



Reanalysis and Intervention in English ‘Tough’ Constructions

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ABSTRACT

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This paper investigates one of the issues most intensively studied for the last decade: intervention in English ‘tough’ constructions. Hartman (2012) observes that an adjunct PP between a ‘tough’ adjective and the following infinitive clause serves as a defective intervenor for the Agree relation between the matrix subject and the null operator in the clause at hand. Showing that an adverbial DP also functions as such an intervenor, Bruening (2014) (and more recently Salzmann (2023)) attributes the offending intervention to the improper licensing of the null operator in the extraposed infinitive clause. On the other hand, Kleine and Poole (2017) and Gluckman (2022) take a semantic approach, arguing that the intervention in question results from type mismatch or improper chain indexing when an adjunct or adverbial PP/DP intervenes. Departing from these studies, this paper argues that the recasting of Chomsky’s (1981) *reanalysis* combining a ‘tough’ adjective with the following infinitive verb to yield a complex adjective amalgam gives a right handle in accounting for the intervention at issue. Simply, an intervening adjunct or adverbial PP/DP inhibits the formation of a complex adjective amalgam required owing to the absence of functional layers in the ‘tough’ infinitive clause.

KEYWORDS

‘tough’ constructions, intervention, type mismatch, complex adjective, reanalysis

1. Introduction

So-called 'tough' adjectives construct three types of sentences such as expletive-'it' subject constructions in (1a), infinitival subject constructions as (1b), and 'tough' constructions as in (1c) where the matrix subject associates interpretively with the gap [e] inside the infinitive clause:

- (1) a. It is tough to please Alex.
 b. To please Alex is tough.
 c. Alex is tough [to please [e]].

There has been a huge literature on 'tough' constructions ever since early days of generative grammar (e.g., Lees, 1962; Chomsky, 1964). One of the issues on them that is still elusive to analysis is alleged intervention effects as in (2b):

- (2) a. It is important [to Mary] to avoid cholesterol.
 b. *Cholesterol is important [to Mary] to avoid [e]. Hartman 2011

'Mary' inside the bracketed PP in (2a) and (2b) is an attitude holder: (2a) is paraphrased as "Mary believes that it is important to avoid cholesterol," and (2b) is, as "Mary believes that Cholesterol is important to avoid." As Hartman (2011; 2012) observes, the contrast in grammaticality between (2a) and (2b) is that intervention effects arise in 'tough' constructions, but not in expletive-'it' subject constructions.

Intervention effects in 'tough' constructions have drawn increasingly close scrutiny for the last decade, but they still await a satisfactory explanation. This paper takes on this very issue of intervention effects in 'tough' constructions and provides a new account for it by revising Chomsky's (1981) *reanalysis* approach to these constructions in light of Pesetsky's (2021) proposal that the left periphery of certain infinitival clauses is subject to exfoliation or truncation. In the next section, we describe in more details what is called intervention effects in 'tough' constructions. Section 3 then critically reviews several important recent accounts for them. Section 4 offers an alternative analysis, showing that intervention in 'tough' constructions is not the kind of intervention that we expect to prohibit A or A'-movement. Rather, its effects arise owing to the fact that intervening adjunct PPs/DPs preclude the otherwise necessary formation of a complex adjective amalgam via *reanalysis* since the 'tough' infinitive clause lacks the functional system. Section 5 explores the consequences of the proposed analysis. Section 6 wraps up with a conclusion.

2. Intervention in 'tough' constructions

Though Hartman (2011; 2012) pinpoints that the ungrammaticality of (2b) in contrast to the grammaticality of (2a) is due to the intervention of a PP containing an attitude/belief holder DP, there was a similar claim in the earlier study of 'tough' constructions. Specifically, Chomsky (1973) observes that unlike in expletive-'it' subject constructions, 'for'-PP cannot be repeated as in (3d).

- (3) a. It is pleasant for the rich to do the hard work.
 b. The hard work is pleasant for the rich to do [e].

- c. It is pleasant for the rich for poor immigrants to do the hard work.
 d. *The hard work is pleasant [for the rich] [for poor immigrants] to do [e].
 Chomsky 1973

Since 'for'-PP is generally analyzed as a subject of an infinitive clause, Chomsky (1973) observes that the ungrammaticality of (3d) is due to the impossibility of such an analysis in 'tough' constructions (see also the discussion below for the reason that (3d) is ungrammatical). The analogous observation can be made in the following examples.

