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CP complements of *er*-nominalisations in English¹

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Er-nominalisations which take CP complements are rare in English, but possible. A common construction involving one is *to be a firm believer that...* I propose that the behaviour of CP-taking *er*-nominalisations (‘CoPTers’) results from a tension. On the one hand, they are *Argument Structure Nominals* in the sense of Grimshaw (1990), and they ‘inherit’ the argument-taking properties of their parent verb. So if the parent verb *believe* can take a CP argument, the corresponding *er*-nominalisation *believer* should be able to take a CP argument too. On the other hand, they are nouns. And since Stowell (1981), a long line of work has argued that a noun simply cannot take a CP as an argument. I argue that this tension is usually fatal, which is why CoPTers are fairly unacceptable when placed in argument positions. It’s only when they are used as *predicate* nouns that they become acceptable – but even then, the CP does not pattern like a true argument of the noun. I sketch a possible analysis, in which the CP complement to a CoPTer adjoins to the predication and binds a variable (of category D) in the CoPTer’s argument position.

Keywords: syntax, nominalisation, clausal complements

1 Introduction

Er-nominalisations in English, like *talker* and *opener*, are often thought to contain some amount of event and argument structure (Rappaport Hovav & Levin 1992; Alexiadou & Schäfer 2010; Roy & Soare 2014). In this article I discuss the somewhat rare but fully productive class of *er*-nominalisations which take CP complements, exemplified in (1).²

- (1) (a) Sorry, I’m a frequent forgetter [that sarcasm doesn’t translate well].
(b) γ I’m a big hoper [that the Universe believes in equality].³
(c) γ I am a firm believer [that every person, young or old, has at least one good story to tell].⁴

¹ Thanks to audiences at LAGB 2021 and LSA 2022 for comments. Thanks also to Coppe van Urk, Jenneke van der Wal, Isabelle Roy and Ksenia Zanon for acceptability judgments.

² Following Horn (2011), examples marked with γ were found via Google searches. All judgments are my own unless noted, and the reader should assume that I also judge any γ -marked example to be acceptable.

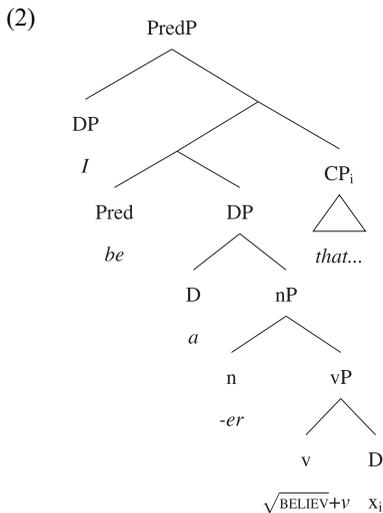
³ www.cinemablend.com/television/So-You-Think-You-Can-Dance-Watch-Top-Three-Final-Performance-Show-26305.html

⁴ www.goodreads.com/quotes/9665961-i-am-a-firm-believer-that-every-person-young-or

- (d) γ The police are frequent complainers [that they have better things to do than answer requests under the Freedom of Information Act].⁵
- (e) γ It is typical of the generosity of the noble Lord's father that he should have been a willing agreeer [that a measure of that sort should put forward and agreed to in Parliament] ...⁶

I propose that CP-taking *er*-nominalisations ('CoPTers') sit at a point of tension in the grammar of English. On the one hand, they contain internal event structure and argument structure which they 'inherit' from the verb they are derived from (their 'parent' verb) – that is, they are *Argument Structure Nominals* (ASNs) in the sense of Grimshaw (1990). As a result they should have the same selectional properties as their parent verb. So if the parent verb can take a CP argument, the *er*-nominalisation of that verb should be able to take a CP argument too. On the other hand, they are nouns. And since Stowell (1981), a line of work has argued that a noun simply cannot embed a CP as an argument. Where a noun appears to take a CP argument, the CP is not a 'true' argument of the noun, but instead is an adjunct or modifier in some sense.

In this article, I argue that many of the properties of CoPTers can be understood with reference to this tension. Indeed, this tension is actually not resolvable in most environments, and I will show that CoPTers are generally unacceptable in argument positions. It's only when the CoPTer is used as a predicate nominal, as in the examples in (1), that it can escape from this bind. By way of analysis, I tentatively suggest that the CP complement to a CoPTer is able to adjoin to the predication itself (Bowers' 1993 *PredP*), and bind a null argument (of category D) in the argument position of the nominalisation. This is schematised in the tree in (2), which corresponds to the untensed *PredP* in a sentence beginning *I am a firm believer that...*, such as (1c).



⁵ www.heraldsotland.com/news/12461068.opening-new-doors-thanks-to-the-publics-right-to-know/

⁶ <https://hansard.parliament.uk/lords/1953-12-08/debates/9aad4aa9-a404-4e23-a8f5-702a74387bb2/NationalArtCollectionsBillII>

In section 2 I summarise some relevant work on *er*-nominalisations and on nouns with CP complements. In section 3 I turn to CoPTers in particular, and I make three points: firstly, they are acceptable only in predicative positions and not in argument positions; secondly, they reject true CP arguments; thirdly, they accept nominal (DP) arguments. The conclusion of these latter two points is that a CP complement to a CoPTer must be attached as a non-argument, and whatever *does* sit in the internal-argument position within the CoPTer must be nominal. In section 4 I sketch out the analysis described above, which captures the requirement that the CP is in a non-argument position, and also explains why CoPTers become acceptable only when used as predicate nominals. Additionally I note some further avenues for study, concerning (a) other classes of nominals within English which are acceptable only in predicative positions, and (b) the (un)acceptability of CoPTers cross-linguistically.

2 Background

In this section I first outline some core properties of *er*-nominalisations (e.g. *speaker*, *opener*), the most crucial property for present purposes being their status as *Argument Structure Nominals* (ASNs). I then discuss clause-taking nouns (e.g. *idea*, *belief*), whose most crucial property is that their clausal complements combine with them not as arguments but as modifiers. These two properties, together, create the core tension that explains the restricted distribution of CoPTers.

