Reanalysis and intervention in English ‘tough’ constructions

Hartman (2012) identifies that adjunct PPs between ‘tough’ adjectives and the following infinitive clauses as in (1d) act as defective interveners, disrupting the Agree relation between the matrix subject and the null operator within the infinitive clauses of these constructions.

(1) a. It is annoying to talk to John.    b. John is annoying to talk to [ e ].
   c. It is annoying [to those boys] to talk to John.
   d. *John is annoying [to those boys] to talk to.

Bruening (2014) also makes an important observation that on top of the PP containing an attitude/belief holder DP, an adjunct PP or DP can induce apparent intervention effects, as in (2a) vs. (2b) where when displaced, it cannot.

(2) a. *Sugar was very hard [in such conditions]/[yesterday] to give up [ e ].
    b. [In such conditions]/[Yesterday], sugar was very hard to give up [ e ].

Bruening (2014) and Salzmann (2023) attribute the intervention to the improper licensing of the null operator within the extraposed infinitive clause. On the other hand, Kleine & Poole (2017) and Gluckman (2016) approach the issue at hand from a semantic perspective, proposing that the intervention stems from type mismatch or improper chain indexing when an adjunct PP/DP intervenes.

However, Hartman’s (2012) analysis confronts a non-trivial problem since A-movement in English raising constructions is not subject to the same kind of intervention in ‘tough’ constructions. Furthermore, the intervention of an adjunct PP/DP in ‘tough’ sentences as in (2) cannot be accounted for by resort to the decree of defective intervention that such a PP/DP does not trigger. The problem with Bruening’s and Salzmann’s analysis is that they do not explain why it is if it is impossible to extrapose the null operator-containing CP. The structure akin to this CP is an infinitival relative clause, and it can be extraposed as in (3a-b):

(3) a. She gave me a book [this afternoon] to read before bedtime.
    b. The chef prepared a delicious meal [this afternoon] to serve at the dinner party.

Kleine and Poole (2017) and Gluckman (2016) fail to explain the alleged intervention in ‘tough’ constructions. The intervening attitude holder-embedding PP does not affect raising constructions. Extraposed infinitival RCs are not ruled out, which challenges Kleine and Poole’s analysis. Gluckman’s analysis does not account for intervention effects caused by adjuncts.

Departing from these studies, this paper proposes that the recasting of Chomsky’s (1981) reanalysis combining a ‘tough’ adjective with the following infinitive verb to yield a complex adjective gives a right handle in accounting for the alleged intervention at issue. Simply, an intervening adjunct PPs/DP inhibits the formation of a complex adjective required. The question immediately posed is why such a reanalysis is called for in ‘tough’ constructions. We argue that this is because of the deficiency in the functional system at the periphery of the infinitive clause in ‘tough’ constructions or, using Pesetsky’s (2021) terminology, the exfoliation or truncation of functional categories otherwise present in infinitive structures in general. There are two kinds of evidence displaying the deficiency in the right-peripheral functional system of ‘tough’ infinitives. First, in ‘tough’ constructions like (4a), infinitival subjects are typically occupied by arbitrary PRO. By contrast, in expletive-‘it’ subject constructions like (4b), these subjects can accommodate either a ‘for’-preceded DP or arbitrary PRO.

(4) a. Cholesterol is important {PRO_w/t}* [for John] to avoid.
b. It is important \{for John/PRO_{arb}\} to avoid cholesterol.

Given this restriction on infinitival subjects in ‘tough’ constructions, we account for the ungrammaticality of Chomsky’ (1973: 239-40) example in (5b):

(5) a. It is pleasant for the rich for poor immigrants to do the hard work.
   b. *The hard work is pleasant [for the rich] [for poor immigrants] to do [ e ].

The ungrammaticality of (5b) can be attributed to two reasons. First, there is an intervention caused by the first ‘for’ PP that blocks reanalysis. Secondly, the second ‘for’ PP is unable to function as the subject of the infinitive clause in ‘tough’ constructions.

In addition, ‘tough’ constructions like (6a) describe a general attribute of their matrix subject in terms of the ease or difficulty involved in the realization of an event (cf. Kim 1995). In this aspect, these constructions bear similarity to middle constructions like (6b).

(6) a. This book is easy to read.
    b. This book reads easily.

Why does the verb ‘read’ in (6a) have a generic reading instead of an eventive reading? According to Goto (2010), the infinitive clause in ‘tough’ constructions lacks a Davidsonian event argument, causing the verb to undergo a type change from eventive to individual-level. This occurs because the infinitive clause in these constructions lacks functional categories required for hosting a Davidsonian event argument. Consequently, the verb combines with the matrix ‘tough’ adjective through theta-identification, forming a reanalyzed complex adjective.

According to Chomsky (1981), reanalysis in ‘tough’ constructions applies at S-structure. However, as Nanni (1980: 577) notes, the ‘tough’ adjective can be displaced via Wh-movement, as in (7):

(7) [How difficult] is Janice [to forget [ e ]]? (Nanni, 1980, p. 577).

We suggest that reanalysis applies at LF when ‘how difficult’ is reconstructed to the position prior to the infinitive form of verb, accounting for the grammaticality of (7).

The covert application of reanalysis has a consequence for scope reconstruction and the traditional sense of “tough movement” in the constructions at issue. Postal (1974) and Poole, Mendia & Keine (2022) observe that matrix subjects can undergo only short scope reconstruction just below the matrix modal auxiliary verb, but they do not undergo scope reconstruction even over the matrix ‘tough’ adjective, as in (8).

(8) [ matrix subject modal \[-----\] tough adjective [ to V ] ]

This is because covert scope reconstruction will disrupt the reanalysis of a ‘tough’ adjective with the following infinitive verb.

Second, the movement of a null operator (i.e., “tough movement”) takes place not to the edge of the infinitive clause, but to the Spec of the matrix adjective as in (9) since the edge of the infinitive clause as part of reanalysis is opaque at the interpretation component.


**Selected References:** Bruening (2014); Chomsky (1973); Chomsky (1981); Gluckman (2016); Goto (2010); Hartman (2012); Kim (1995); Kleine and Poole (2017); Nanni (1980); Pesetsky (2021); Poole, Mendia & Keine (2022); Postal (1974); Salzmann (2023)