

The use of 'as' as a post-adjectival intensifier in British English

Candidate number: 9554G

Word count: 9988

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1 Introduction

This dissertation discusses a previously undescribed usage of the word *as* as a post-adjectival intensifier in some varieties of English. (1) illustrates a typical use of the construction, which I will refer to as the *as*-intensifier, where *boring as* means “really boring”.

(1) Their performance at Glastonbury was boring as.

The *as*-intensifier is used mostly in British, Australian and New Zealand Englishes¹, and the dissertation focuses on its use in British English. The origins of the construction are not known for certain. I will assume here that it derives from ellipsis of words and phrases which commonly follow *Adjective as*, such as *possible*, *can be*, or *as fuck*. This is partly because, unlike other uses of the word *as*, the *as*-intensifier must always have a full /æ/ vowel and cannot reduce to schwa; this full vowel requirement applies to English function words appearing phrase-finally at PF (Roach, 2009:92-95), and so is associated with ellipsis of the functional category’s complement.

This is discussed further in §2.1, where the *as*-intensifier is placed in the broader context of English adjective modification. It is compared with the similar intensifiers *-ass*, which originated in Black American English varieties and also follows adjectives (Spears, 1998; Miller, 2017), and *af*, which began as an online abbreviation of *as fuck* (McCulloch, 2019:31) and is now sometimes pronounced [æf].

These intensifiers are all types of ‘degree word’: they express the degree to which an adjective is applicable (Dryer, 2013b). They are of theoretical interest because post-adjectival degree words are extremely rare in languages where attributive adjectives precede nouns (Greenberg, 1963; Dryer, 2008:62-3), perhaps linked to the unexplained tendency for languages to avoid the surface order Adjective-Degree-Noun (Williams, 1982; Sheehan, 2017).

§2.2 draws on data from languages which allow Adjective-Degree and Adjective-Noun orders in isolation, in order to investigate the strength of the constraint against Adjective-Degree-Noun order (henceforth *AdjDegN). I will argue that although languages do violate *AdjDegN, there are usually prosodic, lexical or semantic restrictions which limit the severity of violations.

¹ This is anecdotal, based on comments from two individuals who have lived in several English-speaking countries. It was also noted in online comments from users *Kenny Easwaran* and *Matt Whyndham* on the November 2013 Language Log article ‘Can “[adjective]-ass” occur predicatively?’ [<https://languagelog.ldc.upenn.edu/nll/?p=8542>.]

In light of this typological background, new data is presented on the *as*-intensifier, with the aim of discovering how productive it is and whether it can be used with attributive adjectives (violating *AdjDegN). Sections 3.1 and 4.1 discuss observations of the *as*-intensifier in a new UK Twitter corpus. Sections 3.2 and 4.2 present results of an online survey to collect grammaticality judgements for sentences containing attributive and predicative adjectives intensified by *as*, *af*, and *as fuck*.

Each methodology has its own shortcomings. Grammaticality judgements allow controlled study of the effects of particular variables, but can be affected by processing factors and meta-linguistic awareness (Cowart, 1997), and so do not necessarily meet the criterion of ‘ecological validity’.

Corpora do provide insight into spontaneous language use, but on the generative view of language as a combinatorial system with infinite possible outputs (Chomsky, 1957), a finite corpus can never contain every grammatical sentence and so absence in a corpus is inconsequential for grammaticality.

In combination, however, the two methodologies can mitigate some of each other’s shortcomings. We should be greatly encouraged by convergent results across methodologies (Egbert & Baker, 2019). Results are discussed together in §5, with a focus on placing the *as*-intensifier in its wider cross-linguistic context. Finally, conclusions and directions for further work are set out in §6.

2 Background

2.1 Adjectives in English

Adjectives are nominal modifiers. Most English adjectives can be used in two different ways, as predicative and attributive adjectives, which make up roughly 12% and 80% of adjective uses respectively (Blöhdorn, 2009:15). Predicative adjectives are complements of copulas, appearing in the usual position of direct objects and expressing that the subject has the property denoted by the adjective.

Attributive adjectives give further information about the noun they modify. They typically precede nouns in English. Any number of adjectives can precede a single noun, usually in a fixed order, with adjectives denoting more intrinsic properties appearing closer to the noun (Scontras et al., 2017). Attributive adjectives can also follow nouns in apposition, but this does not seem to be governed by syntax, as ordering restrictions do not apply. Heavy APs can also be extraposed (see (4b) below).

Certain sub-classes of English adjectives often end up being heads of heavy APs. This includes *tough*-adjectives (like *important* in (2)) which select a non-finite clause and allow the object of the embedded verb, *that book*, to undergo movement to become the matrix clause subject (Hicks, 2009). This is common with adjectives which fall on the *easy-to-hard* semantic scale.

- (2) That book is important to know about [~~that book~~].

Other heavy APs are those with adjectives which require complements, such as *proud* and *bored*, which both take PP complements *of X*.

When adjectives of these classes are used as pre-nominal attributive adjectives, it is ungrammatical for the material which usually follows the adjective to precede the noun (Sadler & Arnold, 1994). With *tough*-adjectives, it is simply the non-finite clause which is extraposed, while with adjectives with PP complements, the entire AP moves.

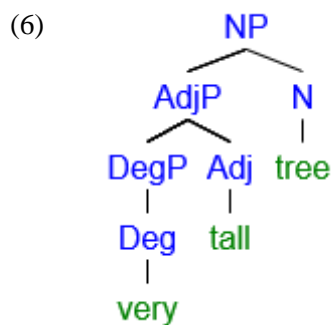
- (3a) *That's an [_{AdjP} important [_{TP} to know about]] book.
(3b) That's an [_{AdjP} important] book [_{TP} to know about].
- (4a) *Amy is a [_{AdjP} proud [_{PP} of all her students]] teacher.
(4b) Amy is a teacher proud of all her students.

These restrictions were first described for English by Williams (1982), who proposed the Head-Final Filter (HFF), a “constraint barring post-head material in prenominal modifiers”. The HFF explains the contrast between English, where the entire AP headed by *proud* must be postposed, and less rigidly head-initial languages like German, which instead allow the order of PP and Adjective to reverse, such that a literal translation of (5) would be grammatical in German.

(5) *Amy is an [_{AdjP} [_{PP} of all her students] proud] teacher.

2.1.1 Modification of adjectives

Adjectives can themselves be modified, usually expressing a combination of the extent to which the adjective is true and the speaker’s confidence in their judgement of it being true. Adverbs like *excessively* or *sufficiently* can be used for this purpose. However, most adjective modifiers in English are more accurately described as degree words rather than adverbs (including *very*, *too*, *fairly*, and *extremely*), since they cannot be used as verbal modifiers (Dryer, 2013b). (6) shows a simplified structure for a noun modified by an attributive adjective, itself modified by a degree word.



Most degree words precede adjectives in Standard English, with the exception of *enough*. In more informal varieties, we also have the approximative *-ish* (Eitelmann et al., 2020) and intensifier *-ass* (Miller, 2017) occurring after adjectives, although these are probably clitics or suffixes than separate words. Both *-ish* and *-ass* are acceptable with pre-nominal attributive adjectives; in fact, it has been claimed that *-ass* is possible only when directly before nouns. (Elgersma, 1998; Siddiqi, 2011):

(7a) Ellen lives in a big-ish house.

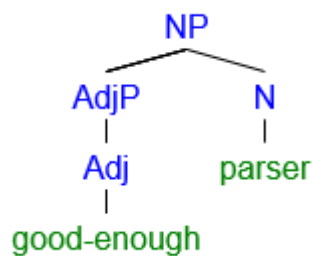
(7b) Ellen’s house is big-ish.

(8a) Ellen lives in a big-ass house.

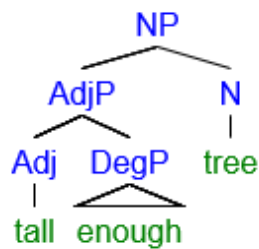
(8b) *Ellen’s house is big-ass.

Judgements probably differ between speakers on the acceptability of *enough* before nouns. My own judgements find pre-nominal *enough* more acceptable in frequent collocations like *good-enough* or *nice-enough* (where we can perhaps treat it as having the structure in (9a)) than with other adjectives (where it must have the structure in (9b)).

(9a)



(9b)



Certainly, if the purpose for which something is “Adjective enough” is stated explicitly (as in 10a) rather than only implied, the PP must follow the noun. This is analogous to (3b) above, where *to know about* was postposed.

(10a) It’s a tall enough tree [PP for us to see the edge of the forest].

(10b) *It’s a tall enough [PP for us to see the edge of the forest] tree.

2.1.2 Comparative constructions with adjectives

Adjectives also appear in comparative and superlative constructions. Some adjectives have separate morphological forms with the *-er* comparative suffix and *-est* superlative suffix, while others must be preceded by *more* and *most*; this is generally considered to be prosodically conditioned (McCarthy & Prince, 1993).

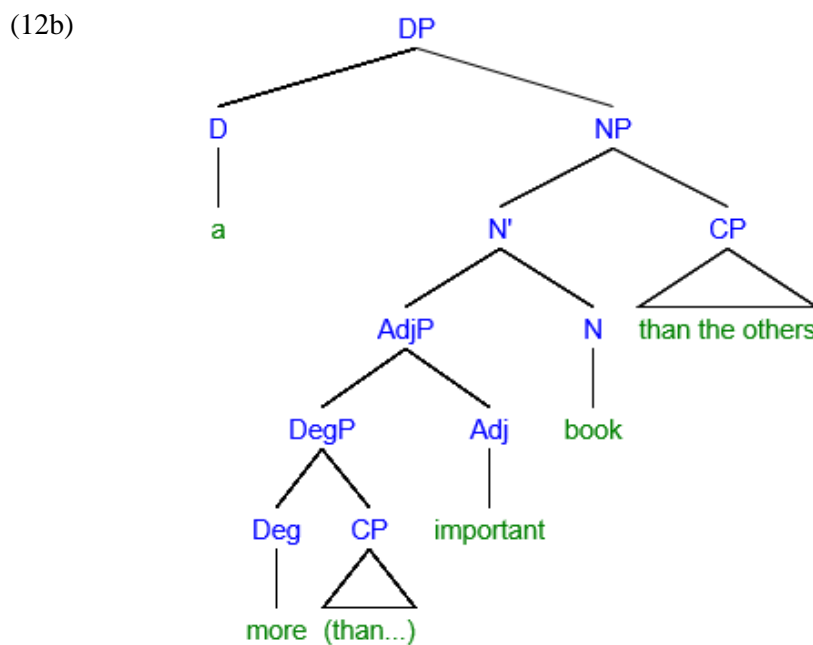
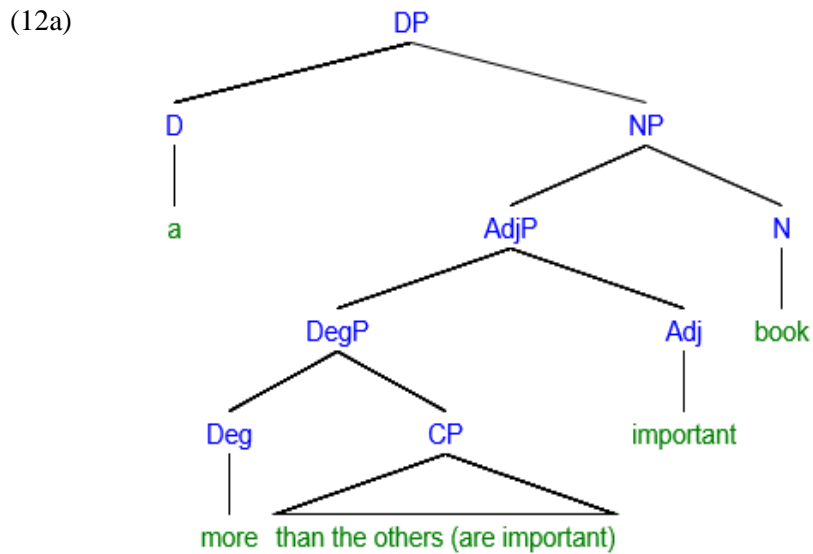
In Grosu et al.’s (2007) analysis, comparative sentences like (11a) have the underlying structure (11b). The phrase which introduces the comparator is a CP (accounting for the possibility of full clauses within the comparator), and is represented as the complement of Deg based on selectional restrictions noted in Bresnan (1973).