- (4) a. *This job would be easier [for me] [for John] to do [e] than for me to do myself.
 Jackendoff 1972
 b. *Latin is a waste of time [for us] [for them] to teach us [e].
 Chomsky 1973

Hartman (2011) recasts this issue with the following examples:

- (5) 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.
 Hartman 2011

As pointed out in the Introduction, intervention effects arise only in 'tough' constructions.

Bruening (2014) observes that when the intervening PP does not disrupt the adjacency between the 'tough' adjective and the immediately following gap-containing infinitive clause, the sentence improves substantially. Thus, The leftward movement as in (6b-c) and the rightward movement as in (6d) of the potentially intervening PP can obviate the intervention effects at hand.

- (6) a. Cholesterol levels are [for most people] difficult to lower [e].
 b. The president is [to many people] annoying to listen to [e].
 Bruening 2014
 c. [To many people], the president is annoying to listen to [e].
 d. The president is annoying to listen to [e], [to many people].

Bruening (2014) also makes a very important observation that on top of the PP containing an attitude/belief holder DP, an adjunct PP or DP can induce intervention effects, as in (7a) and (8a).

- (7) a. *Sugar was very hard [in such conditions] to give up [e].
 b. [In such conditions], sugar was very hard to give up [e].
 (8) a. *The pope will be tough [tomorrow] to get an audience with [e].
 b. [Tomorrow] the pope will be tough to get an audience with [e].
 Bruening 2014

Like the attitude holder-embedding PP, its leftward displacement can improve the sentences as in (7b) and (8b).

Bruening (2014) also argues that intervention effects in 'tough' constructions cannot be assimilated to those in raising constructions. As familiar to us, intervention effects do not arise in the latter, where the DP embedded in the PP also serves as an attitude/belief holder.

- (9) a. Ruprecht seems to be a masterful commander.
 b. Ruprecht seems to his subordinates to be a masterful commander. Bruening 2014

Meanwhile, Keine and Poole (2017) observe that when the intervening PP is an argument of a 'tough' predicate, it does not count as an intervenor:

- (10) a. It is damaging to cars to drive over these traffic cones.
 b. ?These traffic cones are damaging [to cars] to drive over [e]. Keine and Poole 2017

In (10), 'to cars' is an argument of the adjective 'damaging,' and its presence does not bring about an intervention.

Gluckman (2018) provides a revised understanding of intervention effects in 'tough' constructions. The gapped degree phrase 'too ... to' and the adjective 'pretty' can form 'tough' constructions, but they do not allow expletive-'it' subject constructions. In other words, the subject of (11b) and (12b) in 'tough' constructions is base-generated in (the predicate-internal subject position of) the matrix clause. As the contrast in grammaticality between (b) and (c) in (11) and (12) shows, intervention effects also arise in 'tough' constructions formed by 'too ... to' and 'pretty,' which take a thematic subject in the matrix clause:

- (11) a. *It is too expensive to buy the book.
 b. The book is too expensive to buy [e].
 c. *The book is too expensive [to John] to buy [e]. Gluckman 2018
 d. √[To John], the book is too expensive to buy [e].
- (12) a. *It is pretty to look at the painting.
 b. The painting is pretty to look at [e].
 c. *The painting is pretty [to Dana] to look at [e].
 d. √[To Dana], the painting is pretty to look at [e].

If the matrix subject of (11c) or (12c) is base-generated in the matrix clause, the ungrammaticality of (11c) or (12c) shows that the alleged intervention in 'tough' constructions is not due to potential movement involved from within the 'tough' clause to the matrix subject position.

To summarize, intervention in 'tough' constructions arises when either attitude holder-containing adjunct PP or adverbial PP/DP, but not argument PP intervenes between the matrix subject and the gapped infinitive clause. When they are displaced from the position that separates the 'tough' adjective and the following infinitive clause, the alleged intervention effects at hand do not arise.

3. Previous accounts for intervention in 'tough' constructions

There are two types of approach to the issue of intervention in 'tough' constructions. One is syntactic, and the other is semantic. We are going to critically review the previous studies of this issue, but owing to space limitation, the review cannot be made on a full scale.

