**So local a movement: Degree fronting in English nominals**

***Jamie Douglas (jamie.a.douglas89@gmail.com)***

**Abstract**

This paper focuses on degree fronting constructions in English, i.e. examples like 'how beautiful a tree' or 'so local a movement'. I argue that such constructions involve movement of an AP, triggered by an [A(djective)] category feature, rather than movement involving a degree element with pied-piping of an adjective. Evidence comes from observations that degree fronting is nominal-bounded and sensitive to the intervention of higher APs. I discuss some consequences of this analysis for the treatment of examples like 'what a beautiful tree' or 'such a local movement', and emphasise that the interpretation and/or function of a movement need not be formally encoded in the syntax in a uniform way.

## 1 Introduction

The focus of this paper is the syntax of constructions in English like those given in (1), which I will call degree fronting constructions. Whilst the canonical position for attributive adjectives in English is between the article and the noun, in degree fronting constructions, a degree element (*so, how, as, too, that*) and the adjective it semantically modifies appear to the left of an indefinite article.

(1) a. so beautiful a tree
b. how beautiful a tree
c. as beautiful a tree
d. too beautiful a tree
e. that beautiful a tree

In some semantically similar cases, for example, involving *such* and exclamative *what*, only the degree element appears to be fronted, as in (2). As will be discussed later, there is reason to think that the examples in (1) and (2) are both syntactically and semantically distinct. I will therefore set aside examples aside for now, returning to them in Section 4.

(2) a. such a beautiful tree
b. what a beautiful tree

I will argue that degree fronting in English nominals is movement of an adjective phrase, AP, triggered by a category feature, [A], rather than movement of a degree element with pied-piping of the AP, as is often proposed. My argument is based primarily on two observations: (i) degree fronting is local or 'nominal-bounded', and (ii) degree fronting is sensitive to intervention by adjectives. These are illustrated below.

First, while degree fronting *within* a nominal phrase is permitted, degree fronting *across* a nominal phrase boundary is impossible, as in (3) and (4), respectively (the relevant nominal phrase is enclosed is square brackets).

(3) a picture of [{so / how / as / too / that} friendly a person]

(4) * {so / how / as / too / that} friendly a picture of [a person]

In (3), degree fronting of a degree element (*so, how, as, too, that*) and the adjective it modifies (*friendly*) is permitted within the noun phrase headed by the noun modified by the adjective (*person*). However, as (4) shows, degree fronting across the boundary of the nominal phrase headed by *person* is impossible. The strings in (4) could only receive the interpretations where *friendly* modifies *picture (of a person)*. This suggests degree fronting is 'nominal-bounded' (by analogy with 'clause-bounded').

The second observation concerns intervention. To begin, let's consider the examples in (5), whose attributive adjectives are ambiguous between intersective and non-intersective interpretations.

(5) a. a beautiful dancer
  i. 'a person who dances beautifully' (non-intersective)
  ii. 'a dancer who is beautiful' (intersective)
 b. a heavy smoker
  i. 'a person who smokes heavily' (non-intersective)
  ii. 'a smoker who is heavy' (intersective)

Degree fronting with such examples preserves the ambiguity between the non-intersective and intersective interpretations.

(6) a. {so / how / as / too / that} beautiful a dancer (intersective ✓, non-intersective ✓)
 b. {so / how / as / too / that} heavy a smoker (intersective ✓, non-intersective ✓)

When intersective and non-intersective attributive adjectives co-occur within a nominal phrase, the non-intersective one generally appears closer to the noun than the intersective one. For example, in (7), *beautiful/heavy* can only be interpreted intersectively, which results in an anomalous interpretation when appearing with *hideous/skinny* respectively (on the assumption, for the sake of argument, that someone cannot be both beautiful and hideous or heavy and skinny at the same time). However, when the order of adjectives is reversed, as in (8), *beautiful/heavy* may receive a non-intersective interpretation and there is no semantic anomaly.

(7) a. #a beautiful hideous dancer
 b. #a heavy skinny smoker

(8) a. a hideous beautiful dancer
 b. a skinny heavy smoker

Now, consider what happens when degree fronting applies to *beautiful/heavy* in the presence of *hideous/skinny*. As (9) shows, the result is semantically anomalous. This suggests that the examples in (9) are related to those in (7) rather than those in (8). As we saw in (6), there is nothing wrong *per se* with degree fronting involving an adjective interpreted non-intersectively. Therefore, the problem seems to involve the addition of another adjective. In other words, degree fronting cannot cross over another adjective; the higher adjective seems to intervene with degree fronting.