(11a) This is a more important book than the others.

(11b) This is a [NP [AdjP [DegP more [CP than the others (~~are important~~)]]] important] book].

This sentence is therefore another example of HFF-mandated extraposition: if *than the others* did not move, it would be “post-head material” (since it appears after *more*) inside a pre-nominal modifier.

(12a-b) show the structure before and after extraposition.

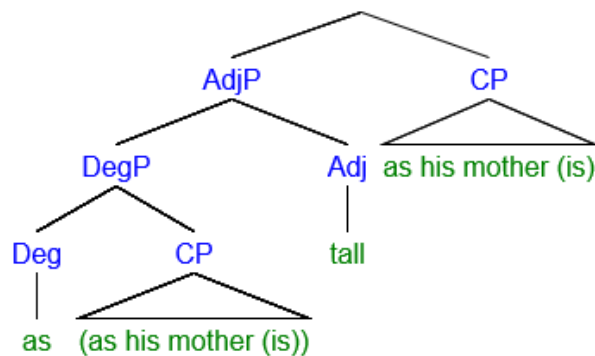


English also has the equative comparative construction *X is (as) Adjective as Y*, which expresses that X and Y possess the quality “Adjective” to the same degree. It also often implies that Y (and X) hold the quality to a large degree: when this is broken in similes like *clear as mud* or *(about) as useful as a chocolate teapot*, the tone is humorous (Moon, 2008). For many adjectives, there are conventionalised phrases with particular nominals in the position Y (Norrick, 1986), such as *good as gold* or *thick as two short planks*. However, innovation is also possible, and is found frequently in corpus studies (Hao & Veale, 2010).

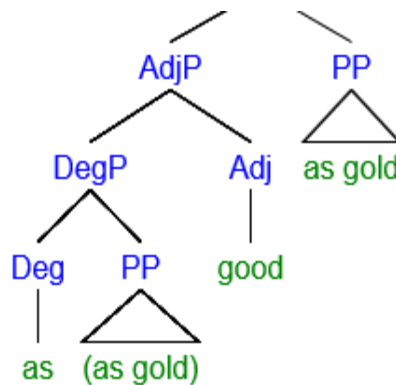
Further variations include using phrases like *anything*, *can be*, *it gets* or any expletive (commonly *fuck*) in the position Y. Despite the ambiguity of these phrases from a logical perspective, all of these variants still express that X is “very Adjective”. In informal writing on the internet, *as fuck* is often abbreviated to *af*; this seems to have begun in Hispanic American communities in around 2009, before spreading to African American communities and then into mainstream English via the internet during the 2010s (McCulloch, 2019:31). The abbreviation is now often pronounced as a single word [æf] rather than [ɛɪ.ɛf], still appearing after adjectives with an intensifying meaning.

Equative comparatives have been analysed as having the structure in (13a), identical to that in (12b). However, the status of *as Y* in equative comparatives as a CP rather than a PP is not entirely clear. Particularly in conventionalised similes like *good as gold*, there is little reason to treat the slot following *as* as allowing an entire clause. In these cases, *as* may simply be a preposition (13b), selecting any NP or a variety of set phrases or expletives.

(13a)

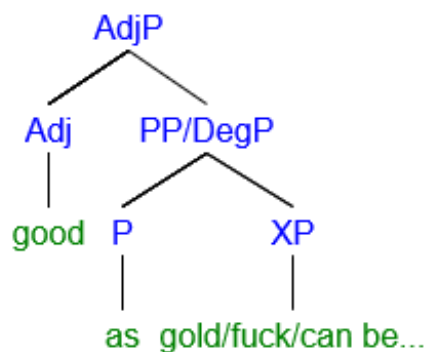


(13b)



The first *as* in equative comparatives is frequently dropped. Consequently, these phrases may even be re-analysed as (13c).

(13c)



It is also sometimes possible to elide *Y* after *as* or *than* when *Y* was mentioned in preceding discourse. Examples of this, found on Twitter, are shown in Figure 1. As is typical with ellipsis, this requires full vowels in *as* and *than*. Thus a possible origin for the *as*-intensifier is an extension of this to allow ellipsis without the comparator being available in preceding discourse.

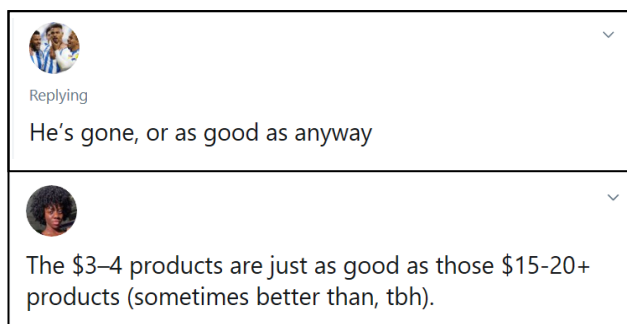


Figure 1: Tweets containing ellipsis after *as* and *than*, found using Twitter's search function. Tweet IDs are 1164234081716133889 and 1102054962727735302.

It is generally claimed to be ungrammatical for entire (*as*) *Adjective as Y* phrases to precede nouns (14a). (Exceptions to this include expletives, which often license otherwise unexpected word orders (e.g. Sailor, 2017), and frequent conventionalised phrases like *tough-as-nails* which are treated as structure-less compounds (Sheehan, 2017:137-8)).

(14a) *He's a thick as two short planks politician.

This is also accounted for by the HFF. Grammatical alternatives include postposing the AP, as in (14b) (compare (4) above, with *proud*), or merely postposing the PP as in (14c) (compare (11) above). This second strategy also requires movement of *as Adjective* to the specifier of a higher functional projection (Kennedy & Merchant, 2000:125), such that it precedes the article.

(14b) He's a politician as thick as two short planks.

(14c) He's as thick a politician as two short planks.

The strategy used with *enough* in (10a) (repeated here), where *Adjective enough* remains before the noun while following material moves, is not grammatical with *Adjective as* (14d).

(10a) It's a tall enough tree for us to see the edge of the forest.

(14d) *He's a thick as politician (as) two short planks.

However, when *Adjective as* appears without any comparator following it (perhaps resulting from ellipsis) in a pre-nominal position, the judgements of my informants² are clear that *as* must precede the noun (15a), in the same way as *enough* (16).

(15a) He's a thick as politician.

(15b) *He's a thick politician as.

(16) That one must be a tall enough tree. (*That one must be a tall tree enough.)

The use of *as* in (15a) appears to violate the HFF. We cannot analyse *as* as a suffix like *-ass* or *-ish*, since *as* retains its lexical stress in this position. Moreover, the preservation of stress as well as the (possible) productivity of this construction suggests that we cannot use the 'compounds' explanation proposed for phrases like *tough-as-nails*.

In §4 I will investigate whether *as* genuinely is a separate word in sentences like (15a), as well as how productive this construction is. Firstly, however, the following section will discuss the possibility that the restrictions observed in English are in fact instantiations of more general cross-linguistic rules, as well as other potential exceptions to them.

² Informants are three native English speakers who use the *as*-intensifier themselves. All are aged 18-21, and have lived mostly in London with exposure to British (and in one case also Irish) English.

2.2 Cross-linguistic restrictions on post-adjectival degree words

2.2.1 Rules

Post-adjectival degree words exhibit a highly skewed distribution cross-linguistically, being almost entirely restricted to languages where attributive adjectives follow nouns. This was first noted by Greenberg (1963), who found zero examples of languages with Adjective-Degree and Adjective-Noun orders in his sample of 30 unrelated languages.

The World Atlas of Linguistic Structures [WALS] (Dryer, 2013a; Dryer, 2013b) and the Atlas of Pidgin and Creole Language Structures [APiCS] (Huber et al., 2013; Haspelmath et al., 2013) corroborate this pattern, as shown in Table 1.

Adjective-noun ordering pattern	Number	Percentage
Attributive adjectives predominantly/always follow nouns	166	81
Adjectives predominantly/always precede nouns	18	9
No dominant order of adjectives and nouns	15	7
No data available	7	3
Total	206	100

Table 1: Aggregated data from WALS and APiCS for the 206 languages in which degree words are claimed to predominantly/always follow adjectives.

Initially, we might assume that this results from a general preference for word orders which obey Cross-Category Harmony (Hawkins, 1983): languages which have fixed Adjective-Degree and Noun-Adjective orders are ‘harmonic’ in that for both pairs the modifier follows what is modified, whereas Adjective-Degree and Adjective-Noun is disharmonic. However, Table 2 demonstrates that this cannot be true. Although harmonic orders are preferred overall, there is clearly an additional penalty for Adjective-Degree and Adjective-Noun languages compared to the inverse.

		Order of attributive adjectives and nouns		Totals
		Adj-N	N-Adj	
Order of adjectives and degree words	Deg-Adj	126 (34%) ‘very tall tree’	80 (21%) ‘tree very tall’	206 (55%)
	Adj-Deg	12 (3%) ‘tall very tree’	158 (42%) ‘tree tall very’	170 (45%)
Totals		138 (37%)	238 (63%)	376 (100%)

Table 2: Number of languages with each logically possible combination of fixed Adjective/Degree and Adjective/Noun word orders. Data comes from WALS only. The two disharmonic orders are in bold.

For there to be such a strong correlation between the order of attributive adjectives and nouns and the order of degree words and adjectives more generally, we might suspect that any penalty for post-adjectival degree words in Adjective-Noun languages results from a constraint against the order that results when all three elements co-occur: *AdjDegN. In support of this hypothesis is the fact that where post-adjectival degree words do exist in Adjective-Noun languages, there are often additional restrictions which specifically avoid Adjective-Degree-Noun order.

Figure 2 shows the geographical distribution of the 40 languages claimed by WALS to allow Adjective-Degree and Adjective-Noun orders (including languages in which these orders are optional). APiCS also lists 22 creoles and pidgins that allow these orders; this high frequency results from a common pattern where English-lexifier creoles use English Adjective-Noun order but retain some degree words from substrate languages with Noun-Adjective-Degree order, which are common in West Africa (Haspelmath et al., 2013).



Figure 2: Map of 40 languages which allow both Adjective-Degree and Adjective-Noun orders, according to WALS. Yellow circles indicate fixed Adjective-Degree Adjective-Noun orders. Green circles indicate fixed Adjective-Degree order with no dominant order for nouns and adjectives. Grey circles indicate fixed Adjective-Noun order and no dominant order for adjectives and degree words. Blue squares indicate no dominant order for either pair.

