Clausal fragments introduced by *that*

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Introduction

English clausal fragments are typically signaled by the complementizer *that*, as exemplified by the A_2-fragment in (1).

(1) A_1: What do the rest of us have to do to convince you?
        B: Of what?
        A_2: That you can depend on us. (Star Trek, 1993, COCA)

Assuming that the complementizer is mandatory in such fragments, Merchant (2004) connects its presence to the movement-and-deletion mechanism he adopts for generating fragments. All fragments are underlyingly sentential, and, since they undergo leftward movement before deletion of the remaining material, their properties should be consistent with the properties of constituents that can move. This appears to be the case here: a sentential source for the A_2-fragment would require the complementizer to introduce the fronted clause, as in (2).

(2)   That you can depend on us we have to do something to convince you of.

In fact, English only permits this clause to appear in its fronted position, and not in-situ as a complement to the preposition *of* (e.g., **We have to do something to convince you of that you can depend on us.*), a source of potential crosslinguistic differences with regard to clausal fragments, which we return to.

We argue in this paper that the behavior of clausal fragments doesn't constitute evidence for leftward movement in their putative sentential sources, but signals the choice of a different subcategorization frame from the options available to the lexical head that is present in the antecedent. We further argue that this behavior falls out straightforwardly from those direct interpretation approaches to fragments that impose relaxed or no morphosyntactic identity constraints on fragments (e.g. Culicover & Jackendoff 2005 and Nykiel & Kim 2022).

Overt complementizer in clausal fragments

Our focus is specifically on clausal fragments with an overt complementizer illustrated in (1), where the antecedent hosts a lexical head with a PP complement, the latter serving as the correlate for the fragment (i.e., the correlate is the B-fragment here). Lexical heads may be verbal (1), adjectival (3) or nominal (4).

(3) A_1: I'm sorry.
        B: About what?
        A_2: That I didn't tell you myself. (FIC: Antioch Review, 1991, COCA)

(4) A_1: It was a sign.
        B: Of what?
        A_2: That the baby would be Catholic. (Fools Rush In, 1997, COCA)

This type of clausal fragment has attracted less attention in the ellipsis literature than a related type depicted in (5), which we briefly discuss first.

(5)   A: What does inspector Wagner believe?
        B: That the criminal entered through the window. (Lemke 2021: 130)

Here the fragment's correlate is an NP subcategorized for by the verbal head *believe*, while the fragment is a CP, which the same lexical head can alternatively select for. Merchant et al. (2013) argue that fragments like these pose a two-fold challenge for (some) direct interpretation approaches to fragments (specifically for Ginzburg & Sag 2000): the puzzling presence of the complementizer and the disconnect between the syntactic categories of the correlate and the fragment. The former point has been addressed at length by Lemke (2021), though not in reference to direct interpretation approaches. His experimental investigation of English fragments like (5), carefully controlling for confounds impacting the study by Merchant et al. (2013), showed an unreliable preference for complementizer omission (while there was a much stronger, and statistically significant, preference for complementizer omission for corresponding fronted-clause controls). This result, Lemke (2021) argues, casts doubt on the adequacy of using clausal fragments as evidence for movement in sentential sources for fragments. However, there are independent reasons to think that clausal fragments may need an overt complementizer.

Both Merchant et al. (2013) and Lemke (2021) note that an overt complementizer marks clausal answers to questions as direct as opposed to indirect. Direct answers are integrated into the preceding context by being interpreted as clausal fragments serving as complements to the lexical heads that select the fragments' correlates. In this sense, an overt complementizer can be associated with a processing advantage such that it's possible to assign its intended interpretation to a clausal fragment already at the point the complementizer is encountered. Otherwise, the fragment could be misparsed as an upcoming independent clause, and hence an indirect answer. If this reasoning is on the right track, then a preference, however weak, for overt complementizers in clausal fragments can plausibly be explained by appeal to processing pressures on direct interpretation approaches.

To address Merchant et al.'s (2013) second challenge for direct interpretation approaches, we return to the fragments illustrated in (1) and (3)-(4).

Corpus data

We extracted a total of 118 clausal fragments from the Corpus of Contemporary American English (COCA). While 98 of them were headed by *that*, 20 were not (we explain our reasons for including the latter below). We searched for clausal fragments immediately following elliptical interrogatives consisting of a preposition and the wh-phrase *what*. That is, all of these fragments were of the type illustrated in (1) and (3)-(4). There are two general patterns that emerge from these data. First, all clausal fragments are constrained to environments where there is a lexical head in the antecedent that selects either a PP or a CP as its complement. As can be seen from the examples in (1) and (3)-(4), the fragments' correlates are PPs, while the fragments are CPs, and both of these are possible complements to the lexical heads *convince*, *sorry*, and *sign*. All of our 118 fragments follow this pattern (but we found 3 additional examples in the corpus that didn't).

The second pattern that emerges from our data strengthens that idea that clausal fragments are to be interpreted as complements to verbal, nominal or adjectival heads. Consider the examples in (6)-(7).

(6) A_1: What do you have there?
        B_1: Proof.

A₂: Of What?

B₂: Proof that the spirit can be contained and controlled. (The Tomb, 2009, COCA)

(7) A₁: She was scared.

B₁: Of what?