(9) a. #{so / how / as / too / that} beautiful a hideous dancer
 b. #{so / how / as / too / that} heavy a skinny smoker

Furthermore, the effect is brought about by adjectives which are not themselves gradable or eligible for degree fronting. In this respect, consider the adjective *former*.

(10) a. a former smoker
b. #{so / how / as / too / that} former a smoker

(11) a. a former heavy smoker (*heavy* is non-intersective)
b. a heavy former smoker (*heavy* is intersective)
c. {so / how / as / too / that} heavy a former smoker (*heavy* is intersective only)

As (10) shows, *former* does not permit degree fronting, *former* not being a gradable adjective. Turning to (11), *heavy* receives a non-intersective interpretation in (11a), and an intersective interpretation in (11b). When degree fronting with *heavy* is applied, as in (11c), *heavy* can only be interpreted intersectively, suggesting that degree fronting across *former* is not permitted and hence that the syntactic category of adjective, rather than gradability, is at the root of this intervention effect.

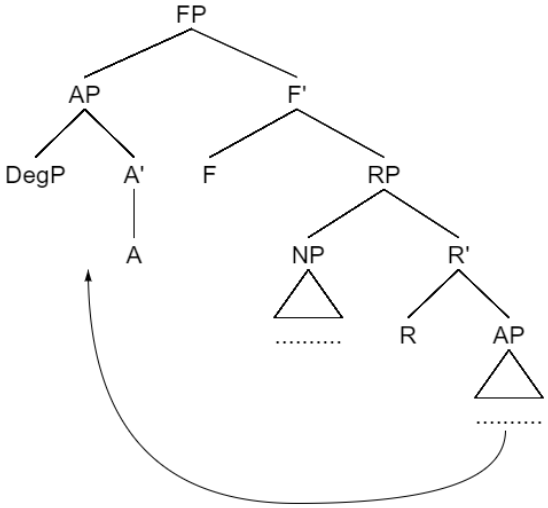
In summary, degree fronting in English is (i) nominal-bounded, i.e. can only take place *within* and not *across* a nominal phrase; and (ii) sensitive to intervention by adjectives. Some implications of these observations for the analysis of degree fronting in English will be discussed in Section 2, while my own AP-movement analysis will be presented in Section 3. Consequences of the AP-movement analysis will be discussed in Section 4, before Section 5 concludes.

## 2 Existing analyses

Several types of analysis have been proposed for degree fronting in English and other languages. These can be broadly described as base generation, predicate fronting, quantifier raising and A-bar movement. In this section, I will only consider movement-based analyses, though base-generation will form part of the discussion in Section 4.

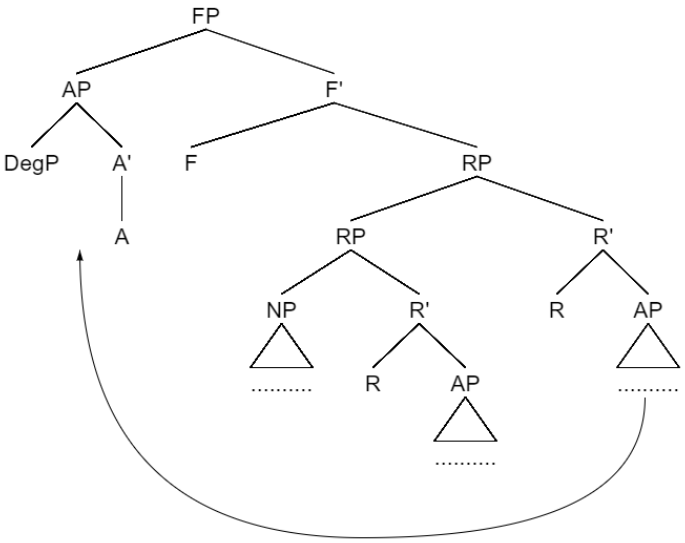
First, let us consider predicate fronting. According to this type of analysis (see, e.g. Troseth 2009), the degree element and the adjective it modifies constitute the predicate phrase, which stands in a predication relation to a subject phrase, i.e. the noun modified by the adjective phrase. Degree fronting is analysed as predicate inversion (a type of A-movement), which raises the predicate phrase to a position above the subject phrase. This is illustrated in (12) with an RP (relator phrase) structure (den Dikken 2006; see also Bowers 1993) in which the R head mediates the predication relation between the subject (in SpecRP) and its predicate (in the complement of RP).