Hartman (2012) proposes that intervention in 'tough' constructions is an instance of defective intervention, whereby an element with an inactive syntactic feature precludes agreement across it with a lower active element

(Chomsky, 2002), taking the second step of movement in (13) as an instance of A-movement.

(13) Cholesterol is important to Mary [to avoid [e]].
 ↑ _____ x _____ | ↑ _____ |

However, recalling the discussion in the previous section, A-movement in English raising constructions is not subject to the same kind of intervention in 'tough' constructions. Furthermore, the intervention of an adverbial PP/DP in 'tough' sentences as seen in (7a) and (8a) cannot be accounted for by resort to the notion of defective intervention that an adverbial PP/DP does not trigger.

Bruening (2014) attributes the alleged intervention in 'tough' constructions not to intervention per se, but to the ill-formed-ness of the gapped clause containing a null operator. Bruening assumes that the gapped clause containing a null operator is generated as a complement of the 'tough' adjective 'important.'

(14) Cholesterol is [_{A'} [_{AP} important [_{CP} to avoid [e]]] [to Mary]].

Building on Bruening (2014), Salzmann (2023) takes the same line of analysis for the issue at hand, but starts with the different underlying structure, initially proposed by Longenbaugh (2016), where the non-gapped infinitive clause is generated in the Spec of the little aP, as follows:

(15) [_{TP} [e] T [_{VP} is [_{aP} [_{CP} to avoid Cholesterol] [_{AP} important] [to Mary]]]]

Salzmann (2023) also ascribes the alleged intervention in 'tough' constructions to the barring of the null operator-containing CP from undergoing extraposition.

Bruening (2014) and Salzmann (2023) face at least two problems. One concerns the assumption that the infinitive clause in 'tough' constructions is a complement or a subject/Specifier element. As seen in the previous section, the subject of 'too ... to' or 'pretty' in the (c) example of (11) or (12) is a thematic subject, and the following infinitive clause is an adjunct. As Gluckman (2017) also argues, the contrast between (16b) and (17b) shows that unlike an argument (i.e., complement) PP, an infinitive clause after the 'tough' adjective is amenable to extraposition; this behavior indicates that the infinitive clause is not an argument but an adjunct:

- (16) a. It was important (yesterday) to read this book (yesterday).
 b. It will be difficult (tomorrow) to schedule a meeting with the dean (tomorrow).
 (17) a. John was proud of his son yesterday.
 b. ??John was proud yesterday of his son.

The second problem with Bruening and Salzmann is that they didn't explain why it is impossible to extrapose the null operator-containing CP from the underlying structure in (14) and (15). The structure akin to this CP is an infinitival relative clause, and it can be extraposed as in (18a-b) (the judgement being attributed to Daniel Plesiack (pers. comm.)):

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

On the other hand, Kleine and Poole (2017) take a semantic approach, proposing that the alleged intervention in 'tough' constructions results from a type mismatch. Unlike the expletive construction where a 'tough'

predicate combines with a proposition denoted by the non-gapped infinitive clause, the 'tough' construction has a 'tough' predicate combine with a property of individuals denoted by the null operator-containing infinitive clause. In other words, when deriving 'tough' constructions semantically, the infinitive clause functions as a predicate (due to null operator movement in it) and thus combines with the predicative form of the adjective, forming a complex predicate. This complex predicate then enters into a predication relation with the subject of the 'tough' construction. However, the presence of an attitude holder DP in 'tough' constructions leads to a type mismatch, resulting in degradedness.¹ The attitude holder DP cannot combine with the adjective and infinitive clause combination, as it can only combine with a proposition. This causes the derivation to fail in semantics. The adjunct intervention effect can be explained similarly: since an adjunct only merges with a proposition, it cannot be inserted between the predicative adjective and the 'tough' infinitive clause.

Gluckman (2022) pursues a different line of semantic approach, proposing that the formation of a syntactic chain linking two different individuals is not allowed. Gluckman formalizes this restriction as a constraint, which states that every link in a syntactic chain between a head and gap must have the same intended referent. In simpler terms, the constraint implies that if you create a chain in the syntax with an antecedent and a gap, each link in the chain must refer to the same individual. In the ungrammatical instances of intervention in 'tough' constructions as in (19), what goes wrong is the final step, where the lower variable [e] yields the version of 'Mary' associated with the most local attitude holder 'John.'