2.1 *Er*-nominalisations

Prototypically, *er*-nominalisations are interpreted as individuals who have the thematic role assigned to the subject of their parent verb – so a *worrier* is an individual who worries, an *eater* is an individual who eats, and so on (Rappaport Hovav & Levin 1992). Following much of the literature on nominalisations, I refer to the argument of the parent verb that is picked out by the nominalisation as the R-argument.⁷ The range of thematic roles that can be assigned to the R-argument in the nominalisation is just the same as the range of roles which the parent verb can typically assign to its subject. So just as the subject of *open* can be an agent or an instrument, as in (3), so too can an *opener* be an agent or an instrument, as in (4). That is, the *er*-nominalisation ‘inherits’ the argument structure of its parent verb.

⁷ There is a class of *er*-nouns whose R-argument does not appear to be the subject of the parent verb – some examples are given in (i) (from Alexiadou & Schäfer 2010).

- | | | |
|-----|----------------|--------------------------------------|
| (i) | (a) scratcher | (a lottery ticket that is scratched) |
| | (b) bestseller | (something that sells well) |
| | (c) reader | (a compilation of extracts) |

One analysis of these is that the R-argument is still the subject, but of the *middle* form of the verb. Support for this kind of analysis comes from their middle-like interpretation (Alexiadou & Schäfer 2010). I set these cases aside in this article, as I don't believe there are any CoPTers whose R-argument is a non-subject.

- (3) (a) Mary opened the can.
 (b) The new gadget opened the can.
- (4) (a) I am an expert opener.
 (b) This here is an excellent opener.

For the purposes of this article, it is important that CoPTers contain argument and event structure, and this is what I focus on in the remainder of this subsection.

Some theoretical work has proposed that *er*-nominalisations can have eventive and non-eventive readings (Rappaport Hovav & Levin 1992). In eventive *er*-nominalisations, there is an implication that the nominalised event actually took place, while non-eventive ones lack this implication. This difference is argued to correlate with whether or not a syntactic complement is licensed: eventive *er*-nominalisations license a syntactic complement, as in (5a); non-eventive ones do not license a syntactic complement, as in (5b) – note that the adjoined noun *life* in (5b) is *not* a complement, on which see Borer (2012).

- (5) (a) a saver of lives (can only refer to a person that has saved a life)
 (b) life-saver (has not necessarily saved lives)

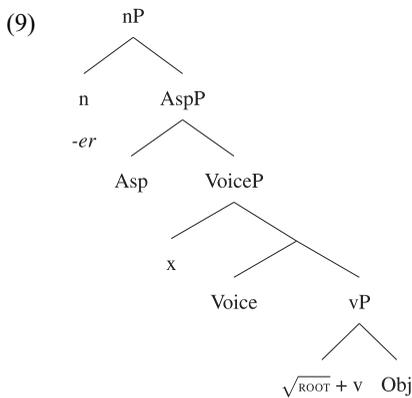
This distinction follows the contours of the distinction between *complex event nominals* and *referring nominals* described by Grimshaw (1990) – complex event nominals contain a representation of an event and inherit the argument structure of their parent verb, thus requiring them to project an internal argument position, if their parent verb does so. In contrast, referring nominals do not contain a representation of an event, and cannot license an internal argument.

However, Alexiadou & Schäfer (2009, 2010) argue that the distinction in (5) is not really about the presence vs absence of an event – they argue instead that all *er*-nominalisations, including those in (5b), contain a representation of an event. Roy & Soare (2014) investigate this claim in more detail and reach a similar conclusion: (many of) those *er*-nominalisations classed as ‘non-eventive’ *do* contain the representation of an event. Their evidence comes from the availability of *internal* readings of certain classes of adjectives that modify *er*-nominalisations.⁸ Some examples are given in (6)–(7). As these examples show, the internal reading of the adjective – that is, when it is interpreted as modifying the event contained within the nominalisation – is available both in the presence *and* absence of a syntactic

⁸ Borer (2012) and Roy & Soare (2013) note that one common test for the presence of event structure within a nominal – compatibility with Aktionsart-modifying *for/in*-PPs – fails with *er*-nominalisations:

- (i) (a) the seller of the dogs (*in five minutes)
 (b) the dog-seller (*in five minutes)
- (ii) (a) the trainer of the dolphins (*for years)
 (b) the dolphin-trainer (*for years)

I follow Roy & Soare (2013) in assuming that these are ruled out for independent reasons.



In prototypical *er*-nominalisations, the R-argument always corresponds to the external argument of the parent verb, so we can analyse the bound argument (‘x’) as being in Spec-VoiceP. The Asp head introduces either an episodic or dispositional operator, which binds the event/eventuality variable introduced in v, thus giving rise to the distinction that Rappaport Hovav & Levin (1992) identified as [+/-event]. The complement to v is then projected just as it would be outside of nominalisation environments, but crucially, in a dispositional context the null object ‘Ø’ may fill the slot instead.¹⁰ I assume that the argument and event structure of a CoPTEr is the same as with any other *er*-nominalisation – the problem comes when attempting to put a CP in the internal argument position projected within the nominalisation. In the next part of this section, I discuss the nature of this incompatibility.

2.2 Nouns with CP complements

Some nouns with CP complements are non-derived, as in (10), and others are derived from verbs, as in (11).¹¹

- (10) (a) I like your idea [that Barry is a vampire].
 (b) I don’t believe the rumour [that Barry is a vampire].
- (11) (a) I don’t understand the belief [that Barry is a vampire].
 (b) I heard her suspicion [that Barry is a vampire].

