Rolle to appear), then (minimal) violations of DM principles are expected under exceptional conditions.

**References:**


Rolle, Nicholas. To appear. In support of an OT-DM model: Evidence from a morphological conspiracy in Degema. Accepted to *Natural Language and Linguistic Theory*.