(19) Mary is important to John to find [e].

In the case of grammatical 'tough'-movement, where an implicit Judge (or, attitude holder) is involved, the syntax remains unchanged, but all the links in the chain refer to the same individual because the attitude holder is the speaker. The key idea in Gluckman's analysis is that syntax only plays a role in intervention effects if there is a syntactic shift in attitudes between the antecedent and the gap.

However, neither Kleine and Poole (2017) nor Gluckman (2022) leaves explained why type mismatch or interpretive chain uniformity obtains in 'tough' constructions; as pointed out above in (9b), raising constructions are not affected by the intervening attitude holder-embedding PP. Moreover, we have seen that though structurally similar to the gapped infinitive clause in 'tough' constructions, the extraposed infinitival RC in (18a-b) is not ruled out, which Kleine and Poole (2017) cannot account for. Gluckman's (2022) analysis hinges on the notion of attitude/perspective holder, but it does not account for the intervention effects induced by intervening DP/PP adjuncts.

4. Towards a proposal

¹ In the text we abstract away from specifying why type mismatch arises. Here is a more detailed account for this issue. In Kleine and Poole (2017), they posit that the experiencer PP is introduced by a functional head, Appl(licative). This Appl head initially merges with a propositional argument *p*, then later with the experiencer PP. The role of the experiencer PP is to shift the judge argument within the denotation function for *p* to the individual(s) represented by the experiencer PP. In the expletive construction with a 'tough' predicate, the AP represents a proposition. This allows for the successful merging of the AP with the Appl and the experiencer PP. In the 'tough' construction, however, the Appl head cannot merge with the AP because the AP is representative of a property of individuals. This results in a semantic type mismatch.

To account for the alleged intervention effects in 'tough' constructions, we adopt a *reanalysis* or complex adjective formation account that Chomsky (1981) proposes. Confronting the issue of how the DP in the matrix subject position of 'tough' constructions is assigned a thematic role, Chomsky himself proposes that it is thematically licensed not at D-structure, but at S-structure. In more details, the sentence in (20) undergoes the following derivation of (21) in Chomsky's *LGB* framework.

- (20) John is easy to please.
 (21) a. D-structure: [NP e] is [AP easy [s' COMP [s PRO to please PRO]]]
 b. PRO-movement: [NP e] is [AP easy [s' PRO_i [s PRO to please t_i]]]
 c. *Reanalysis*: [NP e] is [AP [A easy-to-please] t_i]
 d. S-structure: John_i is [AP [A easy-to-please] t_i]

At D-structure, PRO is generated in the embedded object position. However, since PRO is ungoverned in S-structure, it undergoes PRO-movement and is displaced into the COMP of the infinitive clause. The position of the matrix subject is not assigned a thematic role, as evidenced by a sentence like 'It is easy to please John.' Therefore, no specific lexical item is inserted into the matrix subject position in D-structure. After PRO-movement, the adjective and the following infinitive are *reanalyzed* as a complex adjective. This ensures that the lexical insertion takes place in the matrix subject position at S-structure, as the free indexing in the S-structure establishes co-indexing between the matrix subject and the embedded trace, forming a chain. The presence of this chain allows the matrix subject to receive a thematic role and undergo lexical insertion, satisfying the Θ -criterion at this stage. It is important to note that at S-structure, the embedded trace is functionally determined as an anaphor, bound by the matrix subject.

Since there have been many revisions in analytic tools in Chomsky's theory of grammar for the last 4 decades, we will not go into all the details in Chomsky's analysis of 'tough' constructions. We just adopt Chomsky's proposal to argue that the *reanalysis* of a 'tough' adjective and the following infinitival form of verb into a complex adjective amalgam is a right cut in accounting for the alleged intervention effects in 'tough' constructions.

The question immediately posed is why such a *reanalysis* applies in 'tough' constructions. We suggest 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 this environment.² There are two kinds of evidence displaying the deficiency in the left-peripheral functional system in these constructions at issue. First, since the infinitive clause in 'tough' constructions lacks a T node, its subject positions are occupied by arbitrary PRO, rather than by non-arbitrary PRO that is assigned null Case by futuristic tense (Chomsky 1995). However, in expletive-'it' subject constructions, these subjects can accommodate either a 'for'-preceded DP or arbitrary PRO, as in (22).