Across these languages, four strategies can be observed for complying with *AdjDegN, despite allowing Adjective-Degree and Adjective-Noun orders individually. The first is to reverse the order of the noun and its adjectival modifier specifically when the adjective is modified by a degree word,

giving the order Noun-Adjective-Degree. Yareba uses this strategy despite otherwise prohibiting Noun-Adjective order, as shown in (17).

- (17a) *dawa* *yafa* (***were***)³ *Yareba*
 he long (very)
 ‘He is (very) tall.’
- (17b) *yafa* *amara* (**amara yafa*)
 long man
 ‘a tall man’
- (17c) *amara* *yafa* ***were*** (**yafa* ***were*** *amara*)
 man long very
 ‘a very tall man’ Weimer & Weimer (1975:692,702,713)

The second strategy is the inverse of the first: Adjective-Noun languages which ordinarily require degree words to follow adjectives may reverse this, specifically when the degree word modifies an attributive adjective. This strategy was used in Early Sranan (an English-based creole spoken historically in Suriname), as shown in (18).

- (18a) *Lampu* *de* *furu* ***tumusi***. *Early Sranan*
 lamp is-becoming full too.much
 ‘The lamp is getting overfull.’
- (18b) *wan* ***tumusi*** *bigi* *soma* (**wan bigi tumusi soma*)
 a very big person
 ‘a very big person’ van den Berg & Bruyn (2013)

Ndyuka, another Surinamese creole language, follows a similar pattern: the usual Adjective-Degree order is reversed for pre-nominal attributive adjectives, but not for predicative adjectives or even for post-nominal attributive adjectives (Huttar & Huttar, 1994:178). This suggests a constraint against the surface order Adjective-Degree-Noun, rather than a more abstract bias.

Thirdly, the usual pairwise orderings for Adjective/Noun and Adjective/Degree can be preserved by postponing the degree word to the right edge of the nominal phrase, separating it from the adjective it modifies and resulting in the order Adjective-Noun-Degree. This strategy is also used in Yareba, such that (19) is an alternative to (17b), as well as in Kwomtari and Alamblak (see below).⁴

³ Adjectives are underlined and degree words are in bold.

⁴ This may also be grammatical in English with approximative *ish*. Norde (2010:144) gives the example *Tomorrow’s an easy day (ish)*, meaning “tomorrow is (only) quite an easy day”, although it is unclear which of

(19) *yafa amara were*
 tall man very
 ‘very tall man’

Yareba

Weimer & Weimer (1975:703)

Finally, languages can take the extreme strategy of altogether banning modification of attributive adjectives using degree words, as is reported for Jamaican Creole (Farquharson, 2013). This need not entirely prevent modification of attributive adjectives: languages may have alternative methods of marking degree such as superlative morphological forms.

The skewed distributions and restrictions like those in (17-19) have motivated several typological claims. The first of these was Greenberg’s Universal 21, which states that “if some or all adverbs follow the adjective they modify, then the language is one in which the qualifying adjective follows the noun” (Greenberg, 1963). This is clearly not an absolute universal: we already know of 62 (40 from WALS, 22 from APiCS) Adjective-Noun languages possessing “adverbs” (degree words) which follow adjectives they modify.⁵ Furthermore, Universal 21 makes no distinction between Adjective-Degree-Noun orders and Adjective-Noun-Degree orders, despite the latter being a strategy to avoid the former in languages like Yareba.

An alternative constraint which could explain this is the HFF, which rules out any material (including degree words) between a pre-nominal modifier head and the noun. Sheehan (2017) argues that the HFF is universal, and furthermore that it can be unified with the Final-Over-Final Condition (FOFC). FOFC bans configurations where head-final phrases immediately dominate head-initial phrases in the same extended projection, while allowing the equally disharmonic initial-over-final configuration (Biberauer, Holmberg & Roberts, 2014).

Figure 3 shows the structural similarities between FOFC and *AdjDegN, although since FOFC is a generalisation about heads and complements, this has the undesirable consequence that DegP must be treated as a complement of Adj rather than a specifier.

the related senses of “ish” is being used here; it could be the approximative suffix or phrasal clitic (Eitelmann et al., 2020).

⁵In fact, this is a significant underestimate, since languages like English are recorded on WALS as consistently Degree-Adjective despite having individual degree words like *enough* which must follow adjectives.

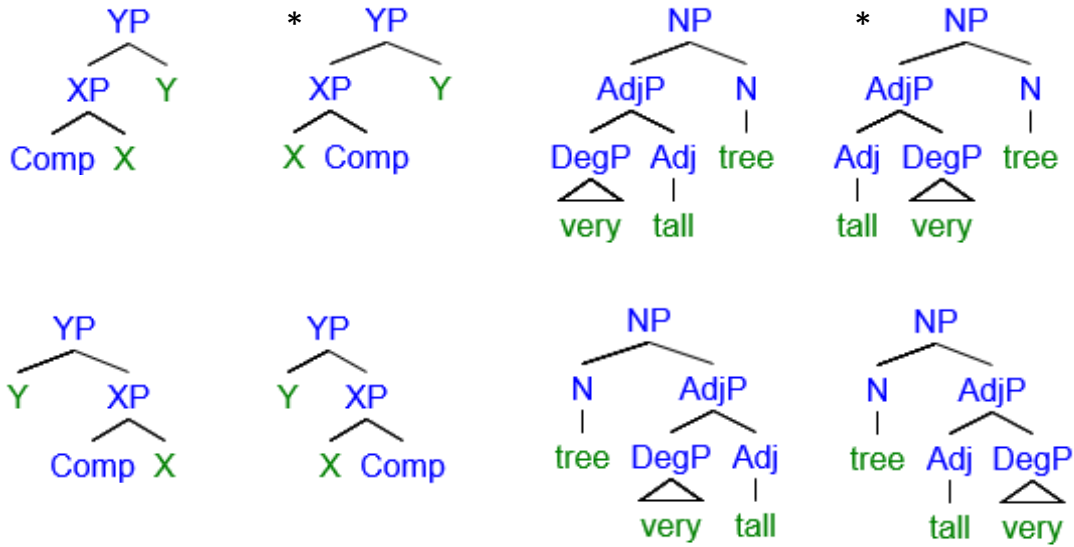


Figure 3: Two sets of tree diagrams showing the similarities between structures allowed and disallowed by FOFC and the HFF. In each set, the top-right structure is often disallowed, despite the equally disharmonic bottom-left structure being allowed.

Other phenomena explained by FOFC include the typological absence of languages displaying Verb-Object-Auxiliary order. Exactly as with V-O-Aux (see Holmberg, 2000:125 on Finnish), the typological gap for Adjective-Degree-Noun is mirrored in gaps within individual languages with relatively free word order. For example, in Kwomtari, nouns and adjectives can occur in either order. There are two intensifiers *metie* ‘truly’ and *feti* ‘very’, with the former preceding adjectives and the latter following them. The two intensifiers can be used together, as shown in (20). Whereas *metie* directly precedes the adjective regardless of Adjective/Noun order, *feti* directly follows the adjective only when the adjective follows the noun (20a), and otherwise must be extraposed (20b).

- (20a) *rori metie sai-sai feti alane.* Kwomtari
 fish really many-many very there.were
 ‘There were lots of fish.’
- (20b) *menete metie sabele sabele buletu feti kutaie teriieo.*
 I really huge huge basket very tied.up brought
 ‘I tied up a huge bundle and brought it.’

Spencer (2008:64,80)

Of the four possible orders for nouns, adjectives and degree words, Kwomtari displays only three: Noun-Degree-Adjective in ‘fish *metie* many’, Noun-Adjective-Degree in ‘fish many *feti*’ and Degree-Adjective-Noun in ‘*metie* huge basket’. Separating the adjective and degree word, as in ‘huge basket *feti*’, is favoured over allowing Adjective-Degree-Noun. The same extraposition strategy is also used to avoid other HFF violations (21), and to avoid FOFC violations (22).

(21) *zavesten otrok, da je vojna* (**zavesten da je vojna otrok*) Slovene
 aware child that is war
 ‘a child aware that there is a war’ Sheehan (2017:132)

(22) *weil er [AuxP [VP gesagt] hat] [CP dass Schnapps gut schmeckt]* German
 because he said has that Schnapps good tastes
 ‘because he has said that Schnapps tastes good’ Biberauer et al. (2017:17)

Sheehan’s unification of the HFF with the usual statement of FOFC relies on the claim that attributive adjectives are in fact covert relative clauses (Kayne, 1994:97-101; Cinque, 2010), such that *the tall tree* is underlyingly *the tree which is tall*. The adjective is thus underlyingly a verbal complement, raised to a pre-nominal position.

However, this claim is controversial: nouns modified by modal adjectives such as *an unlikely winner* are not semantically equivalent to *a winner who is unlucky* (DeLazero, 2011), but we must still account for preferences for *very unlikely winner* over *unlikely very winner*. The universality of the HFF itself is also disputed (e.g. Bošković, 2005; Cinque, 2010). The rest of the dissertation will therefore focus on the pre-theoretical generalisation *AdjDegN.

2.2.2 Exceptions

As we have seen, it is extremely rare among Adjective-Noun languages for degree words to be allowed to intervene between these two elements. Nonetheless, some languages do permit this. Of the 40 languages which, according to WALS, allow Adjective-Noun and Adjective-Degree orders, I have found reliably attested *AdjDegN violations in seven: Carib (Cariban, Suriname), Tariana (Arawakan, Brazil), Maung (Iwaidjan, Australia), Alamlak (Sepik, Papua New Guinea), Tzutujil (Mayan, Guatemala), Kwoma (Sepik, Papua New Guinea) and Savosavo (Papuan, Solomon Islands).

(23-25) show examples of Adjective-Degree-Noun order in Tariana (where the degree marker is a suffix and therefore perhaps less problematic), and Carib and Savosavo.

(23) *pimana-yha-wani* *du-kuda* *du-depidana* Tariana
 harsh-APPROX-EMPH 3sgf-body 3sgf-had
 ‘She really did have a somewhat harsh body.’ Aikhenvald (2003:366)

- (24) *ino:royo* *po:to* *po:re* *yo:poto:ri.* *Carib*
 one-mentioned large exceedingly chief
 ‘Now he was a very great leader.’ Hoff (1968:332-3)
- (25) *ngai* *toa / torongo* *gnegaghu=la=lo* *ka* *basi* *Savosavo*
 big really / very length=LOC=3sg already be.lost
 ‘It is already lost for a really big length [of time].’ Wegener (2008:72)

Maung, Tzutujil and Alambak are particularly interesting cases. They are classified by WALs as allowing attributive adjectives to both precede and follow nouns. It therefore appears that Adjective-Degree-Noun order is chosen rather than forced in the following examples, since speakers have an alternative option (Noun-Adjective-Degree).

- (26) *bular* *da* *nungmalal* *miya* *da* *ngaralg* *Maung*
 all CLASS good very CLASS laws
 ‘all the right laws’ Capell & Hinch (1970:123)
- (27) *bro* *yinmot* *miyt* *Alambak*
 big moderately tree
 ‘moderately large tree’ Bruce (1984:120)
- (28) *xintij* *k’aten* *laj* *q’oor.* *Tzutujil*
 I-took-it hot very atol
 ‘I drank very hot atol.’ Dayley (1985:194)

However, this may be overly simplistic: in many languages which exhibit both Adjective-Noun and Noun-Adjective orders, the alternation is not entirely free, but rather is conditioned by information structure. For example, in Maung, adjectives tend to follow indefinite nouns (which generally provide new information) and precede definite nouns (which necessarily refer to something already known) (Capell & Hinch, 1970:99). Alambak shows the opposite pattern: Bruce (1984:118) states that adjectives meaning “small” can follow “inherently small” nouns (where they provide no new information) but must precede “inherently large” nouns (where they introduce new information). Similar restrictions may apply in Tzutujil.