(12) Predicate inversion analysis




This sort of analysis seems well-placed to capture the locality and intervention effects. Predicate inversion can only apply to the complement of RP and move it to SpecFP. It cannot access any element that is embedded within the subject phrase in SpecRP, such as a lower adjective phrase or a nominal phrase embedded within a PP. The former case is schematically illustrated in (13).

(13) Predicate inversion analysis: two adjectives




However, there are various problems with a predicate inversion analysis, including several arguments that adjectives involved in degree fronting may have interpretations that are only available to attributive adjectives, not predicative adjectives (see Matushansky 2002; O'Connor 2015 for details). In fact, we have already seen such cases. Recall the non-intersective interpretations of adjectives like *beautiful* and *heavy*, repeated below.

(14) a. a beautiful dancer (intersective ✓, non-intersective ✓)
b. a heavy smoker (intersective ✓, non-intersective ✓)

(15) a. a dancer who is beautiful (intersective ✓, non-intersective ✗)

b. a smoker who is heavy (intersective ✓, non-intersective ✗)

When used attributively, as in (14), *beautiful/heavy* are ambiguous between an intersective and non-intersective interpretation, but when used predicatively, as in (15), the non-intersective interpretation is unavailable. However, we saw these adjectives remain ambiguous when degree fronting is applied, repeated as (16).

(16) a. {so / how / as / too / that} beautiful a dancer (intersective ✓, non-intersective ✓)
b. {so / how / as / too / that} heavy a smoker (intersective ✓, non-intersective ✓)

The predicate inversion analysis is therefore unable to capture degree fronting with non-intersective adjectives.

The second type of analysis to consider is the Quantifier Raising and/or A-bar movement analysis. In such analyses, the degree element and the adjective originate in a position below the indefinite article (the canonical position of attributive adjectives in English) and move to a position above the indefinite article. Evidence for such movement is that, in certain contexts, the degree element and its adjective are found in their 'original' position, as in (17).

(17) a. a far too long book (cf. far too long a book)
b. a not too long book (cf. not too long a book)

According to these analyses, degree fronting is Quantifier Raising or A-bar movement. Matushansky (2002) and O'Connor (2015) both provide arguments that degree fronting in nominal phrases is the first step in QR which ultimately allows the degree operator to take clausal scope. In such approaches, degree fronting is also typically taken to be QR or A-bar movement of the degree element, with or without pied-piping of the adjective.

However, this raises a puzzle. QR and A-bar movement exhibit different syntactic behaviour with respect to locality and intervention compared to degree fronting. Consider the following examples:

(18) a. There are two pictures of every tree in my album.
b. There are two beautiful pictures of every tree in my album.

Both (18a) and (18b) are ambiguous: either *two* scopes over *every*, or *every* scopes over *two*. On a standard account of QR, this means *every* may be in the syntactic scope of *two* (the former 'surface' interpretation) or may raise so that *every* takes syntactic scope over *two* (the latter 'inverse' interpretation). But this suggests that QR is not nominal-bounded, otherwise we would not expect the 'inverse' interpretation to be possible. Furthermore, the presence of an adjective in (18b) does not prevent *every* taking scope over *two*, so QR is not sensitive to intervention by adjectives either.

The same observations hold of A-bar movement as well. As is well-known, A-bar movement across a nominal phrase boundary is fully acceptable, i.e. it is not nominal-bounded, and the presence of an adjective higher in the structure does not prevent A-bar movement, as in (19).

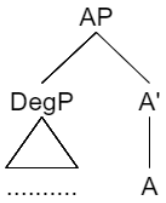
(19) a. Which trees are there pictures of in my album?
b. Which trees are there beautiful pictures of in my album?

I conclude that, while degree fronting may be *semantically* like QR or canonical A-bar movement, it is *syntactically* distinct. What then is the syntactic mechanism underlying degree fronting? I turn to this issue in the next section.