The important point in this section is that nouns cannot take their CP complements as ‘true’ arguments – something noted by various authors (Stowell 1981; Pesetsky & Torrego 2004; Moulton 2009, 2015; Elliott 2020). Instead, it appears that CP

¹⁰ Other authors, including Baker & Vinokurova (2009) and Borer (2012), have proposed a more minimal structure for some or all subject *er*-nominalisations, which does away with some of the functional structure in (9). However, what’s crucial in this article is that prototypical *er*-nominalisations inherit the ‘low’ (closer to the root) argument structure of their parent verbs – i.e. the relation between the verb and the internal argument. This is maintained in both Borer’s and Baker & Vinokurova’s analyses.

¹¹ There also exist CP-taking deadjectival nouns, such as *sureness* and *certainty*, but I set these aside.

complements combine with their host noun as a *modifier* in some sense, rather than as an argument.¹²

An important piece of evidence for the non-argumenthood of CP complements to nouns comes from the fact that they are not interpreted, semantically, like arguments of those nouns. Consider the pairs of sentences in (12)–(13). They show that the CP complement to a noun like *idea* or *belief* in some sense identifies the *content* of the noun, allowing the noun and CP to be connected by the copula (Higgins 1973; Stowell 1981).

- (12) (a) the idea [that Barry is a vampire]
 (b) The idea is [that Barry is a vampire].
- (13) (a) the belief [that Barry is a vampire]
 (b) The belief was [that Barry is a vampire].

This should be contrasted with what happens with true arguments of nouns. In the previous subsection, we discussed so-called complex event nominalisations (later referred to as *Argument Structure Nominals*, or ASNs), which ‘inherit’ the full argument structure of their parent verb, and must take the same obligatory arguments that their parent verb takes (Grimshaw 1990). Thus the nominal complement of a nominalisation like *destruction*, as in (14a), can function as a true argument of the nominalisation (once supplied with Case by a preposition like *of*). Unlike CP complements, true argumental complements (here, an *of*-DP) cannot be connected to their host nominalisation with the copula:

- (14) (a) the destruction [of the city]
 (b) *the destruction was [of the city]

Perhaps it is expected that non-derived nominals like *idea*, as in (12), don’t take true CP arguments, since they don’t have a parent CP-taking verb from which to inherit argument structure. But it *is* surprising for deverbal CP-taking nominalisations like *belief*, as in (13) – we might expect *belief* to be able to form an ASN, and thus preserve the argument structure of its parent verb *believe*, at least in some environments. However, Moulton (2009, 2013, 2015) shows that it is a systematic property of CP-taking nominalisations (*belief*, *suspicion*, *explanation*, etc.) that they just don’t form ASNs. By way of evidence, Moulton notes that CP-taking nominalisations are incompatible with Aktionsart-modifying *for/in*-PPs:¹³

¹² A strong version of the CP-as-modifier analysis holds that CP complements to nouns are relative clauses, with some kind of concealed relativisation site – see Kayne (2009), Arsenijević (2009) and Haegeman (2012).

¹³ In my judgment, the (b) examples in (15)–(17) aren’t completely terrible, and I find that it’s possible to construct similar examples that approach acceptability. Nonetheless, the contrast between even the *most* acceptable CP-taking ASNs and their equivalent gerunds is clear:

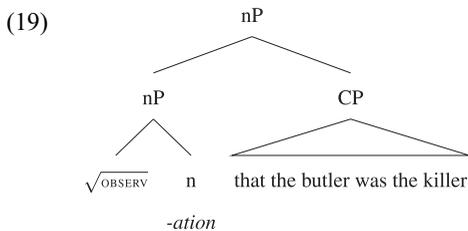
- (i) (a) Their (?insistence/insisting) for six months that we put them in charge eventually wore us down, and we relented.
 (b) Mary’s (?acceptance/accepting) that she would pay damages in under five minutes came as a huge relief.

- (15) (a) They observed [that the butler was likely the killer] for several weeks.
 (b) their observation [that the butler was likely the killer] (*for several weeks)
- (16) (a) John claimed for years [that the earth was flat].
 (b) John's claim (*for years) [that the earth was flat]
- (17) (a) I decided [that he was a fraud] in five minutes.
 (b) my decision [that he was a fraud] (*in five minutes)

ASNs, by contrast, do allow Aktionsart modifiers, as in (18). In fact, Moulton (2015) notes that the same nominalisation (e.g. *observation*) can function as an ASN when it takes an *of*-NP complement (18b), but must be a non-ASN when it takes a CP complement (15b).

- (18) (a) the destruction [of the city] (in three hours)
 (b) Their observation [of the butler] (for several weeks) led to a conviction.

Following Moulton (2015), I assume that CP-taking nouns, both those that are deverbal nominalisations and those that are not, have the reduced structure in (19). Unlike the structure for *er*-nominalisations in (9), no event or argument structure, in the form of the verbalising head *v* or the Voice head, is embedded under the nominalising head *n*. Instead the CP combines with the nP via Predicate Modification (I refer the reader to Moulton's work for a formal semantic analysis).



Further evidence for the non-argumenthood of CP complements to nouns, and thus that the structure in (19) is on the right track, comes from the unavailability of the CP pro-form *so*.¹⁴ Moulton (2015) points out that while a great many CP-taking verbs can take *so* – some examples are given in (20) – there is no variation among CP-taking nouns, which uniformly reject *so*-complements. Some equivalent examples are given in (21).

- (20) (a) I believe so.
 (b) γ Mother India's Cafe: No gluten-free food even if they claimed so.¹⁵
 (c) She would not admit so to DYFS because she feared the consequences. (Moulton 2015: 308)

¹⁴ With the structure in (19), referring to the CP as the 'complement' of the noun becomes a bit of a misnomer – nonetheless, I continue to do so for terminological consistency.