² In Pesetsky's (2021) analysis of, for example, raising constructions in English, the sentence like 'Caitlin seems to be happy' is derived from the following underlying structure via *Exfoliation* or *Structural Removal* that applies to delete the embedded CP and TP in the boxed part of (i).

- (i) seems [CP that [TP T[PRESENT] [t_{OP} Caitlin to [vP t be happy]]]]

We assume that in the parallel fashion to that in raising constructions, the infinitive clause in 'tough' constructions is lacking in both CP and TP structures (But see Cinque (2006) and Grano (2015) for the proposal that typical types of restructuring control infinitives are necessarily TP).

- (22) a. Cholesterol is important {PRO_{arb}/?*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 return to Chomsky's (1973) examples in (3c-d), repeated below as (23a-b):

- (23) 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].

Chomsky 1973

The ungrammaticality of (23b) can be attributed to two reasons. First, there is an intervention caused by the first 'for' PP. Secondly, the second 'for' PP is unable to function as the subject of the infinitive clause in 'tough' constructions.

On top of the restriction that the infinitival subject in 'tough' constructions is arbitrary PRO, these constructions like (24a) describe a general attribute of their matrix subject in terms of the ease or difficulty involved in the realization of an event. In this aspect, these constructions bear similarity to middle constructions like (24b).

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

Why does the verb 'read' in (24a) not get an expected eventive reading but a generic reading? Following the suggestion broached by Kim (1995) and Goto (2010), we assume that the infinitive clause in 'tough' constructions lacks a Davidsonian event argument as part of the argument structure of the verb in it. There are two types of predicates: stage-level and individual-level (Kratzer 1995). While the latter type do not, the former have a Davidsonian event argument which is syntactically projected above V/AP and interpreted as reporting a specific event. However, as pointed out above, the infinitive clause in 'tough' constructions has a deficient system of functional categories, such that it even lacks a functional layer hosting a Davidsonian event argument. As it does, the apparently eventive/stage-level verb of the infinitive clause in 'tough' constructions undergoes a type change into an individual-level verb, which in turn combines with the matrix individual-level 'tough' adjective via theta-identification to make a *reanalyzed* complex adjective amalgam.³

As Nanni (1980) points out, a *reanalyzed* complex adjective amalgam that is derived from both a 'tough' adjective and the following infinitive form of verb is used as a modifier of the following NP, as in (25):

- (25) a. a hard to read book
 b. a simple to complete task
 c. a straightforward to solve puzzle
 d. an easy to finish problem

As Nanni (1980) also notes, however, in the same way that a 'tough' adjective and an infinitive clause inside

³ In Higginbotham's (1985) description of thematic relation, for 'the nice man' the arguments of the predicates 'nice' and 'man' are identified resulting in the interpretation "x is nice & y is a man & x = y" where the "x = y" part represents the identification.

a clause cannot be, a *reanalyzed* complex adjective amalgam inside a DP cannot be disrupted by an intervening PP or an adverbial, as in (26):

- (26) a. an easy (*for Bill) to finish problem
 b. an easy to (*quickly) clean problem

We are now in a position to account for the alleged intervention effects in 'tough' constructions discussed in the previous section. The representative examples that exhibit the effects are (2b) and (8a), repeated below as (27a) and (27b):

- (27) a. *Cholesterol is important [to Mary] to avoid [e].
 b. *The pope will be tough [tomorrow] to get an audience with [e].

The culprit for the ungrammaticality of these examples is an intervention on the formation of a complex adjective amalgam. Due to the absence of a functional system to properly interpret the verb in the infinitive clause, it needs to combine with the matrix 'tough' adjective through theta-identification. However, the intervening adjunct PP or adverbial DP disrupts the intended interpretation process, accounting for the ungrammaticality of (27a) and (27b).

According to Chomsky (1981), *reanalysis* in 'tough' constructions applies at the S-structure.⁴ However, based on the examples provided below, we propose that the formation of a complex adjective amalgam in these constructions takes place not at the S-structure, but at LF. As Nanni (1980) and Salzmann (2023) note, the 'tough' adjective can be displaced via *wh*-movement, thus being separated overtly from the infinitive form of verb in 'tough' constructions, as in (28):

- (28) [How difficult] is Janice [to forget [e]]? Nanni 1980

In (28), the formation of a complex adjective amalgam cannot be achieved at S-structure. It occurs at LF when 'difficult' is reconstructed to the position prior to the infinitive form of verb, accounting for the grammaticality of (28).