## 3 Analysis

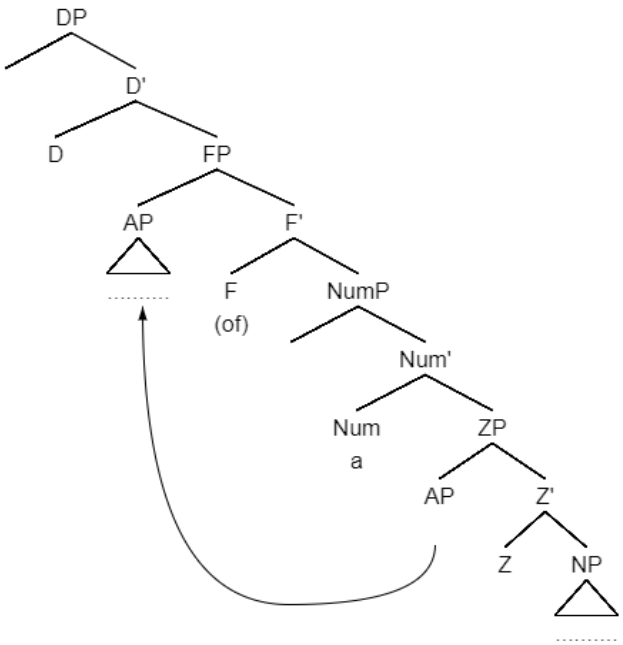
I will adopt and adapt the structures proposed by Kennedy & Merchant (2000) and Matushansky (2002). First, following Matushansky (2002), I assume that degree phrases are contained within adjective phrases, illustrated in (20).[1]

(20) Internal structure of AP




Second, I assume that APs are merged into the structure as specifiers of functional heads (see Matushansky 2002; Cinque 2010). I will use the variable Z to stand for any such functional head. Third, I assume that indefinite articles are merged in Num (see Matushansky 2002). Fourth, following Kennedy & Merchant (2000), I assume the presence of a functional head, F, above NumP, and that degree fronting targets SpecFP. Finally, there is the DP. This is illustrated in (21).[2]

(21) DP-internal structure




[1] See Matushansky (2002) for more detailed argumentation and a more detailed AP-internal structure.
[2] This structure suffices for the present paper; I do not rule out the presence of further structure in the nominal phrase.

Evidence for the presence of F is that some speakers produce an overt *of* between the fronted AP and the indefinite article, as in (22). Kennedy & Merchant (2000) also provide an argument from pseudogapping, which I will discuss in the next section.

(22) how big (of) a monkey

Evidence that degree fronting targets a position below D, rather than the very left periphery of the nominal phrase, comes from examples like those in (23), where an overt *the* (standardly assumed to be in D) appears to the left of a degree fronted AP.

(23) a. The investigation revealed that the available indications and warnings in the cockpit were not sufficient to ensure that the cockpit crew recognised **the too big a decrease in speed** at an early stage.[3]
b. Don't go for **the so big a goal** that it is totally unattainable.[4]
c. We look out into **the so great a cloud of witnesses**[5]

The final ingredient of the analysis is the syntactic mechanism underlying degree fronting. I propose that the movement in degree fronting is triggered by a category feature on F, specifically an adjectival category feature, which I will call [A]. By standard notions of minimality, F will probe for the closest AP and that AP will move to SpecFP, as shown in (21).

This proposal immediately accounts for the intervention effect observed above. Degree fronting will be blocked by the presence of a closer AP. The relevant examples are repeated below.

(24) a. #{so / how / as / too / that} beautiful a hideous dancer
b. #{so / how / as / too / that} heavy a skinny smoker

On accounts where movement targets the degree element, DegP, it is unclear why higher APs should intervene with such movement. It is even more unclear why non-gradable adjectives, such as *former*, which as we have seen cannot undergo degree fronting themselves, should also intervene with degree fronting, as in (25), repeated from above.

(25) a. a former heavy smoker (*heavy* is non-intersective)
b. a heavy former smoker (*heavy* is intersective)
c. {so / how / as / too / that} heavy a former smoker (*heavy* is intersective only)

These observations fall out naturally if degree fronting targets AP itself, not the DegP. In other words, the adjective is not pied-piped; rather the DegP is carried along by the AP. I will return to some consequences of this in the next section.

Movement of an adjective is also proposed by Kennedy & Merchant (2000) in their analysis of pseudogapping. They observe that examples like (26a) are ambiguous between the interpretations paraphrased in (26b) and (26c).