¹⁵ www.tripadvisor.co.uk/ShowUserReviews-g186525-d1545969-r295925603-Mother_India_s_Cafe-Edinburgh_Scotland.html

- (21) (a) *my belief so
 (b) *my claim so
 (c) *my admission so

Moulton argues that *so*, unlike full CPs, *does* saturate the argument slot of the verbs that select it. *So* therefore cannot combine with clause-taking nouns, because clause-taking nouns do not have an argument slot that can be saturated.¹⁶

As an additional interesting point, it appears that nouns' inability to take CP arguments is not a solely syntactic restriction, but stems from their interpretation. The examples in (22)–(23) show that *idea/belief*-type nouns cannot take *of*-DP arguments, if those DPs are substitutes for propositions (Moulton 2013):

- (22) (a) I don't understand the idea [that Barry is a vampire].
 (b) *Barry – a vampire? I don't understand the idea of that.
 (23) (a) I've never understood the belief [that Barry is a vampire].
 (b) *Barry – a vampire? What causes the belief of/in that?

If the ban on CP arguments was a purely syntactic constraint against elements of category C occupying an argument position, then the above examples should be fine – or at least, (23b) should be fine, since *belief* should be able to form an ASN. But instead, it appears that there is a slightly broader ban, not just on CP arguments within nouns, but on CP-taking nominalisations like *belief* forming ASNs in the presence of a proposition-denoting complement.¹⁷ When we turn to CoPTers in the next section, we will see that their inability to take CPs as arguments is more straightforwardly syntactic, since they *can* take propositional *of*-DPs as arguments (section 3.2).

Let's summarise this section. We saw first that *er*-nominalisations contain the representation of an event and inherit argument structure from their parent verbs, although this is sometimes obscured in *dispositional er*-nominalisations, where the dispositional aspectual operator licenses a null object. I adopted Alexiadou & Schäfer's (2010) analysis of *er*-nominalisations, in which the nominalising head *n* merges with an AspP containing argument and event structure, introduced by the functional heads *v* and Voice. We then turned to CP-taking nouns, and saw several arguments that such nouns do not – indeed, *cannot* – take their CPs as arguments. Instead, CPs can only combine with nouns as modifiers. Either as a cause of this, or a consequence of it, CP-taking verbs don't form ASNs, but instead form nominalisations with the more minimal syntactic structure in (19), wherein the CP is an adjunct at the nP level. Note

¹⁶ Moulton (2015) notes that the trace of *as*-extraction patterns similarly to *so*, as in (ia), and is also less restricted in terms of what verbs it can appear with. However, since *as*-extraction cannot take place out of NPs (shown in (ib)), I set it aside here.

- (i) (a) Fred is, as no one doubts t_{as} , a wonderful nurse.
 (b) *Fred is, as no one has a doubt t_{as} , a wonderful nurse.

¹⁷ Moulton (2013: footnote 26) simply states that this finding 'remains a mystery'.

that I do not offer an explanation for *why* nouns cannot take CPs as arguments, and I refer the reader instead to Moulton (2015) and Elliott (2020) for recent proposals.¹⁸

In the next section I discuss the intersection of these two topics: CP-taking *er*-nominalisations (CoPTers), exemplified in (1). I argue that several of their properties can be explained as a consequence of a fundamental tension: *er*-nominalisations are ASNs, but nounhood is incompatible with CP arguments.

3 *Er*-nominalisations with CP complements

One interesting property of the examples in (1) is that in each case, the CoPTer is the complement of the copula *be*. In fact, it turns out that CoPTers sound best when used as *predicate nominals*: as the complement of *be*, the complement of *as*, the complement of a small clause, or as an appositive parenthetical:

- (24) (a) γ Yet Jackson is a chronic complainer that his privacy is invaded.¹⁹
 (b) γ And I say that as a Moore critic and doubter that he can do it again.²⁰
 (c) γ I was never very religious but I would consider myself a believer that there is something after we die.²¹
 (d) γ You are hearing, in short, a seeker of unfair privilege – a demander that the playing field be tilted against consumers’ and society’s broad interests and toward its own narrow interests.²²

This is one of the most striking properties of the distribution of CoPTers: they are, virtually, *only* found in predicate positions. In fact they sound either strange or unacceptable in argument positions. The (a) sentences in (25)–(27) feature *believer*, with a short CP complement, in a few different argument positions. They all sound bad in my judgment, and they are, at least, worse than the (b) examples, which feature *belief* in an equivalent argument position with the same CP complement.²³ I use *believer* since that seems to be by far the most common CoPTer.²⁴ They also all involve a modal component, since that improves their acceptability somewhat too.

¹⁸ The fundamental issue with CPs in argument positions has been argued to stem from their semantic type, which causes them to combine with predicates by modification rather than saturation (Moulton 2015; Elliott 2020). In clauses, this may be resolvable by some technology (Moulton 2015 proposes that the CP has to move, leaving a trace whose semantic type is subsequently altered by a trace conversion operation), but in ASNs no escape from the bind is available.

¹⁹ https://journaltimes.com/exclusive-tabloid-editor-talks-slams-celebrities-as-media-manipulators/article_d95887b9-d262-53d1-9b97-c84f81f11061.html

²⁰ https://webcache.googleusercontent.com/search?q=cache:74UhB_SZEO0J:https://www.royalsreview.com/2017/12/8/16743252/what-you-need-to-know-about-the-royals-and-next-weeks-winter-meetings

²¹ www.reddit.com/r/ttcafterloss/comments/j566ew/anyone_else_lost_their_faith_or_spirituality/

²² <https://cafehaye.com/2016/11/quotation-of-the-day-1883.html>

²³ I have confirmed the judgments in (25)–(30) and (i)–(ii) in footnote 25 with three other native English speakers. While there is disagreement about the magnitude of the difference between the (a) and (b) examples, all agree that the (a) sentences sound worse than the (b) sentences.

²⁴ *Believer* may be confounded slightly in that it has an idiomatic interpretation, referring to a believer in some religion or philosophy. Nonetheless I use it here because it’s so common.

- (25) (a) ?A firm believer [that speeding is deadly] wouldn't be driving like that.
 (b) A firm belief [that speeding is deadly] will keep you fairly safe.
- (26) (a) ?I hope to one day meet a firm believer [that the earth is flat].
 (b) I encouraged the belief [that the earth is flat].
- (27) (a) ?A science seminar should probably not be led by a firm believer [that the earth is flat].
 (b) I held the firm belief [that the earth is flat].