More convincingly, we should note that some languages which allow Adjective-Degree-Noun order also make use of the avoidance strategies described above, indicating that Adjective-Degree-Noun

need not be a last resort. In Kwoma, modifiers precede the nouns they modify in the general case (Kooyers, 1974:23). For heavy modifiers (including intensified adjectives), speakers may *optionally* reverse the usual order to give Noun-Adjective-Degree. Thus (29a) and (29b) are both grammatical.

(29a) *aka mayaka wey Bangwis ma ye kwowuk otiito Kwoma*
 house large very Bangwis man they on.the.mountain working
 ‘The Bangwis people are building a very large house on the mountain.’

(29b) *tobo wey ma rii bensin tokok yawa*
 short very man he came to.buy petrol
 ‘A very short man came to buy petrol.’ Kooyers (1974:19)

A particularly interesting case of optionality occurs in Alambalak, where adjectives both precede and follow nouns. In addition to degree words, Alambalak has several degree enclitics which attach to adjectives. For most of these, there are phonologically-identical nominal enclitics with corresponding meanings: for instance *-en* is a diminutive when attached to a noun, and means “a little” when attached to an adjective. When modifying pre-nominal attributive adjectives using a degree enclitic as in (24a), speakers may *optionally* move the degree enclitic onto the noun (the same strategy used by Yareba and Kwomtari above), giving rise to an ambiguous phrase like (30b).

(30a) *habhi-en yawy-r* Alambalak
 small-DIM dog-3sg
 ‘extremely small dog’

(30b) *habhi yawy-en-r*
 small dog-DIM-3sg
 ‘extremely small dog’ OR ‘small puppy’ Bruce (1984:121)

Crucially, this ambiguity only arises when an attributive adjective precedes the noun (rather than follows it): ‘dog-DIM small’ would simply mean “small puppy”. Therefore moving an adjectival enclitic onto a noun is a strategy which can only be correctly interpreted when it avoids Adjective-Degree-Noun order, despite Adjective-Degree-Noun order being an alternative grammatical option.

Thus we can conclude that *AdjDegN is an extremely strong tendency but not an absolute rule: there *are* languages which allow the order, sometimes as one option out of several. However, on consideration of other exceptional properties that recur across these seven languages, the tendency seems even more powerful.

Firstly, several of these languages have additional semantic restrictions on Adjective-Degree-Noun orders. In four (Maung, Tzutujil, Kwoma and Savosavo) the only degree markers which can appear in this position are intensifiers. In Alambak, where there are four full degree words, three can intervene only with size adjectives (with two permitted only with adjectives indicating large size); the only one which can appear with any adjective precedes adjectives rather than following them (Bruce, 1984:120).

The languages also share phonological properties. Many of the exceptional degree markers are described in sources as clitics, affixes or inflections rather than full separate words. In the case of Tzutujil, Dayley (1985:196,201) describes the intensifiers *laj* and *qas* as having evolved into suffixes marking attributive and predicative adjectives respectively, such is the frequency of their use in these positions without much intensifying meaning. (English *-ass* may have taken on a similar role, being used so frequently with attributive adjectives that it does not necessarily imply large degree.) Even the longer intensifier *torongo* in Savosavo is composed of *to-* plus the adjective-deriving suffix *-rongo* (Wegener, 2008:70), and thus might be interpretable as suffix-like.

It may also be relevant that two of the languages share the property of having unstressed elements which appear frequently or even obligatorily between adjectives and nouns they modify. Maung makes heavy use of class markers, which act as articles or determiners at the start of nominal phrases, and then serve to link adjectives to their head noun, as seen in (26). In Tzutujil, the intensifier *laj* can actually replace the connecting vowel which would usually be required between an adjective and noun (Dayley, 1985:195).

This property is also common among others of the 40 languages allowing Adjective-Degree and Adjective-Noun order, for which I was unable to find evidence for their avoidance or allowance of Adjective-Degree-Noun. This points towards a possible route by which degree words may come to break *AdjDegN: syntactically-null phonological elements intervene so frequently between adjectives and nouns that degree words are also allowed to appear in this position (although there must be other explanations to account for the other exceptional languages). Table 3 (overleaf) provides a summary of the recurring properties in these languages.

Language	Phonological restrictions		Semantic restrictions	
	Degree markers are clitic or suffix	Other phonological elements already intervene	Degree words are intensifiers	Adjectives must be of one class
Carib				
Tariana	✓			
Maung		✓ (repetitions of class markers)	✓	
Alamblak	✓ (for enclitics)			✓ (full words)
Tzutujil	✓	✓ (connecting vowel)	✓	
Kwoma			✓	
Savosavo	✓?		✓	

Table 3: Summary of recurring properties across languages with degree words which can intervene between pre-nominal adjectives and nouns.

2.3 Interim conclusions

The use of the *as*-intensifier in English is highly unusual, in light of typological patterns which make post-adjectival intensifiers extremely rare in languages where attributive adjectives precede the nouns they modify. Based on other Adjective-Noun languages which have degree words which must follow adjectives, we can make two predictions about the *as*-intensifier (and *af*-intensifier).

Firstly, assuming that typological patterns reflect synchronically-active constraints in the minds of speakers, we expect *as* and *af* to be dis-preferred in pre-nominal positions, in line with *AdjDegN. If this is not the case, this would suggest that a diachronic rather than synchronic explanation should be sought for the rarity of Adjective-Degree-Noun orders across languages.

Secondly, if *as* is acceptable with pre-nominal attributive adjectives, we expect it to share some of the properties of post-adjectival intensifiers given in Table 3, such as phonological or semantic restrictions on its use. If there are such restrictions, this would make the analysis of individual *Adjective as* constructions as compounds more appealing, and thus present less of a problem for the universality of *AdjDegN (and the general rules it has been linked to, like the HFF and FOFC).

3 Methods

3.1 Twitter corpora

3.1.1 Aims of creating corpora

I could not find any examples in parsed corpora of spoken British English such as the British National Corpus, and therefore created a corpus myself which was likely to contain the *as*-intensifier. I also wanted a sample of adjectives intensified using the abbreviation *af* or its full form *as fuck*, to test whether *as* is used in a more restricted way than these other forms. Since for many people, *af* is pronounced and conceived of as a word in its own right, [æf], it offers a testing ground for whether any potential restrictions on *as* result mostly from the awkward prosody of a stressed monosyllabic word, or from other properties not shared with *af*.

3.1.2 Streaming from Twitter

Twitter is a useful resource for linguistics research because it contains enormous volumes of linguistic data, with people often closely mimicking their own speech style (e.g. Tatman, 2015). It also allows large-scale data collection via the streaming Application Programmer Interface, which provides access to up to 1% of all public tweets being sent over any period, along with metadata about the tweet such as time and location. Researchers may specify characteristics of the tweets to be recorded, such as location or keywords which must appear in the tweet. The script I used to stream tweets was provided by another researcher and is not my own work.

Researchers have no control over the filtering process used, leading to concerns that there may be unidentified bias in streaming (Morstatter et al., 2013). However, it is unlikely that anywhere near 1% of all tweets matched my specifications, so I was probably able to collect all matching tweets sent while I was collecting data. In total, the two corpora contain 407 and 179 hours' worth of tweets respectively, collected over 3.5 weeks in November-December 2019.

The first corpus (the British Isles Twitter Corpus or BITC) was designed to contain examples of the *as*-intensifier. It was created by streaming tweets that included *as* and that were sent within a box of GPS co-ordinates containing the British Isles. Through this I collected 195,860 tweets, expecting that around 100 of these would contain the *as*-intensifier, and that a larger number would contain *Adjective as fuck*, for comparison.

The second (the Worldwide English Twitter Corpus or WETC) was constructed using several keywords to collect tweets including *af*, or any of several spelling variants for *as fuck*, including *asf*

and *as f*. Tweets were collected from anywhere in the world, so long as they had been automatically identified as being written in English. In total I collected 150,786 tweets in this corpus.

3.1.3 Processing corpus data to find examples

Data was processed using Microsoft Excel to remove tweets which certainly did not contain the relevant constructions. For BITC, this included removing tweets which were wholly not in English. Tweets containing a sentence in English and its translation into another language (often Welsh or Irish) were kept, as were predominantly English tweets that used a small amount of code-switching.

Due to the high likelihood of intensifiers being the final words in a tweet, my streaming filters only required the strings “as” and “af” respectively. This also ensured that tweets including *af* would be collected regardless of how many ‘f’s it was spelled with, since intensified adjectives are emotive phrases where authors often use ‘expressive lengthening’ to indicate strength of feeling (McCulloch, 2019:120). However, this meant that large numbers of tweets needed to be removed from each corpus as they actually only contained, for instance, “ask” or “after”.

Once tweets not containing the desired intensifiers had been removed, a list was created for each corpus of every word appearing directly before the intensifiers. Lists were then checked for adjectives. Only counting *Adjective+Intensifier* examples ensured that homographs for “as” and “af” (such as dialectal spellings of *has* and *off*) were not accidentally counted.

Since there are many other senses of *as* that can appear after adjectives, decisions about whether to count something as the *as*-intensifier were more subjective than for *af* and *as fuck*. Generally, if any sensible reading can be found with *as* used in its standard sense, the tweet was not counted. For example, while (31) has a reading on which *pleased as* means “very pleased”, there is a more sensible reading where *as* means “since”.

- (31) @user Oh lucky him! Federer was nearly bouncing with glee in the post match interview. Rafa must be pleased as he’s now year end number 1

ID:1195102766903025664⁶

⁶ To protect privacy, no identifying information is provided other than Tweet ID. Providing that the user has not deleted it, a tweet can be accessed by typing the URL <https://twitter.com/user/status/> followed by the Tweet ID.

3.2 Survey

3.2.1 Design

The survey can be divided into two parts. In the first part, after providing information about their age and linguistic background, participants were asked about their knowledge of the *as*-intensifier. To avoid technical terminology, participants were introduced to the *as*-intensifier using a short video clip from BBC TV series ‘Defending the Guilty’⁷, where a character describes somebody as “guilty as”. Participants were then asked whether they used *as* in this way themselves, merely knew of people using it this way, or had not heard of it before, and to give a definition for *guilty as*. They were also asked directly whether they knew the abbreviation *af* for *as fuck*, and whether they knew of it being pronounced “like the ‘aff’ in ‘raffle’”.

In the second part, participants were asked to rate the acceptability of sentences containing the *as*-intensifier, *af*-intensifier, and *as fuck* with various adjectives, in attributive and predicative positions. Ratings were given on a 1-7 Likert scale. All sentences were presented visually only; nonetheless, psycholinguistic research has found that prosody plays a significant role even in silent language processing (Fodor, 2002) and so prosodic factors will be analysed. The sentences with attributive and predicative versions of the same adjective were matched closely for context, but naturalness of each sentence was prioritised over identical contexts. All sentences are provided in Appendix A.

Question order was randomised. The sentences each participant saw depended on their responses to earlier questions. If they already knew the *af*-intensifier, they judged 30 sentences from Survey A, which contained an equal mixture of sentences with *as*, *af* and *as fuck*, used with 6 adjectives in attributive and predicative positions. Participants were specifically instructed to read *af* as a single word [æf]. If they did not know *af*, they judged the 30 sentences in Survey B, which contained only sentences with *as* and *as fuck*, used with 12 different adjectives. This was to avoid participants having to take on two constructions they were not familiar with at once.