[3] https://www.skybrary.aero/index.php/B738,_vicinity_Amsterdam_Netherlands,_2009
[4] https://www.queensu.ca/exph/academic-development/writing-support/lake-shift/past-lake-shifts
[5] https://www.churchonthecorner.org/sermons/rising-on-wings-like-eagles

(26) a. I have written a successful play, but you have ___ a novel.
b. **Reading 1:** I have written a successful play, but you have written a novel.
c. **Reading 2:** I have written a successful play, but you have written a successful novel.
(Kennedy & Merchant 2000: 127, ex (70); observation attributed to John Frampton)

They propose that the nominal phrase (*a novel*) moves out of the VP prior to VP-ellipsis. This straightforwardly captures the first reading in (26b). However, (26c) presents a problem: it seems that the adjective *successful* has been left behind in the elided VP, but how can *a novel* move without taking *successful* with it, since *a novel* is not a constituent to the exclusion of the attributive adjective? Kennedy & Merchant (2000) propose that the attributive adjective *successful* is able to move above the indefinite article prior to movement of *a novel*. In fact, they use this as an argument for the existence of FP, the functional projection above the indefinite article, as in (21). They do not discuss the syntactic mechanism underlying movement of the adjective, but if their analysis is accepted, it suggests that AP movement in the absence of a degree element is possible.[6]

As Kennedy & Merchant (2000) observe, AP movement is not permitted in just any context. Without a degree element or a pseudogapping context like (26a), AP movement is not acceptable.

(27) a. *successful a novel
b. *beautiful a dancer
c. *heavy a smoker

Kennedy & Merchant suggest that the examples in (27) are syntactically well-formed but ruled out by a PF constraint that prevents adjectives being spelled out in their derived position (unless modified by a degree element). They suggest that VP ellipsis in (26a) bleeds this PF constraint, drawing parallels with Pinkham's (1985) observation that ellipsis bleeds certain left-branch constraint violations in the context of comparative constructions.[7]

Another (not necessarily mutually exclusive) possibility is that examples like (27) are syntactically well-formed but cannot be interpreted at LF. Suppose that LF can only interpret AP movement if some sort of operator is available for interpretation, such as a degree operator or an information structural operator in cases like (26a).[8] Without such an operator, the structure can receive no

[6] From a learnability perspective, AP movement in such pseudogapping examples look very hard to acquire unless AP movement can be motivated by positive evidence elsewhere. If the AP movement analysis of degree fronting is on the right track, this may provide the evidence required that allows learners to 'know' that such pseudogapping examples will be ambiguous.

[7] Yoshida (2005) shows that attributive adjectives cannot escape gapping inside nominals.

(i) a. *Bill's funny story about Sue and Mary's boring ~~story~~ about Kathy both amazed me.
b. Bill's funny story about Sue and Mary's ~~funny story~~ about Kathy both amazed me.

Yoshida argues on this basis that an attributive adjective cannot be outside the constituent undergoing ellipsis, as we would then expect it to be able to escape ellipsis/gapping. However, given Kennedy & Merchant's suggestion, it may be that it is *syntactically* possible for the adjective to move out of the elided constituent, but ellipsis in this case does not elide enough material to elide the moved adjective and bleed Kennedy & Merchant's PF constraint.

[8] Matushansky (2002) notes that, whilst degree fronting in argument nominals is attested, it is most commonly or most readily acceptable in predicate positions (see also Bresnan 1973; Delsing 1993). Consequently, Matushansky suggests that there may be some information structural aspect to degree fronting.

interpretation at LF, despite being syntactically well-formed. On the surface, this would give the impression that movement is semantically or interpretation-driven, when in fact movement is syntactically triggered but filtered by semantics. This is similar in spirit to Bruening's (2001: 249-250) syntactic approach to QR, which says we could "think of QR as an operation of chiefly semantic import that nevertheless is syntactic in mechanism, meaning that it operates in the same fashion as other types of movement … It so happens that the interface with the semantics makes use of the syntactic difference between applying the operation or not, but the semantics is not what drives the movement".

Let us turn now to the locality or nominal-boundedness of degree fronting, i.e. the observation that degree fronting *within* a nominal phrase is permitted, but degree fronting *across* a nominal phrase boundary is not. This can be captured as follows. First, let's assume that DP is a phase. Among other things, this means that any element being extracted from DP must pass through the escape hatch, SpecDP. Any element that cannot get to SpecDP will be trapped inside that DP, i.e. will be nominal-bounded. On this basis, I hypothesise that the [A] probe may be found on F but never on D. Consequently, an AP undergoing degree fronting can never get to SpecDP and thus cannot escape DP. This also accounts for why degree fronting cannot appear to the left of definite articles, as in (28), and why it must target a position below D, as we have already seen, for example, in (29), repeated from above.

(28) a. *{so / too / how / as / that} long the book
b. *{so / too / how / as / that} beautiful the dancer
c. *{so / too / how / as / that} heavy the smoker

(29) the too big a decrease in speed

Crucially, although degree fronting is nominal-bounded, there is nothing to stop a DP which contains degree fronting from moving as a unit. This can be seen in A-bar movement contexts, such as (30), and accounts for the differences between QR involving quantifiers like *every* (typically analysed as being in D) on the one hand, and QR involving degree operators on the other.