A₂: Scared that she would be trapped there... forever. (The Shield, 2008, COCA)

These examples are two of the twenty in our data that are not headed by *that*. Instead, they are headed by the lexical heads also found in the antecedents. The structure of these fragments (the lexical heads followed by CP complements) clearly signals a departure from the subcategorization frame seen in the antecedents (i.e., the lexical heads *proof* and *scared* followed a PP complement). If we were to propose underlying sentential sources for these fragments, they wouldn't involve PP complements (i.e., they wouldn't be the ones given in (2)). The fragments in (6)-(7) show us clearly that neither they nor those headed by *that* have the same syntactic category as their PP correlates. The question is how much of a problem this fact is for direct interpretation approaches.

Argument structure variation

There are several known cases of argument structure variation in fragments, which range from divergent syntactic categories to divergent morphological specifications. The former case is illustrated by the Dutch verb *laten* 'let', which selects two non-subject arguments one of which may be realized as either an NP or a PP. This has consequences for fragments, as shown in (8): regardless of whether the correlate is an NP or PP (it's an NP in this example), the fragment may be either syntactic category (Levelt & Kelter 1982).

(8) A: Wie laat Paul zijn viool zien? B: Aan Toos / Toos.
A: who lets Paul his violin see   B: To   Toos / Toos
'A: Who does Paul show his violin to? B: Toos.'

This pattern resembles that we have seen in clausal fragments in that in both cases a single lexical head determines the range of syntactic categories available for a fragment and its correlate.

The latter case of argument structure variation in fragments is illustrated by Icelandic data. The verb *vanta* 'need' permits its subject argument to be either accusative or dative. Using this verb in an antecedent with either of these subjects permits either an accusative or a dative fragment to follow (Wood et al. 2020). In (9), there is an accusative subject serving as the correlate for either an accusative or dative fragment (patterns much like these have been reported for Bulgarian sluicing by Abels 2017).

(9) A: Mig   vantar hníf.   B: Mig   / Mér   líka.
A: me.ACC need   knife.ACC B: me.ACC / me.DAT too
'A: I need a knife. B: Me too.'

Given these crosslinguistic data, Nykiel & Kim (2022) have proposed a relaxation of the constraint which goes back to Ginzburg & Sag (2000) and which requires morphosyntactic identity between fragments and their correlates. This is the constraint that Merchant et al. (2013) find to be unable to capture the behavior of clausal fragments. However, the relaxed version of this constraint does this job successfully, which we turn to next.

Analysis

Construction-based analyses of fragments rely on the hierarchy of clausal types originally introduced by Ginzburg & Sag (2000). The particular property of fragments that is captured by the hierarchy is that they are phrases with propositional semantics able to stand alone the way root clauses do. Given this, fragments are defined as subtypes of the Head-Only Construction and further licensed by the Head-Fragment Construction in (10) (this version is the one proposed in Nykiel & Kim 2022).

(10)   Head-Fragment Construction

$$\begin{bmatrix} \text{SYN} & \text{S} \\ \text{CTXT} & \begin{bmatrix} \text{SAL-UTT} & \left\{ \begin{bmatrix} \text{SYN} \mid \text{VAL} & \boxed{1}\begin{bmatrix} \text{SPR} & \langle \ \rangle \\ \text{COMPS} & \langle \ \rangle \end{bmatrix} \\ \text{SEM} & [\text{INDEX} \quad i] \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} \text{SYN} \mid \text{VAL} & \boxed{1} \\ \text{SEM} & [\text{INDEX} \quad i] \end{bmatrix}$$

(10) differs from the original proposed in Ginzburg & Sag (2000) in two respects. First, the mother is an S, and the head daughter may be any XP, i.e., not just nominal, but also verbal. This ensures that CPs are included among possible fragments. Second, there is no longer any requirement of morphosyntactic identity between fragments and their correlates (i.e., the SAL-UTT in (10), also known as the Focus-Establishing Constituent in Ginzburg 2012), which allows them to mismatch in syntactic category and case specifications. There is, however, coindexation between a fragment and an appropriate argument on the ARG-ST list of the lexical head present in the antecedent, which delimits the morphosyntactic specifications of the fragment. Because the fragment's correlate is also coindexed with the same argument, we get the range of morphosyntactic options we see in both our current English data and in the crosslinguistic data discussed in the previous section, as long as variation is allowed by the lexical head.

Following Ginzburg & Sag (2000), semantic resolution of all fragments is achieved by discourse-based machinery. Their interpretation depends on a QUD (question-under-discussion) and a SAL-UTT available in the preceding context. To illustrate, uttering the wh-question in the context of (3) activates the information in (11).

(11)

$$\begin{bmatrix} \text{CTXT} & \begin{bmatrix} \text{MAX-QUD} & \lambda_x\begin{bmatrix} sorry - about(i, x) \end{bmatrix} \\ \text{SAL-UTT} & \left\{ \begin{bmatrix} \text{SYN} \mid \text{CAT} & \text{PP} \\ \text{SEM} & x \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

Speaker B is asking for the value of the variable 'x', which is part of the SAL-UTT (syntactically a PP). This value can be supplied using one of the syntactic categories the adjective *sorry* selects for, i.e., a PP or a CP. There is no process of syntactic reconstruction here. Such a process would be forced to introduce an ungrammatical source for (3) (e.g., *about that I didn't tell you myself*), while a discourse-based analysis suffices to provide a proper value of the variable evoked from the discourse.

We conclude by addressing an interesting crosslinguistic dimension to clausal fragments. In some languages (e.g., Scandinavian), CPs can function as complements to Ps. This opens up the possibility that in those languages fragments like (1), (3)-(4) instantiate P(reposition)-drop rather than an alternative subcategorization frame.

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