There was also a final page of questions, where the *as*-intensifier appeared in combination with other intensifiers and suffixes. Some of these sentences were expected to be highly ungrammatical, in order to provide a baseline for genuinely ungrammatical constructions.

3.2.2 Participants

There were 385 responses to the first part of the survey. Demographic information for these respondents is shown in Tables 5-6; responses are dominated by British English speakers aged 18-23.

⁷ The clip can be watched at https://www.youtube.com/watch?v=uA24ATxwS5s&feature=emb_title.

Age group	Number of participants
18-23	293
24-29	33
30-39	15
40-49	21
50-59	18
60-69+	5
Total	385

Table 4: Ages of participants.

Variety of English	Number of participants
UK	333
Irish	9
Australian	23
New Zealand	9
South African	22
North American	81
Other	12

Table 5: Varieties of English which participants mentioned having some exposure to. The ‘Other’ category includes any variety mentioned by fewer than 5 participants, including responses of “Chinese”, “Indian”, “Sri Lankan”, “Malaysian”, “Singaporean”, “African”, and “European”. Participants could list as many varieties as they wished, so the numbers do not sum to 385.

4 Results

4.1 Twitter corpora

4.1.1 Use of Adjective *as* in Britain and Ireland

There are 196 tweets containing the *as*-intensifier in BITC. The corpus contained 140,176 English-language tweets including the word *as*, giving a rate of 14 in every 10,000 tweets containing *as*.

4.1.1.1 Adjectives

Table 6 shows the top ten adjectives which appear with *as*. We can immediately note the very high frequency of *simple* compared to any other adjective. The next highest, *funny* and *thick*, are expected to be frequent as they also occur frequently with *as fuck*, whereas *simple as fuck* appears zero times among 1043 instances of *Adjective as fuck* in BITC. It seems likely that *simple as* may be a set phrase used by many speakers, some of whom would not use *as* productively as an intensifier.

Adjective	Count	%	Rank change compared to frequency with <i>as fuck</i>
Simple	66	33.6	N/A
Funny	16	8.2	-1
Thick	14	7.2	-1
Cool	10	5.1	+8
Fit	9	4.6	-1
Rough	5	2.6	+3
Sweet	3	1.5	+129
Creepy	3	1.5	+6
Dumb	3	1.5	+7
Sick	3	1.5	+4
[All others]	62	31.6	
Total	196	100	

Table 6: Adjectives used with the *as*-intensifier in BITC, compared to their frequency with *as fuck* in the same corpus.

In addition, the top ten is dominated by prosodically similar adjectives: all are monosyllabic, or disyllabic with stress on the first syllable. Leaving aside *simple*, the adjectives which are significantly more frequent with *as* than with *as fuck* are all monosyllabic, suggesting that the *as*-intensifier may be prosodically or lexically restricted.

However, by other metrics the *as*-intensifier seems highly productive. It appears with a total of 66 different adjectives, 48 of which only appear once each with *as*, meeting the criterion used in other corpus studies (e.g. Hay & Baayen, 2003) of a high proportion of hapax legomena. Many are more complicated prosodically and not particularly frequent, including *special*, *worrying*, *thoughtful* and *confusing*. This suggests that *as* is genuinely productive for some British English speakers.

A semantic explanation for the high frequency of *simple as* seems implausible, given the lack of other adjectives on the *easy-to-hard* scale among the most frequent ones. Given the assumed origins of the *as*-intensifier in ellipsis, an alternative explanation is that the frequency of *simple as* might be driven by some property of the equative comparative phrases that *simple* often appears in.

The most common is probably *simple as that*, with *that* referring to the entire phrase beforehand. The apparent tendency to elide *that* bears a striking resemblance to ellipsis after *good as* and *better than*, where the comparator has just been stated in the previous discourse, as shown in (32), repeated from Figure 1, and (33), constructed analogously.

(32) He's gone. Or as good as [gone], anyway.

(33) He should be gone. Simple as [that="he should be gone"].

It seems that some speakers allow ellipsis of the comparator only where the elided phrase is the topic, as has been claimed for ellipsis of object arguments in Chinese and pronouns in German (Huang, 1984). For most other adjectives intensified with *as*, it is not possible to retrieve an elided phrase from preceding discourse. Speakers who use *as* with a wide range of adjectives must either lack this constraint to only elide topics, or must be interpreting *as* simply as an intensifier, not a preposition with an elided complement.

4.1.1.2 Attributive vs. predicative adjectives

The *as*-intensifier appears almost exclusively with predicative adjectives (34-35), or as a fragment to be interpreted predicatively (36-37).

- (34) @user In all fairness you do look **cool as**
ID:1196265223881183233
- (35) @Emmabarnetts glasses are **classy as**. Also probably the best political interviewer in the UK, very balanced, would you agree?
ID:1200204439317045248
- (36) Those players cannot play this week, **simple as**.
ID:1195421468617838592
- (37) @user Hahahaha watched this loads last night **funny as**.
ID:1197777145659088896

Uses like the ones in (34-37) make up 192 (98%) of the examples, suggesting there is a strong bias against using *as* to intensify attributive adjectives. Now consider the four examples (38-41) where the *as*-intensifier *is* used attributively.

- (38) @user What planet are these feckers on? That's the worst '**guilty as**' interview I've ever seen.
ID:1196142073180827648
- (39) Lovely NEIPA, creamy, pillowy, **smooth as**, stonefruit-aplenty! Just lovely!!!
ID:1195772189724819457
- (40) This **fake as** bitch will tweet about you then snap you for "Twitter support"
ID:1194791929185222656
- (41) Gonna be a **long as** day today
ID:1199233389129236125

In one case (38), the pre-nominal modifier is essentially a quotation of the fragment usage of *guilty as*. This makes it a quotative phrasal compound in Pafel's (2017) typology: a '*guilty as*' interview might be best paraphrased as "interview that makes people say the interviewee is 'guilty as'". Since these compounds lack internal syntactic structure, (38) is not a genuine violation of *AdjDegN.

In (39), *smooth* is a post-nominal adjective used in apposition. This suggests a similar distribution of *as* to that of Ndyuka degree words, where post-nominal attributive adjectives pattern with predicative adjectives in accepting post-adjectival degree words, in opposition to pre-nominal attributive adjectives where they are ruled out.

However, despite its rarity in the corpus, we should not conclude that British English speakers never use *as* with pre-nominal attributive adjectives, or that this would be ungrammatical. It may simply be very rare and therefore unlikely to show up convincingly in this corpus.

Furthermore, although tweets often imitate spoken language more closely than formal written language, tweeters cannot entirely avoid the shortcomings of writing. (41) would be unambiguous when spoken aloud, as the stress on *as* indicates that this is not the standard usage of *as*. However, in written form it may initially be read as a standard equative comparative with *day* as the comparator. Since social media users have been shown to display accommodation effects (Danescu-Niculescu-Mizil et al., 2011), it is reasonable to assume that tweet authors may try to mitigate confusion for their potential readers, and therefore that constructions like *long as day* might be avoided more in tweets than they are in spoken language.

In support of this, it is noticeable that various HFF-violating constructions appear in the data, including ones where a conventionalised *as*-simile appears between the adjective and noun (43), and even those where a new phrase has been innovated (44).

(43) Yes please, I'm afraid one day I'll choke on those **dry as sandpaper** small triangle sandwiches.

ID:1198692434349379585

(44) Good morning campers from a **bright as Art Garfunkel's eyes** Monte Darlo!

ID:1194177434700206080

These constructions violate the HFF just as badly as the *as*-intensifier, but are perhaps helped by the lack of ambiguity about whether there is an explicit comparator.

4.1.1.3 Locations

Examples are found across the British Isles. Figure 4 (overleaf) shows the approximate location of all 196 collected tweets with *Adjective as*, while Figure 5 excludes those with *simple as*, since use of *simple as* seems separable from productive use of the *as*-intensifier. The only clear difference between the maps is that Ireland has only one example⁸ of *as* with an adjective other than *simple*: productive use of the *as*-intensifier seems to be specific to UK dialects.

Adjusting for population size, the *as*-intensifier is roughly equally common in all regions of the UK, as can be seen in Table 7. It may, however, be slightly more common in England and Scotland than elsewhere, particularly when *simple as* is excluded.

Region	Population		Tweets with <i>Adjective as</i>		Tweets with <i>Adjective as</i> , excluding <i>simple as</i>	
	Number (millions)	% of total	Number	% of total	Number	% of total
England	55.97	78.4	160	81.6	108	83.1
Scotland	5.44	7.6	15	7.7	13	10.0
Ireland	4.85	6.8	9	4.6	1	3.1
Wales	3.14	4.4	6	3.1	4	2.3
Northern Ireland	1.88	2.6	5	2.6	3	0.8
Isle of Man	0.08	0.1	1	0.5	1	0.8
Totals	71.36	100	196	100	130	100

Table 7: Table showing data for six regions within the British Isles, comparing their proportion of the total population (Office for National Statistics, 2019; World Bank, 2019a; World Bank, 2019b) with the proportion of *Adjective as* tweets that were sent within them, including and then excluding *simple as*.

⁸ In fact, the one example is from someone whose Twitter biography suggests that they live partly in England.