Rezac (2006) also notes that the 'tough' adjective can be pied-piped together with an attitude holder PP, as in (29).

- (29) [How difficult for George] is Janice [to forget [e]]?

In the proposed analysis here, we follow Chomsky's (1993) preference principle for reconstruction to suggest that what is reconstructed at LF is not the whole phrase overtly moved to [Spec,CP], but the 'tough' adjective leaving behind the PP, which in turn does not block the formation of a complex adjective amalgam. In the same line of analysis, we can account for examples like (6b), (6c), (7b), (8b), (11d), and (17d), where intervening adjunct PPs or adverbial DPs are displaced. Among them, we repeat (6b) as (30).

⁴ *Reanalysis* in grammar has been formally characterized by Choe (1987) and Wurmbrand (2001), along with its kin *Restructuring*. *Reanalysis* and *Restructuring* are often reported to apply at overt syntax, but Roberts (1997) argues that *Restructuring* in English, compared to its counterpart in Dutch, applies covertly.

(30) The president is [to many people] annoying to listen to [e]. Bruening 2014

The displaced PP is not reconstructed right after the 'tough' adjective, hence the 'tough' adjective combining with the following infinitive verb successfully.

5. Some consequences

5.1 Reconstruction

It is well-known that the matrix subject in 'tough'-subject cannot take scope under the 'tough' adjective (Postal 1974), as in (31a). Since A-movement can at least in principle undergo scope reconstruction as in (31b), the scope fact in 'tough' constructions is unexpected:

- (31) a. Only wide scope in 'tough' constructions:
 Someone is difficult to please.
 ('someone' >> 'difficult'; *'difficult' >> 'someone')
- b. Low scope possibility in A-raising:
 Someone is likely to be sick.
 ('someone' >> 'difficult'; 'difficult' >> 'someone')

In the same vein, a recent study of 'tough' constructions by Poole, Mendia, and Keine (2022) highlights an intriguing observation. They note that certain examples featuring indefinite subjects in the subject positions of 'tough' constructions as in (32a-d) do not allow for a non-specific interpretation typically derived from their reconstruction into 'tough' infinitives.

- (32) a. Two books were hard for Mary to write.
 b. A joke about Sally was only easy to convince Sue to tell.
 c. A picture of Bill was easy to persuade any artist to draw.
 d. Three questions were easy to answer in ten minutes. Poole, Mendia and Keine 2022

These examples are felicitous only on an episodic reading of the matrix subject.

Based on the scope fact in 'tough' constructions, Poole, Mendia and Keine propose that matrix subjects can undergo only short reconstruction just below the matrix modal auxiliary verb, but do not undergo downward reconstruction even across the matrix 'tough' adjective, as in (33):

(33) [matrix subject modal ___ tough adjective [to V]
 |_____↑|_____↑
 |_____↑|_____↑

In the proposed analysis here, this restricted behavior of scope reconstruction follows from the formation of a complex adjective amalgam in these constructions. This behavior is exactly parallel to that displayed by intervening adjective PPs or adverbial DPs. As the latter do, the reconstructed matrix subject after the matrix

'tough' adjective will disrupt the formation of a complex adjective amalgam. That is why only the short reconstruction before the matrix 'tough' adjective is allowed.

5.2 'Tough' movement

The proposed complex adjective formation combining the 'tough' infinitive verb with the matrix 'tough' adjective has a consequence on understanding the traditional concept of 'tough' movement. We follow Chomsky's (1977) proposal that 'tough' movement is achieved through the A'-movement of a null operator inside the 'tough' infinitive clause in the same way as that of an overt or null operator in the relative clause is. The A'-movement of a null operator inside the 'tough' infinitive clause is evidenced by the licensing of a parasitic gap by an A'-trace inside the 'tough' infinitive clause as in (34) and by the impossibility of leaving a gap in the indirect object position of the double object construction as in (35a) on a par with the same prohibition on wh-movement as in (35c).

- (34) These letters are tough to discard [e] without opening [e].
 (35) a. *John is not easy to give [e] presents.
 b. John is not easy to give presents to [e].
 c. *Who did give [e] the book?