If we use an *er*-nominalisation other than *believer*, and without modality, the contrasts are even sharper:²⁵

- (28) (a) ??The complainer [that the country had gone to the dogs] did not merit a response.
 (b) The complaint [that the country had gone to the dogs] didn't hold much water, in her view.
- (29) (a) ??I did not respond to the complainer [that the country had gone to the dogs].
 (b) I did not respond to the complaint [that the country had gone to the dogs].
- (30) (a) ??The reaction was prompted by a complainer [that the country had gone to the dogs].
 (b) The reaction was prompted by a complaint [that the country had gone to the dogs].

Why should CoPTers be degraded in argument positions? To answer this question, I'm going to flip it around. I'm first going to provide an account for why these nominalisations are ungrammatical *generally*, and then, in the next section, I will provide some speculation about why they are improved in predicate position.

Turning to the question of what makes these nominalisations bad, I believe it results from the tension outlined in the previous section. On the one hand, *er*-nominalisations obligatorily inherit the argument structure of their parent verb (accounted for in the analysis of Alexiadou & Schäfer 2010 by having them share a root and verb-related functional structure with their parent verb). But on the other hand, being nouns, they are unable to take a CP as an argument, and instead can only take it as a modifier. In sum, CoPTers have an argument slot for a CP, in which a CP cannot be licensed. For the verb to select a CP, as in (31), results in ungrammaticality.

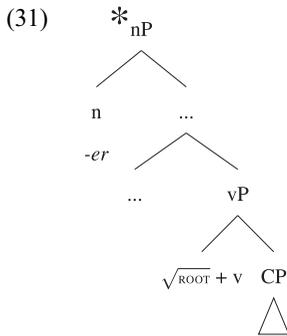
²⁵ Some determiners, demonstratives and adjectives also improve the acceptability of CoPTers in argument positions:

- (i) (a) ?Do you remember that one impassioned insister that only she knew how to fix the bike?
 (b) ?Which particularly forceful asserter that the mark scheme was wrong were you eventually convinced by?

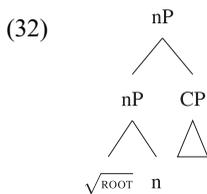
Very speculatively, this *could* relate to the presence of a predication-like relation between the determiner and its nominal complement. Demonstratives like *that*, and the *wh*-determiner *which*, can be connected to DPs with the copula:

- (ii) (a) That is the right one.
 (b) Which is the right one?

See Bennis, Corver & Den Dikken (1997) for discussion and examples of predication within noun phrases. However, to assert that there is predication in DPs like those in (i), which don't obviously join two noun phrases, goes somewhat beyond their argument.



Other kinds of CP-taking nominalisation, like *suspicion* or *belief* as in (11), are not subject to this bind: rather than projecting the verb-related functional structure (i.e. v, Voice), they instead have a simple, event-free structure like (19), shown schematically in (32) (Moulton 2015).



In this structure, there is no CP argument slot that requires saturation, and a CP can instead happily merge as an adjunct at the nP level. However, *er*-nominalisations are saddled with the more complex structure in (31): the verb-related functional structure is always projected, and so the un-saturable CP argument slot is too. What's more, a CP simply can't be interpreted as a modifier of an *er*-nominalisation. The following contrasts show that the CP complement does *not* specify something about the content of the nominalisation (compare with (12)–(13)):

- (33) (a) a firm believer [that Barry is a vampire]
 (b) *A firm believer is [that Barry is a vampire].
- (34) (a) a frequent forgetter [that sarcasm doesn't translate well]
 (b) *A frequent forgetter is [that sarcasm doesn't translate well].

CP complements of *er*-nominalisations are therefore *semantically* arguments of the nominalisation, unlike CP complements to non-ASNs like *idea* and *belief*. And the result of adding CP complements to *er*-nominalisations is therefore, typically, ungrammaticality: the CP can't merge 'low' as an argument to vP, and it can't merge 'high' as a modifier to nP either.²⁶

²⁶ It is hard to find direct evidence that CoPTers have the same amount of argument and event structure as other *er*-nominalisations, as described in section 2.1. The test presented in examples (6)–(7), regarding the

So, this tells us why CoPTErs might be unacceptable generally, but we are still waiting on an explanation for why they are basically fine when used as predicate nominals. I set this question aside for now and return to it in section 4. For the rest of this section, I aim to show that when we *do* see an *er*-nominalisation with a CP complement, that CP is not in an argument position.

In section 3.1 I show that, even when used as predicate nominals, CoPTErs don't take their CPs as arguments. Then in section 3.2, I look at what *can* occupy the internal argument position of the CoPTEr. The upshot is that CoPTErs don't have a blanket ban on arguments: DPs with propositional meanings can happily occupy the argument position. Note that this property differentiates CoPTErs from CP-taking nouns like *idea* and *belief*, which *do* have a blanket ban on arguments with propositional meaning (see (22)–(23)), and thus supports the claim that CoPTErs contain the functional structure required for hosting an argument.

3.1 *Er*-nominalisations reject CP arguments

I present four pieces of evidence that *er*-nominalisations do not take CPs as arguments, even when used as predicate nominals. The first two pieces of evidence come from two CP pro-forms: *so* (as discussed in section 2.2) and the null CP pro-form that occupies the internal argument position of the verb in *Null Complement Anaphora* contexts, which I refer to as ' \emptyset_{NCA} '. I show that both of these CP pro-forms are unavailable within *er*-nominalisations, and I attribute this to the pro-forms' status as syntactic CPs. The third piece of evidence comes from the fact that the CP doesn't reconstruct for wh-movement. The final piece of evidence is somewhat weaker than these, and comes from the distribution of null complementisers.