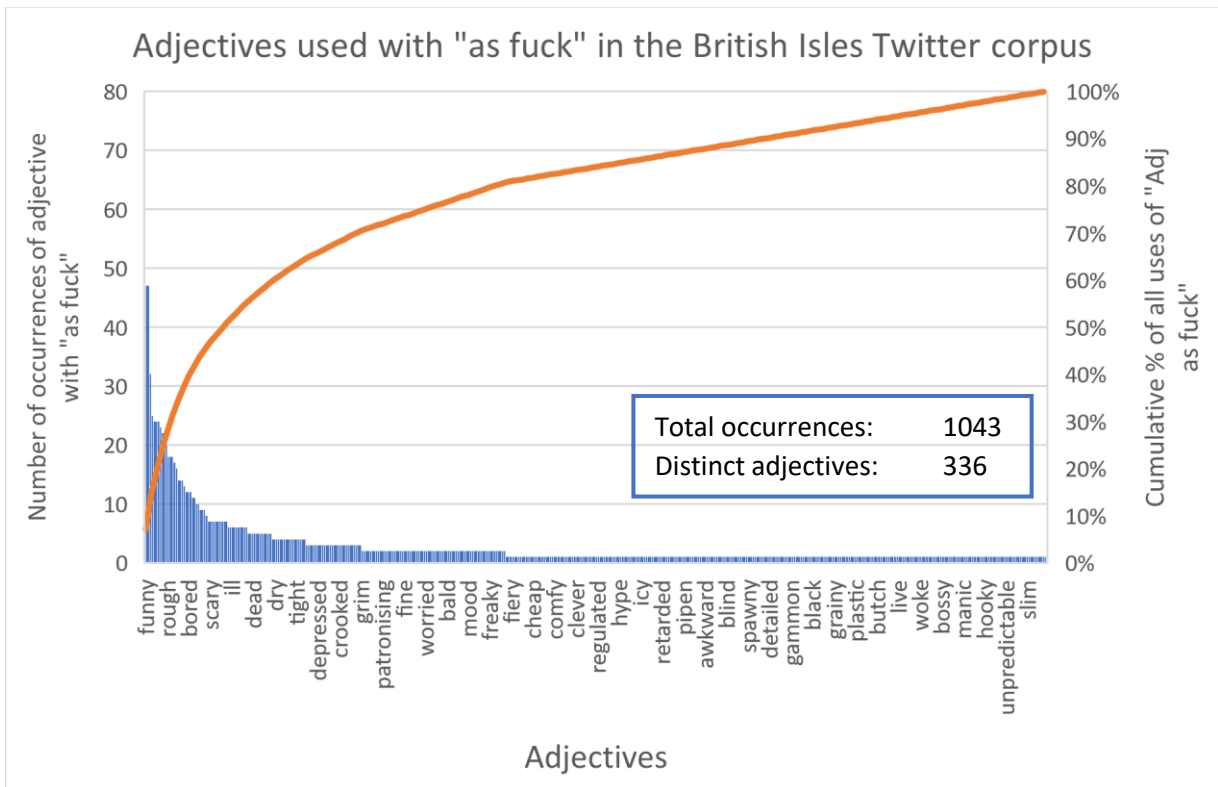
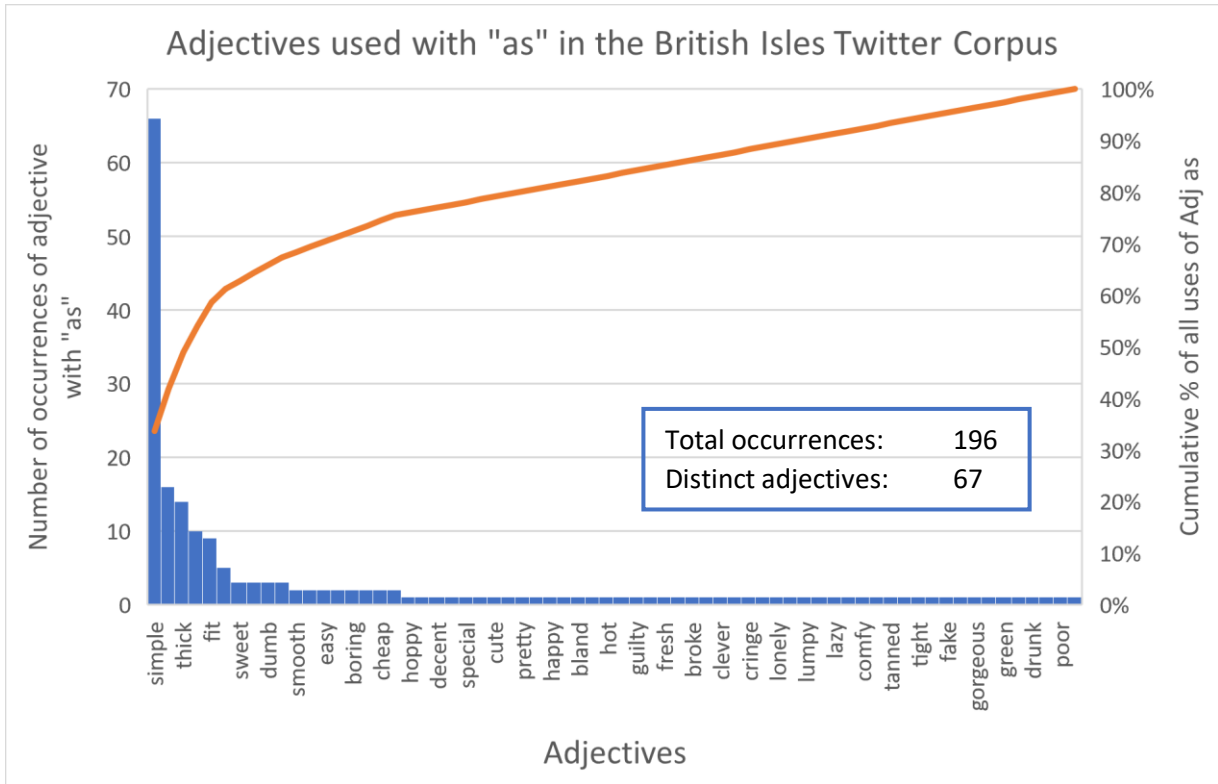
Figure 4: Map of the UK and Ireland with pins showing co-ordinate locations of all tweets in BITC that contain the *as*-intensifier, colour-coded by region. Some UK islands are not displayed on the map; there were no tweets with the *as*-intensifier from these locations.



Figure 5: Map of the UK and Ireland with pins showing co-ordinate locations of all tweets in the corpus that contain adjectives intensified with *as*, excluding those that contain *simple as*.

4.1.2 Comparison with Adjective *af*

Figure 6 (overleaf) shows the distributions of adjectives used with *as* and *as fuck* in BITC, and with *af* and *as fuck* in WETC. In each case, the distribution with *as fuck* is intended as a proxy for the overall distribution of adjectives in the corpus; this avoids the computational load of obtaining a word count for every word occurring in 395,000 tweets, and ensures that only adjectival senses of polysemous words are counted.



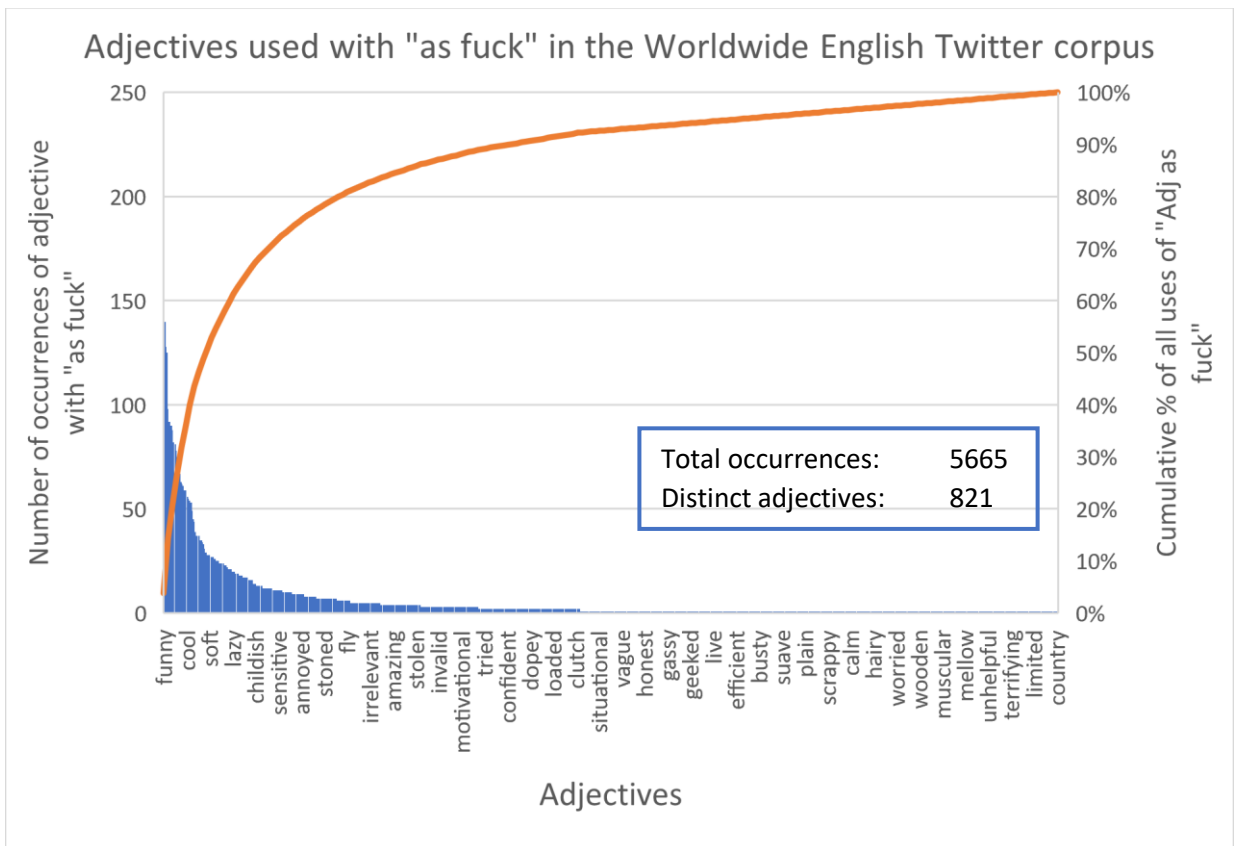
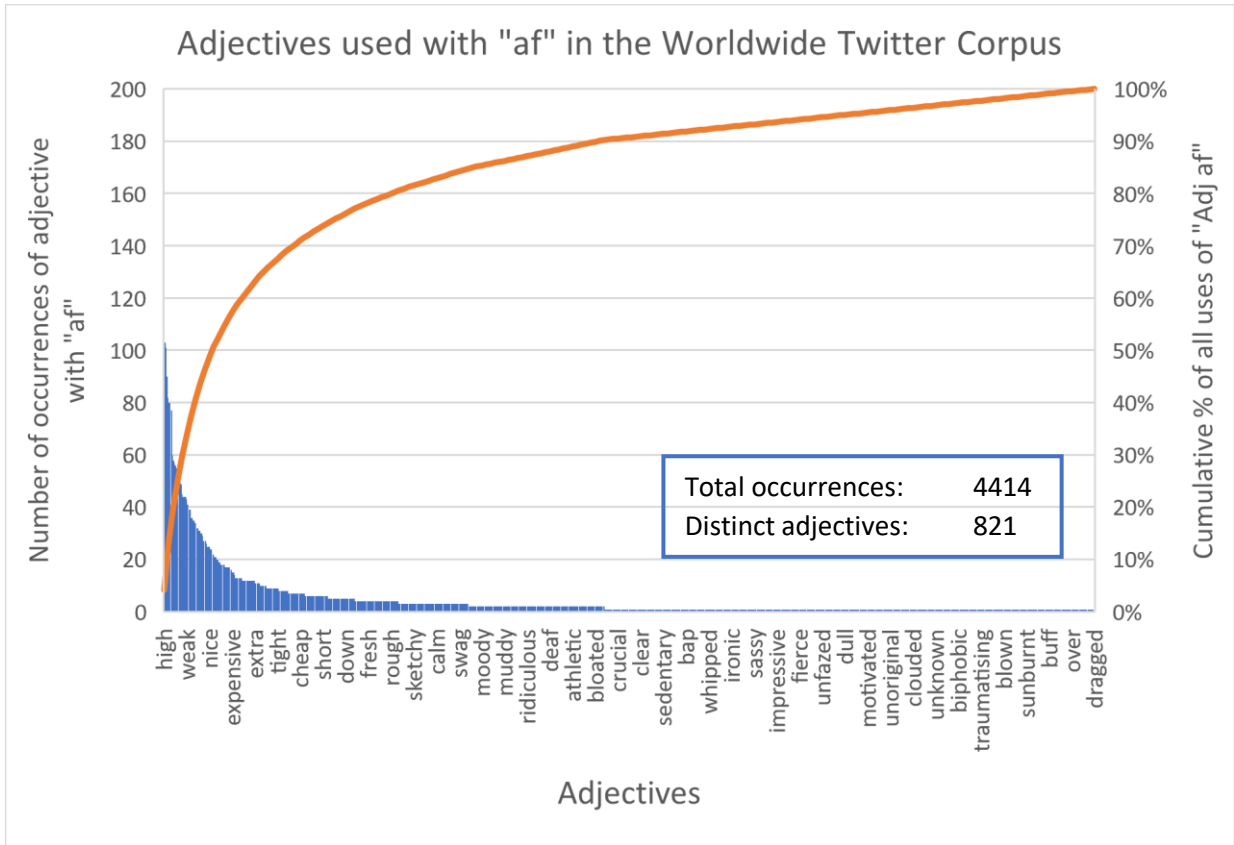


Figure 6: Pareto charts showing the distribution of adjectives used with each intensifier investigated in each corpus. Adjectives are listed in descending order of frequency; not all adjectives are shown.