(30) a. [How long a book] did you read?
b. *[How long] did you read a book?

It also accounts for how degree fronted materials may (covertly) take clausal scope, which Matushansky (2002) and O'Connor (2015) argue to be the case. In other words, overt degree fronting involves AP movement to SpecFP, while further steps of QR involve (covert) movement of the entire DP.

## 4 Discussion

The analysis proposed in the previous section implies that degree fronting is something of a misnomer. According to the analysis, the target of movement is AP, not a degree element. This straightforwardly accounts for why an AP constituent undergoes degree fronting, and why a higher AP prevents degree fronting of a lower AP.

This approach does, however, pose a problem for the analysis of examples involving *such*. Unlike the examples discussed so far, those with *such* appear to involve movement of just the DegP. Compare the examples in (31).

(31) a. such a long book
b. so long a book

Examples like (31a) form the core of standard treatments of degree fronting: *such* is a degree element, first merged as a modifier of the adjective, which then undergoes degree fronting. According to these approaches, the main syntactic difference between (31a) and (31b) would be that the latter involves pied-piping of the AP, while the former does not, as illustrated in (32) (see Matushansky 2002).

(32) a. [such] a [[~~such~~] long] book
b. [[so] long] a [[~~so~~] ~~long~~] book

Clearly, (32a) is incompatible with an analysis where degree fronting involves movement of the AP. One possibility would be to say that AP moves in both (31a) and (31b), but different copies of the adjective are spelled out: the lower copy in (31a) and the higher copy in (31b), as in (33).

(33) a. [[such] ~~long~~] a [[~~such~~] long] book
b. [[so] long] a [[~~so~~] ~~long~~] book

However, more problematically, it appears that examples with *such* need not involve an adjective at all. The same applies to *what* in exclamatives.

(34) a. such an idiot
b. what an idiot

Bolinger (1972) and Matushansky (2002) propose that in examples like (34), which involve so-called 'gradable' nouns, the degree element attaches directly to the noun itself. Treating degree fronting as movement of DegP can then capture such examples in an analogous way to (32a). Such examples cannot be generated by an analysis where degree fronting is treated as movement of an AP, unless examples like (34) are analysed as involving a null adjective (see Rett 2008 for such an approach).

However, the problems posed by the examples with *such* only arise if one insists on treating them in the same way as our other degree fronting examples, but a movement analysis of *such* is not without its problems. First, consider the analysis shown in (32a): *such* is analysed as originating as a specifier inside the AP, which in turn is a specifier within the nominal projection. This is a left-branch configuration, which is generally ruled out in English. Second, recall that some syntactic evidence for degree fronting constructions involving movement was that these degree elements may appear below the indefinite article in some contexts. However, this is *never* permitted with *such*, as a comparison of (35) and (36) shows.

(35) a. far too long a book
b. not too long a book
c. not such a long book

(36) a. a far too long book
b. a not too long book
c. *a not such long book

Further evidence for treating *such* and exclamative *what* differently from other degree elements comes from the distribution of *of* and other functional items. As mentioned above, some speakers produce *of* in degree fronting constructions between the fronted AP and the indefinite article (recall (22) above where *of* is assumed to be a realisation of the functional head F). While *of* can appear in degree fronting constructions, it does not appear to be possible with *such* and exclamative *what*, as in (37).

(37) a. {so / too / how / as / that} long (of) a book
b. {such / what} (*of) a long book

There are also some speakers who appear to have innovated a functional element, realised as /ə/, that appears with plurals in degree fronting constructions. However, this *ə* element is also incompatible with *such* and exclamative *what*, as in (38).[9]

(38) a. {so / too / how / as / that} long ə books
b. {such / what} (*ə) long books

Finally, as has long been known, *such* and exclamative *what* only ever appear as modifiers to nominal phrases. For movement analyses of *such* and *what*, this is derived, i.e. holds of surface realisations only: *such* or *what* is merged as a modifier of an adjective or noun but moves to a position above the indefinite article without the rest of the AP (or, if the AP is moved too, without the rest of the moved AP being pronounced). However, given the evidence just reviewed, an alternative would be to say that *such* and *what* are simply first merged above the indefinite article. This would immediately capture their syntactic distribution, including some of the distributional differences compared to other degree elements. This is illustrated in (39).