We saw in section 2.2 (example (21)) that CP-taking nouns reject the CP pro-form *so*. Moulton (2015) attributes this to the fact that *so* can only saturate an argument slot, but cannot combine with nouns as a modifier. *Er*-nominalisations similarly reject *so*:

availability of internal readings of adjectives, cannot be readily applied to CoPTErs. This is because CoPTErs can only be used as predicates, and this usage removes the truth-conditional distinction between the internal and external readings of these adjectives (see Roy & Soare 2014 for discussion):

- (i) (a) She's a constant denier that anything was ever her fault. (= she constantly is a denier of it)
- (b) I'm a big hopper that the issue will one day be sorted out. (= I am a hopper for it in a big way)

Also note that at first glance it *appears* that CoPTErs accept Aktionsart-modifying *for/in*-PPs, as in (iib) and (iiib). However, this would be quite unexpected given that *er*-nominalisations generally reject these modifiers – see footnote 8. I believe that in these cases, the PP is modifying the clause-level predication relation.

- (ii) (a) I believed for years [that he was a fraud].
- (b) As a believer for years [that he was a fraud]...
- (iii) (a) I complained for years [that I should have studied something easier].
- (b) As a complainer for years [that I should have studied something easier]...

- (35) (a) *I am a firm believer so.
 (b) *She is a consistent claimer/claimant so.
 (c) *He is a one-time admitter so.

I follow Moulton in assuming that *so* is a CP pro-form that can only saturate argument slots. And while *er*-nominalisations *do* have an available argument slot for *so* to saturate (unlike other CP-taking nouns), they simply can't license CPs.

I now apply similar reasoning to \emptyset_{NCA} , the pro-form that occurs in the complement of those verbs which license Null Complement Anaphora (NCA). First I argue that \emptyset_{NCA} is (at least sometimes) a CP pro-form (following Haynie 2010 and Depiante 2019). Then, I show that \emptyset_{NCA} cannot serve as an argument of *er*-nominalisations, even when the parent verb of the nominalisation lexically selects for NCA. I propose that this is because, as above, *er*-nominalisations can't take CP arguments.

Let's start with some background. The term Null Complement Anaphora (NCA) was introduced by Hankamer & Sag (1976) to describe the phenomenon in (36) (though Shopen 1972 had earlier described the phenomenon as *definite constituent ellipsis*). It's when the complement of certain verbs may be omitted, and recovered anaphorically.

- (36) (a) I told them to take out the trash, but they refused \emptyset_{NCA} .
 (b) I didn't tell her that I was going to leave, but she found out \emptyset_{NCA} .

Analyses of NCA abound, but some analyses, including Hankamer & Sag (1976), Depiante (2000) and Haynie (2010), hold that a null pro-form (here ' \emptyset_{NCA} ') replaces the complement of certain lexical verbs (e.g. *refuse*, *find out*). Crucially, Haynie argues that the null pro-form may be of several syntactic categories, including CP, but *not* DP.

This is very fortunate for our purposes, because this is just the opposite set of categories from those which are permitted in *er*-nominalisations – recall that *er*-nominalisations *allow of*-DP arguments and *ban* CP arguments. We therefore expect that the ability of a lexical verb to license \emptyset_{NCA} should disappear when that verb undergoes *er*-nominalisation – \emptyset_{NCA} is a CP, and CPs aren't licensed in argument positions within the noun. And indeed, this is what we find. In the (b) sentences in (37)–(40), the missing complement can only be interpreted as non-specific (i.e. a forgetter of *things*, a promiser of *things*, etc); it can never be interpreted as anaphoric.²⁷

- (37) (a) Sarcasm doesn't translate well? Yes, I frequently forget \emptyset_{NCA} .
 (b) Sarcasm doesn't translate well? Yes, I'm a frequent forgetter #(of that).

²⁷ Other CP-taking nouns are different, in that some do allow NCA. Moulton (2013: 258) shows that NCA is possible with *idea* and *suspicion*, among others:

- (i) (a) They are going to replace the whole product? I had no idea \emptyset_{NCA} .
 (b) John's phone was being tapped? Yeah, I had a suspicion \emptyset_{NCA} .

This indicates that the licensing conditions on \emptyset_{NCA} are different from those on *so*, which is uniformly banned with nouns (see section 2.2). It could be that \emptyset_{NCA} can act like other kinds of CPs and can modify, rather than saturate, *believable*-type nouns. However, neither *so* nor \emptyset_{NCA} can escape the ban on CPs in argument positions.

- (38) (a) Will we go see a film tomorrow? Yes, I promise \emptyset_{NCA} .
 (b) We'll go see a film tomorrow? Yes, I am a chronic promiser #(of that).
- (39) (a) We should rejoin the EU? Yes, I agree \emptyset_{NCA} .
 (b) We should rejoin the EU? Yes, I've been a consistent agreeer #(with that statement) for half a decade now.
- (40) (a) Mary says *she's* the one who burned down the old house? Yeah, she confessed \emptyset_{NCA} .
 (b) Mary says *she's* the one who burned down the old house? Yeah, she's an occasional confessor #(to that), in her more candid moments.

Let's now turn to the final piece of evidence that CoPTers don't take their CPs as arguments: the CPs don't reconstruct. Consider first (41a), adapted from Kuno (2004: 335), in which an R-expression (*John*) is c-commanded by a coindexed pronoun (*he*), creating a Condition C violation. In (41b), the NP containing the R-expression has been *wh*-fronted across the pronoun. Crucially, in order for (41b) to be grammatical and obviate a Condition C violation, the NP must *not* reconstruct into its base position.²⁸

- (41) (a) *He₁ tried to get [one psychiatrist's view that John₁ was schizophrenic] expunged from the trial records.
 (b) [Which psychiatrist's view that John₁ was schizophrenic]_i did he₁ try to get *t_i* expunged from the trial records?