The shapes of the two WETC curves are clearly more closely-matched than the BITC curves. However, since the sample sizes are so unequal, it is difficult to tell from these graphs alone whether there is a difference in the underlying distributions of adjectives with the *as*- and *af*-intensifiers.

Kendall-tau tests were carried out to compare the distributions. This tests for the correlation between two variables based on rankings; data for two intensifiers are more correlated if each adjective has a similar frequency rank with each intensifier. In WETC, the adjectives used with *af* and with *as fuck* had correlation coefficient $\tau = 0.677^9$. In BITC, *as* and *as fuck* were much less correlated ($\tau = 0.459$). The greater degree of correlation between *af* and *as fuck* is also shown in Figure 7.

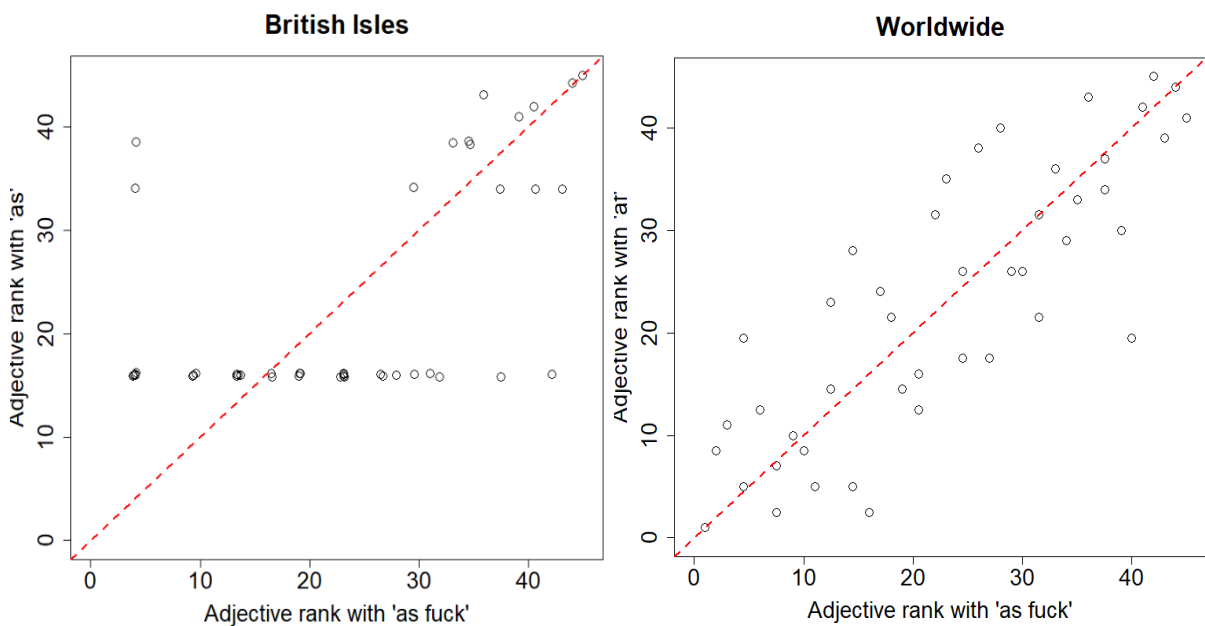


Figure 7: Scatter plots showing the correlation between the frequency rank of an adjective when used with *as fuck* and its rank when used with the *as*-intensifier (left) or *af*-intensifier (right). Each point represents a single adjective. The closer a point is to the red dashed line, the smaller the difference in ranks for that adjective. All 45 adjectives which appear with *as* and *as fuck* are shown for the British Isles corpus; for the Worldwide corpus only the most frequent 45 adjectives are shown for ease of comparison.

Even allowing for the fact that *af* may sometimes be intended by tweeters as an abbreviation for *as fuck* rather than a word, it seems likely that for most speakers the *af*-intensifier imposes no restrictions on the adjective it modifies for most speakers, unlike the *as*-intensifier.

⁹ $-1 < \tau < 1$. Larger values of $|\tau|$ indicate stronger correlation. Positive values show positive correlation.

4.1.3 Interim summary

Genuinely productive use of the *as*-intensifier must be distinguished from use of conventionalised set phrases. The phrase *simple as* differs from other instances of *Adjective as*, both in its discourse properties and in its distribution across English dialects. Whereas *simple as* is found with similar frequency across all regions of the UK and Ireland, the genuine *as*-intensifier seems to be absent from Irish English.

The *as*-intensifier is almost always used to modify predicative adjectives and fragments. Only two out of 196 tweets contain uses of the *as*-intensifier with true pre-nominal attributive adjectives, where *as* directly modifies the noun that follows. This may be influenced by the ambiguities of a written medium, where an Adjective-*as*-Noun sequence can be mistaken for one where the Noun is the comparator.

Although by some metrics the *as*-intensifier is productive, there seem to be restrictions on which adjectives can be intensified with *as*, at least for some speakers: the distribution of adjectives differs greatly between *as* and *as fuck* in BITC. The restrictions may be prosodic, as is proposed for comparative and superlative suffixation in English, as well as for *-ass* in American English (Lieberman, 2011) and the Russian degree suffix *-ovat* (Kagan & Alexeyenko, 2011).

Regardless of the precise nature of the restriction on the use of *as*, it does not seem to apply to the same extent for *af* in WETC, which patterns much more closely with *as fuck*. It is difficult to determine whether this patterning results from a genuine difference between *as* and *af*, or from some instances of *af* being intended as abbreviations of *as fuck* rather than uses of the *af*-intensifier itself. The survey discussed in §4.2 aims to resolve this, as participants were specifically asked to interpret *af* as the *af*-intensifier and not an abbreviation.

4.2 Survey

4.2.1 Knowledge of the Adjective *as* construction

This section discusses the results from the first part of the survey, where participants provide demographic information and a definition for *guilty as*. There were 385 responses to this part, including from non-native English speakers.

Prior knowledge of the *as*-intensifier was very high among participants. 161 (42%) stated that they used the construction themselves, and a further 174 (45%) had heard it used. Both knowledge and use were significantly more common among younger people and among people with exposure to UK, Australian or New Zealand Englishes (the three varieties anecdotally claimed to include the *as*-intensifier).

4.2.1.1 Definitions

There were recurring patterns across the 385 definitions given for “guilty as”. 261 (68%) highlight the emphatic nature of *as*. This includes 160 which use adverbs or degree words expressing the extent of guilt (like “very”, “extremely” or “super”), and 114 which use adverbs expressing the speaker’s certainty about the guilt (like “definitely”, “certainly” or “unquestionably”). 14 express emphasis more abstractly, such as “a more emphatic way to say someone is guilty”.

Further evidence for *as* being understood as an intensifier comes from the final page of survey questions, where *as* appeared in combination with other intensifiers, in ways which would be ungrammatical with standard degree words. With the possible exception of *most Adjective as*, these sentences received extremely low ratings. Combinations with *as* and explicitly comparative constructions with *easier* and *too* were especially disliked, suggesting that the origins of *as* as an equative comparative also remain salient.

Intensifier combination	Sentence	% ratings of 1	Mean
analytic superlative + as	“most boring as event”	20	3.29
synthetic comparative + as	“interview was easier as”	68	1.62
really + as	“really long as journey”	28	2.99
too + as	“he is too short as”	55	2.03
Average across all <i>as</i> sentences in survey		12	3.91

Table 8: Measures of acceptability rating for combinations of other intensifying forms with *Adjective as*.

196 definitions (51%) mention or imply that *guilty as* derives its meaning from something that is elided after *as*. 121 include the omitted word being an expletive, with definitions like “guilty as fuck” or “guilty as hell”. 100 use a set phrase that can follow *as*, including general phrases like “as possible”

or “as it gets”, conventionalised *as*-similes for guilt like “guilty as sin”, and novel ones like “guilty as a mass murderer”. This form of ellipsis seems to prompt people to ‘fill in the blank’ with whatever first comes to mind. Several participants stated this explicitly in their definitions, giving responses like “guilty as [some commonly understood x]” and “guilty as *insert name of someone convicted beyond reasonable doubt*”.

Finally, some definitions were considered incorrect. These included “guilty as ever” and “guilty as given” (which still show understanding of ellipsis), as well as contextual definitions describing consequences of the person’s guilt, but which may have been guessed from context.

4.2.2 Acceptability judgements

This section discusses the acceptability judgements provided in the main part of the survey. Only responses from native English speakers who gave correct¹⁰ definitions for *guilty as* are considered. After excluding incomplete responses and responses where every sentence was rated identically, 282 responses remain. 153 are derived from Survey A and 129 from Survey B. Every participant answered 30 questions, hence there are 8460 individual question responses.

4.2.2.1 Data pre-processing

All statistical analysis was carried out in R (R Core Team, 2019). Before this, the Likert-scale acceptability ratings were converted into z-scores. This standardises responses by assuming that each individual participant’s ratings roughly follow a normal distribution. For each participant, each rating is converted by subtracting it from the mean of their own 30 ratings and dividing by their own standard deviation. This results in every participant’s z-scores having a mean of 0 and standard deviation of 1, enabling comparison between participants even if they used the rating scale differently, and allowing the application of more powerful statistical tests (Schutze & Sprouse, 2014).

The survey had a repeated-measures design, meaning that the 8460 z-scores could be clustered according to participants and are not theoretically independent of each other. This invalidates common statistical tests like t-tests (Seltman, 2012). However, when I applied a linear mixed-effects model instead¹¹, with “Participant” modelled as a random factor, it was found that this factor did not actually explain any variance; details are provided in Appendix B. I will therefore treat the z-scores as independent in practice. Additionally, Figure 8 shows that the distribution of the 8460 z-scores is

¹⁰ Definitions were deemed correct if they were synonymous with a definition given by somebody who used *as* themselves. However, responses from non-*as*-users were excluded if their definition did not require understanding of the contribution of *as* to the meaning; for example, I did not treat definitions of simply “guilty” as showing understanding of the meaning of *as*.

¹¹ This was used instead of repeated-measures ANOVA due to its greater ability to handle unequal sample sizes.

fairly close to a normal distribution; statistical tests which assume normality and independent samples (including t-tests and ANOVAs) will therefore be applied.