(39) a. [[such] [a long book]] (*such* and exclamative *what*)
b. [[[so] long] [a [[~~so~~] ~~long~~] book] (degree elements: *so* / *too* / *how* / *as* / *that*)

Constantinescu (2011) proposes an analysis of *such* along these lines, and argues at length that *such* and exclamative *what* should not be analysed as degree elements at all. She argues that, although examples with *such* and *what* have very similar interpretations to examples with other degree elements, these interpretations are not derived in the same way. Specifically, she argues that the semantics of *such* and *what* are based on kinds and sub-kinds rather than degrees and ordered scales (see Constantinescu (2011) for details).

Interestingly, Constantinescu (2011: 138) observes an 'intervention'-like effect with *such*. Here, it is worth quoting her in full. She gives the example in (40) and notes that "in these 'complex' NPs, the

[9] Judgements are based on consultations with a native Southern British English speaker. This *ə* element is morphophonologically distinct from the indefinite article: (i) it appears with plurals, and (ii) when preceding a vowel-initial word, linking-r appears, not *an*, for example, *too long ə[r] essays*. It is also distinct from the comparative *-er* suffix since, in examples like the one just given, the sequence *long ə* is pronounced /lɔŋ ə/, not /lɔŋgə/. However, like the comparative suffix, it appears only to be able to follow mono- or bi-syllabic adjectives.

salient differentiating criterion for making sub-types accessible to internal *such* is the one introduced by the expression which is the highest one in the syntactic structure. Otherwise *such* cannot 'reach' it. The effects that are found here are reminiscent of intervention effects."

(40) such a friendly idiot

She goes on to say that "the NP in [(40)] contains both a gradable adjective (*friendly*) and a gradable noun (*idiot*).[10] Therefore, there are in principle two criteria based on which sub-types could be made available. However, the only one that counts for the interpretation of *such* is the property contributed by the adjective. *Such* cannot target the gradable noun *idiot*, and simply pick out a salient sub-type of idiot. It looks like the noun is too deeply embedded to be reached by *such*. In other words, the adjective acts as an intervener in the path of *such* to the noun. It seems then that as soon as a modifier is added within the NP the (gradable) property it contributes will become the salient criterion. Once it is adjoined, it performs a division within the kind, and it determines the (new) relevant, salient dimension based on which sub-kinds can be further distinguished. It thus overrides the property inherent in the meaning of the noun, which would otherwise act as the default criterion for distinguishing salient sub-kinds." The same observation can also be extended to exclamative *what*.

Based on this characterisation, it seems as if degree constructions proper (those involving *so, too, how* etc.) and examples with *such* and *what* both exhibit the same intervention effect. However, we now also seem to have two explanations for it: one based on intervention and movement, as proposed in Section 3, and Constantinescu's approach, based on semantic composition involving the properties used to pick out relevant and salient sub-types or sub-kinds. Having two explanations seems redundant, and might be taken as an argument in favour of a movement analysis of *such* and exclamative *what* after all, one which analyses degree fronting as always involving movement of AP, and which allows the higher copy of the adjective to be null (or both copies to be null in cases like *such an idiot*).

However, I think this would be too hasty. Recall that degree elements are nominal-bounded, as in (41), repeated from above.

(41) a. a picture of {so / how / too / as / that} friendly a person
b. * {so / how / too / as / that} friendly a picture of a person

At first, the same seems to be true of examples with *such*.

(42) a. a picture of such a friendly person
b. * such a picture of a friendly person

However, structurally analogous examples are attested and are acceptable, as confirmed by native speakers.

[10] Constantinescu goes on to argue that 'gradable' nouns do not exist, at least not in the same way as gradable adjectives. For example, she notes that *such* and exclamative *what* are also compatible with nouns such as *event* and *situation*, which cannot be considered 'gradable' in any coherent sense. This, among other evidence, is used to argue that the semantics of *such* cannot be making reference to degrees or gradability, and thus *such* cannot be a degree operator.

(43) a. i. a day of such historical significance
ii. such a day of historical significance[11]
b. i. a person of such historical significance
ii. such a person of historical significance[12]

In (43aii) and (43bii), we would not expect *such* to be first merged as a modifier of *historical* and then move to its surface position, since we have seen other degree elements are nominal-bounded. Furthermore, this would not be the correct interpretation: *such* cannot be interpreted as modifying *historical*, i.e. it is not a statement about the degree of 'historical-ness' but rather a statement about historical significance, as in (43ai) and (43bi). This suggests that in the (ii) examples, *such* is first merged to the nominal phrase *a day/person of historical significance* and accesses the relevant or salient sub-type contributed by the nominal phrase *historical significance* embedded in the prepositional phrase. In some sense, it does not matter whether *such* merges with *historical significance* or with *a day/person of historical significance* since *such* will access the same sub-type in both cases. On this approach, the difficulty with examples like (42) would presumably lie in the inability of the (prepositional) modifier to contribute a relevant and salient sub-type or sub-kind for the head noun. I leave this as speculation for now, pending further investigation.