We suggest that a null operator lands in the Spec of the matrix 'tough' adjective, since the 'tough' infinitive clause lacks both TP and CP at its left periphery. As the matrix subject is generated in the Spec of little adjective (i.e., *a*), it enters into predication relation with the AP housing a null operator in its Spec position, as follows:

- (36) ... [*a*P matrix subject [*AP* OP [*AP* A] [infinitive clause V]]]

Recall that the predication relation in 'tough' constructions is unique in that the complex adjective predicate (AP) describes a generic or characteristic property of the matrix subject. Therefore, the matrix subject in this kind of predication relation in 'tough' constructions needs to be a definite or generic DP, but it cannot be a non-referential DP. That is why, as noted by Lasnik and Fiengo (1974), the idiom part cannot be a matrix subject in 'tough' constructions as in (37):

- (37) a. *Tabs were easy to keep on Mary.
 b. *Advantages was easy to take of Bill. Lasnik and Fiengo 1974

In addition, recall that the formation of a complex adjective amalgam in 'tough' constructions is due to the deficiency of functional layers in the infinitive clause and that since the Davidsonian event argument of the infinitive verb cannot be projected, it is converted into an individual-level predicate, feeding into denoting a generic or characteristic property. To the extent that this proposal is on the right track, it accounts for the puzzling contrast between (38) and (39a-b) in deriving 'tough' constructions:

- (38) This article was difficult to believe that Mary read [e].
 (39) a. *This book was difficult to say that John read [e].
 b. *This book was difficult to realize that Mary read [e]. Gluckman 2017

What is the underlying reason for this observed contrast? Let us endorse only a scenario where the suppression of the Davidsonian event argument applies only to one verb within the infinitive clause. In the example of (38), the verb 'believe' functions as an individual-level stative verb, while 'read' serves as a stage-level predicate but its Davidsonian event argument is allowed to be suppressed. Consequently, the entire complex adjective amalgam can be interpreted as an individual-level predicate.

On the other hand, in the examples of (39a-b), both the matrix verbs, such as 'say' and 'realize,' and the embedded verb 'read' are stage-level action verbs. Therefore, if the suppression of the Davidsonian event argument is allowed for only one verb within the infinitive clause, the entire complex adjective amalgam in (39a-b) cannot count as an individual-level predicate due to the nature of the two stage-level verbs involved.

This contrast arises due to the distinction between individual-level stative verbs and stage-level action verbs, and the specific application of the Davidsonian event argument suppression. By examining these factors, we gain insights into the reasons behind the contrast and its implications for the interpretation of complex adjectives formed via *reanalysis*.

6. Conclusion

In conclusion, this paper has delved into a highly scrutinized issue in the field of syntax: intervention in English 'tough' constructions. Previous studies, such as Hartman (2012), Bruening (2014), Salzmann (2023), Kleine and Poole (2017), and Gluckman (2022), have shed lights on different aspects of this phenomenon.

Hartman (2012) identified that adjunct PPs positioned between 'tough' adjectives and the following infinitive clause act as defective intervenors, disrupting the Agree relation between the matrix subject and the null operator within these constructions. Bruening (2014) and Salzmann (2023) further expanded on this aspect of intervention in the constructions concerned, attributing the intervention to the improper licensing of the null operator within the extraposed infinitive clause, extending the scope to include adverbial DPs. In contrast, Kleine and Poole (2017) and Gluckman (2022) approached the issue from a semantic perspective, proposing that the intervention stems from type mismatch or improper chain indexing when adjunct or adverbial PPs/DPs intervene.

This paper, departing from previous studies, presents a novel perspective. It argues that Chomsky's (1981) *reanalysis*, which combines a 'tough' adjective with the subsequent infinitive verb to form a complex adjective amalgam, offers an appropriate framework for understanding the observed intervention. Specifically, intervening adjunct or adverbial PPs/DPs hinder the formation of the required complex adjective amalgam due to the absence of functional layers within the 'tough' infinitive clause.

By exploring the role of complex adjective amalgam formation and the impact of intervening elements, this paper provides a new perspective on the issue of intervention in English 'tough' constructions. Further research in this direction may deepen our understanding of the underlying mechanisms at play and contribute to the ongoing discussions in syntactic theory.

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Examples in: English

Applicable Languages: English

Applicable Level: Tertiary