CP complements to *wh*-fronted nouns can be contrasted with CP complements to *wh*-fronted verbs, as in (42) from Moulton (2009: 63). The relative unacceptability of the coindexation indicated here, compared with that in (41b), indicates that CP complements to *wh*-fronted verbs *do* reconstruct, and thus that *wh*-movement of a clause-taking verb fails to obviate Condition C.²⁹

- (42) *[Whose loudly claiming that Bob₁ is the murderer]_i did he₁ not hear *t_i*?

Moulton (2009, 2013) argues that the CP complement to a *wh*-fronted noun fails to reconstruct because it is merged *late* – that is, the CP is only merged with its host noun following *wh*-movement (Lebeaux 1988; Fox 2002). And what lets it merge late is the fact that it is *not* an argument of the noun. By contrast, the CP complement to a verb is an argument of it, and so late merge is not an option.

CP complements to *er*-nominalisations pattern in just the same way as CP complements to other nouns. Example (43) shows that these CP complements do not reconstruct.

²⁸ Note that the claim that CP complements to nouns do not reconstruct contradicts an older claim that CP complements *do* reconstruct (see Freidin 1986; Lebeaux 1988) – see Moulton (2013) for discussion.

²⁹ Compared with his 2009 dissertation, Moulton (2013: 278) is somewhat equivocal about whether there is a real contrast between configurations like (41b) and those like (42). In my judgment there is a contrast.

- (43) (a) [Which firm believer that Mary₁ wasn't telling the truth]_i was she₁ constantly having to contradict *t_i*?
 (b) [Which frequent complainer that the police chief₁ was corrupt]_i did he₁ eventually assassinate *t_i*?

Thus, by Moulton's reasoning, the CP complement to an *er*-nominalisation can be merged late, indicating that it is *not* a true argument of the nominalised predicate. Note that the examples in (43) require placing CoPTErs in *argument* positions, something that is generally not grammatical (see (25)–(27), (28)–(30)). However, as noted in footnote 25, certain determiners, including *which*, do improve the acceptability of CoPTErs in argument positions.

A final, weaker argument for the non-argumenthood of the CP comes from the *alleged* unavailability of the null complementiser. It has been claimed that the null complementiser is only available with the complements to verbs and adjectives, never with the complements to nouns (Stowell 1981; Pesetsky & Torrego 2004). This is illustrated by examples like (44), from Stowell (1981: 398).

- (44) (a) I distrust the claim (*that) Bill had left the party.
 (b) John's belief (*that) he would win the race was misguided.

To the extent that this generalisation holds, CP complements to *er*-nominalisations pattern with CP complements to other nouns. In my judgment, the CP complements in (45) require an overt *that*.

- (45) (a) Sorry, I'm a frequent forgetter (*that) sarcasm doesn't translate well.
 (b) γ David Brooks, a one-time believer (*that) red and blue America demonstrated "no fundamental conflict" ...³⁰

Therefore, if the unavailability of the null complementiser can be derived from these CPs' status as *non*-arguments of their host noun (as Stowell 1981 argues), then we have a further argument that the CP complements of *er*-nominalisations are, similarly, not true arguments of their host noun.

However, Moulton (2015: 318) points out that the empirical picture is not so clear-cut and that counterexamples abound, as in (46).

- (46) (a) ...in the belief he was buying a kilo of skunk cannabis. (Moulton 2015: 318)
 (b) γ Tis the season to be jolly (careful)With the announcement we 'should' be able to open next week on Thursday 3rd December.³¹

But to the extent that the generalisation holds, we have yet another way in which CP complements to *er*-nominalisations differ from true argumental CPs.

³⁰ <https://slate.com/news-and-politics/2004/10/kerry-at-least-hes-not-bush.html>. Note that the Googled version of (45b) contains *that*, and the asterisk reflects my own judgment.

³¹ www.facebook.com/181899598489294/posts/tis-the-season-to-be-jolly-careful-with-the-announcement-we-should3753675814644970/

To summarise, we've seen several pieces of evidence that CoPTErs do not take their CPs as arguments. Whatever the overt CPs in (1) and (24) are, they aren't arguments of the nominalisation. In the next subsection, I show that DPs, unlike CPs, *can* serve as the arguments of *er*-nominalisations. Ultimately, I integrate this finding into my analysis in section 4: the adjoined CP binds a variable whose syntactic category is D.

3.2 *Er-nominalisations accept DP arguments*

We have seen so far that CP-taking non-ASNs like *idea* and *belief* cannot take propositional DPs as complements (see (22)–(23)). And we have also seen that, by contrast, CoPTErs *can* take propositional DPs as complements (see (37)–(40)). The following pairs of sentences explicitly compare the two – note in particular that the *er*-nominalisations are in argument positions, and are not being used as predicate nominals:³²

- (47) (a) *Eleanor – a werewolf? I don't understand the belief of that.
 (b) Eleanor – a werewolf? I once met a serious believer of that.
- (48) (a) *Eleanor – a werewolf? I don't understand the claim of that.
 (b) Eleanor – a werewolf? Yes, I once met a serious claimer of that.³³

Non-ASNs like *belief* and *claim* can't take a propositional DP as a complement simply because they can't take arguments (cf. section 2.2). CoPTErs like *believer* and *claimer*, by contrast, are ASNs (cf. section 2.1), and so *can* take a propositional DP as an argument. Then, for CoPTErs, the relevant difference between a DP complement (acceptable) and a CP complement (unacceptable) is that a DP can be syntactically licensed in the *er*-nominalisation's internal argument position (by inserting *of* or a lexically selected preposition), while a CP cannot be syntactically licensed in the argument position by any means (and so, I suggest in this article, can only be licensed by additional functional structure external to the nominal).

³² Both CP-taking nouns (e.g. *rumour*, *belief*) and CoPTErs can take a PP argument headed by *about*, as in (i)–(ii).