To summarise, the analysis set out in Section 3 proposes that degree fronting actually involves movement of AP, not DegP. This suggests that examples involving *such* and exclamative *what* cannot be analysed in the same way. Independent arguments from Constantinescu (2011) and differences in the syntactic behaviour of *such* and exclamative *what* on the one hand and degree elements on the other, suggest that this is correct.

Finally, I will briefly discuss the use of an [A] feature to trigger movement in degree fronting.[13] Crucially, 'A' is both the name of this formal feature and a symbol of the formal system; it does not describe this feature's interpretive function, in contrast to the widespread convention of naming formal features after their functions, e.g. [rel] and [foc] for the features triggering movement for relativisation and focalisation, respectively. It also stands in contrast to approaches which imply that a given formal feature is universally associated with a particular function. Instead, the present proposal assumes that formal features are inherently 'substance-free', i.e. any formal symbol may be associated with any given function in principle, with 'Third Factor' computational and/or developmental constraints restricting the space of possibility in practice.

Biberauer (2019) proposes a general cognitive bias, Maximise Minimal Means, which effectively guides acquirers to use existing formal features as much as possible in acquisition, and to posit a new formal feature only if the existing ones cannot capture some newly perceived regularity in the intake. One consequence of this is that learners are expected to try to recycle an existing formal feature when encoding a newly acquired movement in the first instance and will only posit a new

[11] Full quote: "Since China is so important a country, and President Bush is to arrive in Beijing on **such a day of historical significance**, he will, of course, realize the significance of his Beijing tour." (http://en.people.cn/200202/21/eng20020221_90779.shtml)
[12] Full quote: "To be in the presence of **such a person of historical significance** was truly amazing and an honor." (https://acupofteaandacozymystery.blogspot.com/2015/08/tea-at-mount-rushmore.html?m=0)
[13] Matushansky (2002) briefly considers an AP-movement analysis of degree fronting but promptly rejects it on the grounds that it is stipulative. However, she does not consider the intervention or locality effects presented here, and she is attempting to provide a unified analysis of degree fronting constructions and constructions with *such*, so her analytic goals are not quite the same as those of the present article.

type of formal feature for such movement if there is positive evidence in the intake that existing formal features cannot account for (see Douglas 2018 for an implementation of this idea to A-bar movement in Maori). For the present proposal, we could hypothesise the following stages of acquisition: first, the category feature [A] is acquired prior to the acquisition of degree fronting constructions. Second, learners perceive positive evidence for some sort of movement in degree fronting constructions and note that movement involves an AP (based on deviations in the position of AP relative to its canonical position in English nominal phrases). Third, in line with Maximise Minimal Means, learners recycle the category [A] feature to encode this movement in their developing grammar. In the absence of positive evidence that an [A] feature trigger cannot capture, there is no motivation for the learner to move beyond such a system. The details of such an acquisition pathway remain to be developed, but it at least sketches out an interesting and dynamic approach to parametrisation of the intervention and locality profiles of degree fronting and movement more generally.

## 5 Conclusion

I have presented evidence that degree fronting in English nominals is nominal-bounded and sensitive to the intervention of adjectives. I analysed degree fronting as involving movement, specifically movement of an AP, triggered by a formal category feature [A]. The formal nature of this probe means that higher APs block the movement of lower APs, yielding the observed intervention effect, and the distribution of this [A] feature trigger in the nominal extended projection means that moved APs are unable to escape DPs, hence degree fronting is nominal-bounded.

This analysis suggested that examples with *such* and exclamative *what*, although standardly treated as degree fronting constructions, must be syntactically distinct, as independently argued by Constantinescu (2011). I discussed the intervention and locality effects with respect to examples involving *such*, and concluded that it is not a degree element and does not move to its pronounced position.

Finally, I argued that, while the movement in degree fronting may well be interpreted as a type of QR, the formal encoding of movement may in principle be carried out by any formal feature. I sketched a pathway for how a category [A] feature might come to be the relevant feature for degree fronting in English nominals, although I left further elaboration of such a proposal for future work.

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