- (i) (a) The rumour about Mary that she is a werewolf...
 (b) The belief about John that he is crazy... (Moulton 2013: 272)
- (ii) (a) γ I am a firm believer about the nurture/nature debate, that an adopted child would behave like a biological child because my cousin was adopted from Korea and acts JUST like my aunt and her 2 bio brothers. (https://community.babycenter.com/post/a25972831/1_biological_and_1_adopted_child)
 (b) γ I'm a firm believer about oil pressure readings, if they are low and used to be higher, something is wrong. (adapted from www.corvetteforum.com/forums/c6-corvette-zr1-and-z06/3070898-z06-having-oil-pressure-issues-2.html)

Following Moulton (2013), I assume that this argument is *not* inherited from a parent verb (and indeed, it is possible with non-nominalisations like *rumour*). Rather, it realises the so-called *res* argument of the attitude ascription – the individual that the rumor/belief/idea/etc is *about*.

³³ See also this example, found online:

- (i) γ I was loaned this album assured that it was a great piece of music. The claimer of that statement was no liar. (<https://rateyourmusic.com/music-review/Lhurgoyfff/iron-maiden/the-number-of-the-beast/24819418>)

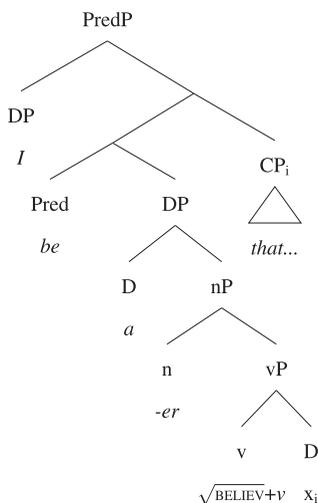
In the next section, I provide a tentative analysis, originally sketched in (9), which captures both the non-argumenthood of CP complements to CoPTERs and why CoPTERs are acceptable only in predicate position.

4 Discussion and conclusion

In this article we have seen that CP-taking *er*-nominalisations (CoPTERs) sit at a point of tension in the grammar. On the one hand, we saw in section 2.1 that *er*-nominalisations preserve the event structure and argument structure of their parent verb – so where the parent verb can take a syntactic CP argument, so too should the derived *er*-nominalisation be able to take a CP argument. On the other hand, we saw in section 2.2 that nouns can't license CPs arguments, and have to take them as modifiers instead. The consequence of this tension is that, in general, *er*-nominalisations can't take CP complements. The mysterious exception to this comes when the *er*-nominalisation is used as a predicate nominal, as illustrated in section 3. In such cases, the *er*-nominalisation can take a CP complement, which, at first, appears to be its argument. But as we showed in section 3.1, the CP is not an argument to the CoPTER. Finally, we showed in section 3.2 that it really is the syntactic category of the CP that causes the issue – propositional DPs make acceptable arguments to CoPTERs.

It seems then, that there are at least two connected mysteries: what *is* the CP, if it's not an argument of the nominalisation? And why is it licensed only when the CoPTER is used as a predicate? The analysis I tentatively propose here answers both: the CP is an adjunct, not an argument, which binds a nominal-category variable (notated 'D') in the argument position of the CoPTER. CoPTERs are acceptable only as predicate nominals because the phrase which the CP is adjoined to is not within the extended projection of the nominal itself, but is in fact the phrasal projection of the predication (see Bowers' 1993 PredP). This is schematised in (49), repeated from (2).

(49)



Several aspects of this analysis are left open. How exactly does the adjoined CP bind the nominal argument variable?³⁴ What is the nature of the null variable, given that English is not typically thought to have any null (referential) pronouns? And why is PredP the only possible host for the adjoined CP? I do not address these here, and leave them for future work.

Finally, I note two avenues for further investigation. Firstly, there are other classes of nominals that are restricted to predicate positions, and which are odd or unacceptable in argument positions. One kind of nominal which behaves this way is bare NPs designating roles, as shown in (50) (see Huddleston & Pullum *et al.* 2002: 409; Hundt 2016). Another nominal with this restriction is free relatives with *who*, as in (51) (Patterson & Caponigro 2016; Stockwell & Schütze 2022).

- (50) (a) She was Dean of the Law School.
 (b) *She irritated Dean of the Law School
- (51) (a) That was [who won the prize].
 (b) *That irritated [who won the prize].

It would be interesting to investigate what, if anything, unites those NPs that are restricted to predicate position, and whether they too might be amenable to the analysis I proposed above.

A second avenue for further investigation concerns the cross-linguistic acceptability of CoPTErs. From an informal survey of several speakers of different Indo-European languages, they seem to be broadly unacceptable. The examples in (52) show that they are unacceptable in Dutch, French, Greek and Russian.

- (52) (a) ??Hij is een fervent klager/gelover dat het anders moet.
 he is a passionate complainer/believer that it different must
 'He is a passionate complainer/believer that things must be done differently.' (Dutch)
- (b) ??un grand croyant que la Terre est ronde
 a big believer that the Earth is round
 'a great believer that Earth is round' (French)
- (c) *ime poli pistos oti ola simven-un ja kapjo logho
 I.am very believer that all.N.PL happen-3.PL for some reason
 'I am a firm believer that everything happens for a reason.' (Greek)

³⁴ It is tempting to appeal to *CP-linking*, the mechanism by which CPs are linked to argument positions by the expletive pronoun *it* in sentences like (i) (see Postal & Pullum 1988).

- (i) (a) It_i seems [that you're unhappy].
 (b) I hate it_i [that you're unhappy].

Any such analysis will have to contend with the simple fact that there is no *it* between a CoPTEr and its CP complement. But the CP-linking approach perhaps gains plausibility by virtue of the fact that expletive linked *it* in object position (as in (ib)) is generally omissible, when adjacent to its linked CP.

- (d) *ona častaja žalobščica (na to), što u nee net
 she frequent.F complainer.F (on that.DEM) that.COMP at her not
 vremeni
 time.GEN
 ‘She is a frequent complainer that she doesn’t have enough time.’ (Russian)

I have no working hypothesis for why CoPTers should be such a marked construction cross-linguistically (on the assumption that this small Indo-European survey generalises), nor what makes English special in this regard, but it would be interesting to find out.

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