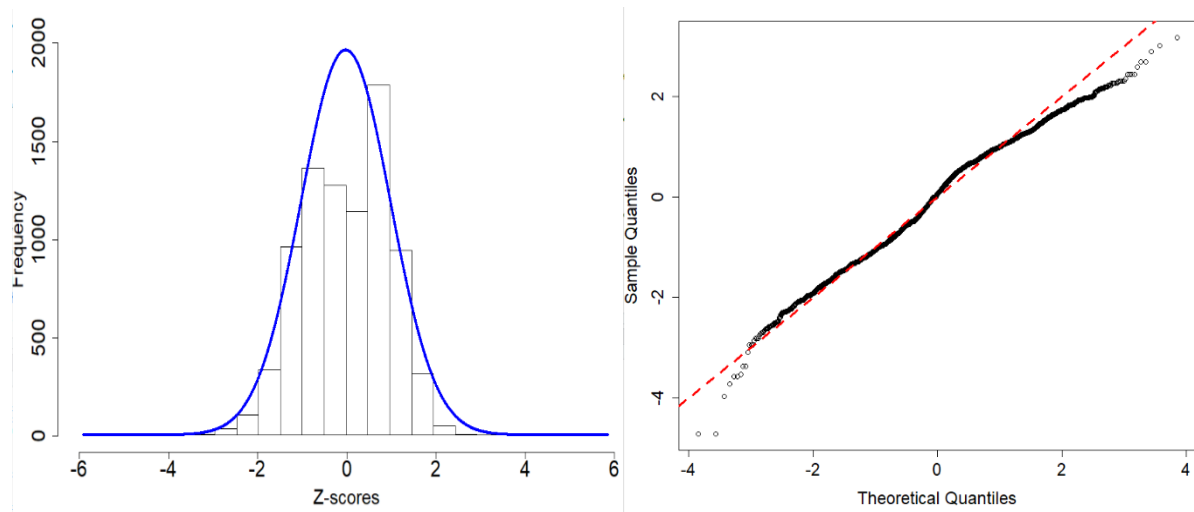


Figure 8: Histogram showing the distribution of z-scores (left), following an approximately bell-shaped curve, and Quantile-Quantile plot for z-scores plotted against a theoretical normal distribution (right). Each black circle in the Q-Q plot represents a single response. The more the black circles fall along the red line, the closer the distribution of z-scores is to normal.

4.2.2.2 Effect of intensifier and position

Mean z-scores are shown in Figure 9 and Table 9 with results grouped according to intensifier and by whether the intensified adjective was attributive or predicative.



Figure 9: Bar charts showing the average z-score according to intensifier (top left), position of the adjective (top right), and both factors combined (bottom). Negative z-scores indicate that participants tended to rate these sentences lower than their own average rating.

Condition (Position + Intensifier)	Example	Sample size	Mean z-score	Variance
attributive + as	<i>long as walk</i>	2486	-0.709	0.672
attributive + af	<i>long af walk</i>	644	-0.133	0.683
attributive + as fuck	<i>long as fuck walk</i>	1098	0.378	1.003
predicative + as	<i>walk is long as</i>	2478	0.077	0.620
predicative + af	<i>walk is long af</i>	653	0.384	0.511
predicative + as fuck	<i>walk is long as fuck</i>	1101	0.901	0.537

Table 9: Table showing the means, variances and sample sizes for position-intensifier pairs.

Predicative conditions are clearly preferred to attributive ones. Welch's t-test¹² for independent samples carried out on the Position data was highly significant at the 5% level: $t_{8234.3} = 33.98$, $p < 0.001$. Since more than two intensifiers were tested, Welch's one-way ANOVA was used to test for a significant effect of Intensifier. This was also highly significant at the 5% level: $F_{8718.5} = 1301.47$, $p < 0.001$. Post-hoc testing using Games-Howell tests found that all three pairwise comparisons of intensifiers were significant: *as fuck* is preferred to *af* ($t_{8286.8} = 26.98$, $p < 0.001$) and *as* ($t_{9169.9} = 51.02$, $p < 0.001$), and *af* is preferred to *as*. ($t_{8658.4} = 24.40$, $p < 0.001$).

A significant interaction between Position and Intensifier was also found, using a two-way ANOVA ($F(2,8454) = 26.87$, $p < 0.001$). Figure 10 shows that the interaction results from *as* receiving a greater 'attributive penalty' than the other two intensifiers: the gap between attributive and predicative z-scores widens for *as* compared to *af* and *as fuck*.

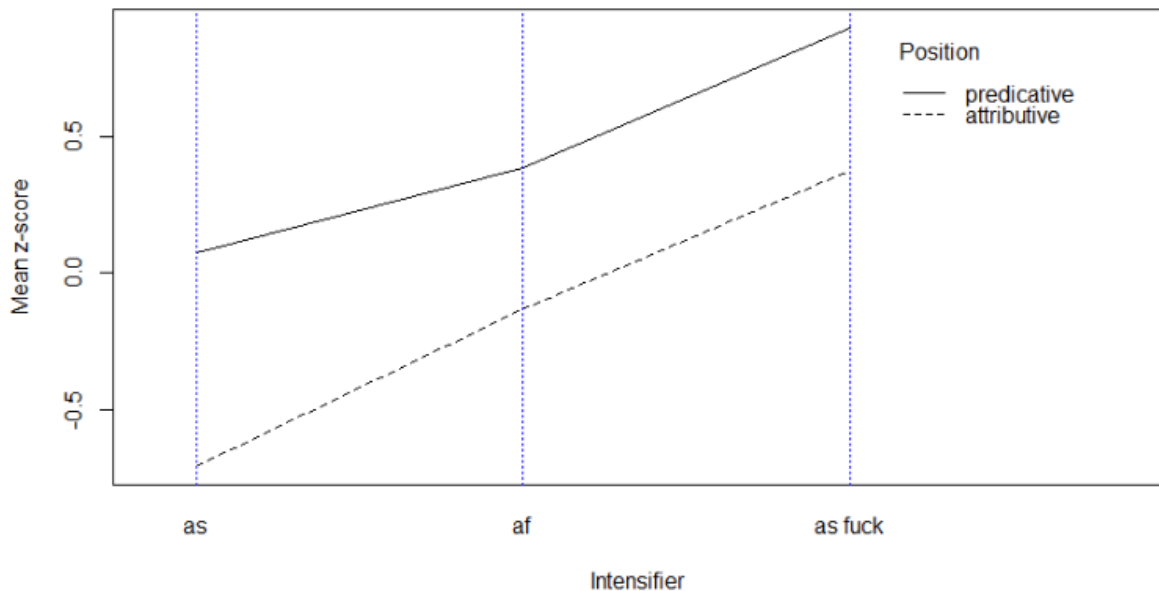


Figure 10: Interaction plot showing the mean z-scores for each intensifier-position pair. Parallel lines would indicate no interaction effect.

¹² Welch's tests are used rather than standard ones to handle the unequal variances between samples (Moder, 2010).

Despite its lower ratings than any other intensifier-position pair, we should not automatically conclude that *Adjective as* is ungrammatical before nouns. Firstly, this condition still receives much higher raw ratings than the ungrammatical sentences on the final page of the survey: an average of 3.28 compared to 1.62 for the sentence with *easier as*. Furthermore, the statistics discussed so far are averaged over all participants. They do not allow us to distinguish between a situation where *Adjective as* is slightly worse in attributive position for everyone, and one where attributive position is dramatically worse for some but makes no difference for others.

Figure 11 suggests there may be two distinct populations, only one of which prefers *as* in predicative positions. There are 45 participants whose average ratings for the two conditions differ by less than 0.5 raw points on the scale. Regardless of how these 45 participants conceptualised the scale, they certainly did not consistently rate either condition higher than the other.

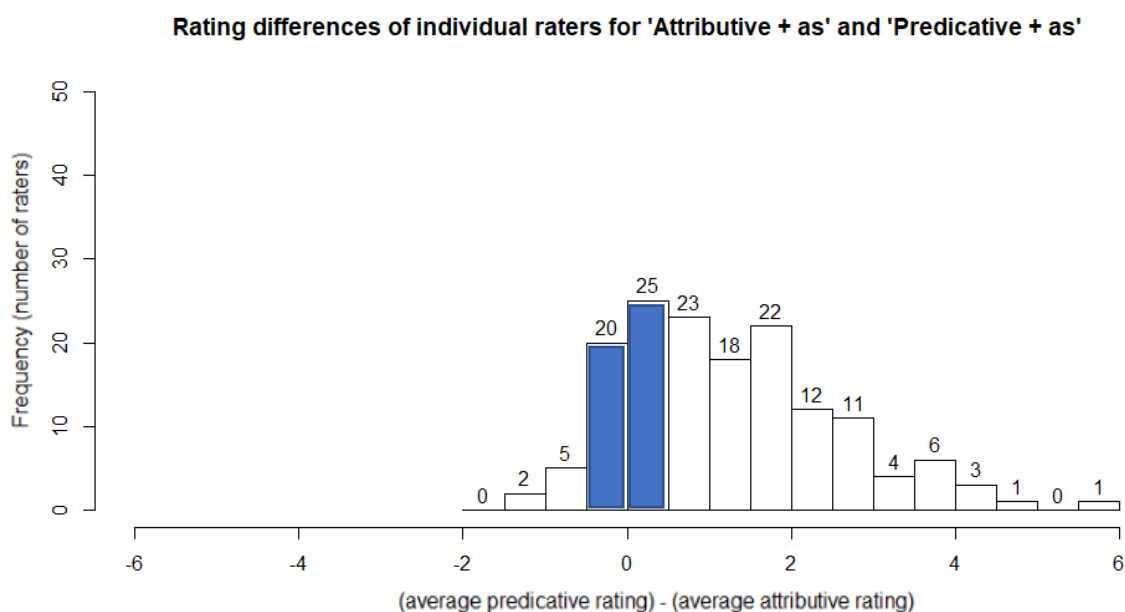


Figure 11: Histogram showing the difference between average ratings given to sentences with predicative *Adjective as* and attributive *Adjective as* by participants doing t (129 participants, 24 questions). Positive values indicate a preference for predicative positions over attributive positions, and vice versa for negative values. Participants in the blue region differed by less than 0.5 raw points in their average ratings for predicative and attributive positions.

4.2.2.3 Effect of adjective

Z-scores for each of the 12 adjectives tested are not directly comparable, since some adjectives appeared only with *as* in Survey B, and therefore have lower z-scores. Furthermore, the z-scores for

each adjective overall will be affected by the entire sentence the adjective appeared in, and therefore do not tell us much.

However, we can compare the five adjectives which appeared with all three intensifiers with similar ratios: *annoying*, *boring*, *difficult*, *funny*, and *hot*. Analysis of variance does reveal a significant interaction effect between Adjective and Intensifier for these adjectives ($F(8,5508) = 4.6604$, $p < 0.001$).

From Figure 12, we can see that *as* and *af* behave very similarly for all adjectives other than *funny*, which is rated especially highly for *as* and especially low for *af*. The pattern for *as fuck* diverges more, with a notable peak for *hot*. Although this is based on only a small sample of adjectives, it is noticeable that the *as*-intensifier (and to a lesser extent the *af*-intensifier) receive higher ratings for adjectives with penultimate-syllable stress.



Figure 12: Interaction plot showing the mean z-scores for each adjective-intensifier pair, for the five adjectives which appear with all three intensifiers. Parallel lines would indicate no interaction. The data for these five adjectives comes from 5526 individual question responses.

We can test prosodic constraints more thoroughly using the data for all 12 adjectives used with *as*. Figure 13 shows the distribution of z-scores for sentences with *as*, arranged by individual adjective and according to the prosodic factors in Table 10 (both overleaf).

Adjective	Survey	Syllables	Comparative form
ancient	B	2	analytic
annoying	A and B	3B (stress on 2 nd syllable)	analytic
boring	A and B	2	analytic
comfortable	B	3A (stress on 1 st syllable)	analytic
difficult	A and B	3A (stress on 1 st syllable)	analytic
expensive	B	3B (stress on 2 nd syllable)	analytic
funny	A and B	2	synthetic
hot	A and B	1	synthetic
long	A and B	1	synthetic
random	B	2	analytic
tall	B	1	synthetic
thick	B	1	synthetic

Table 10: Summary of prosodic properties of adjectives appearing in the survey.

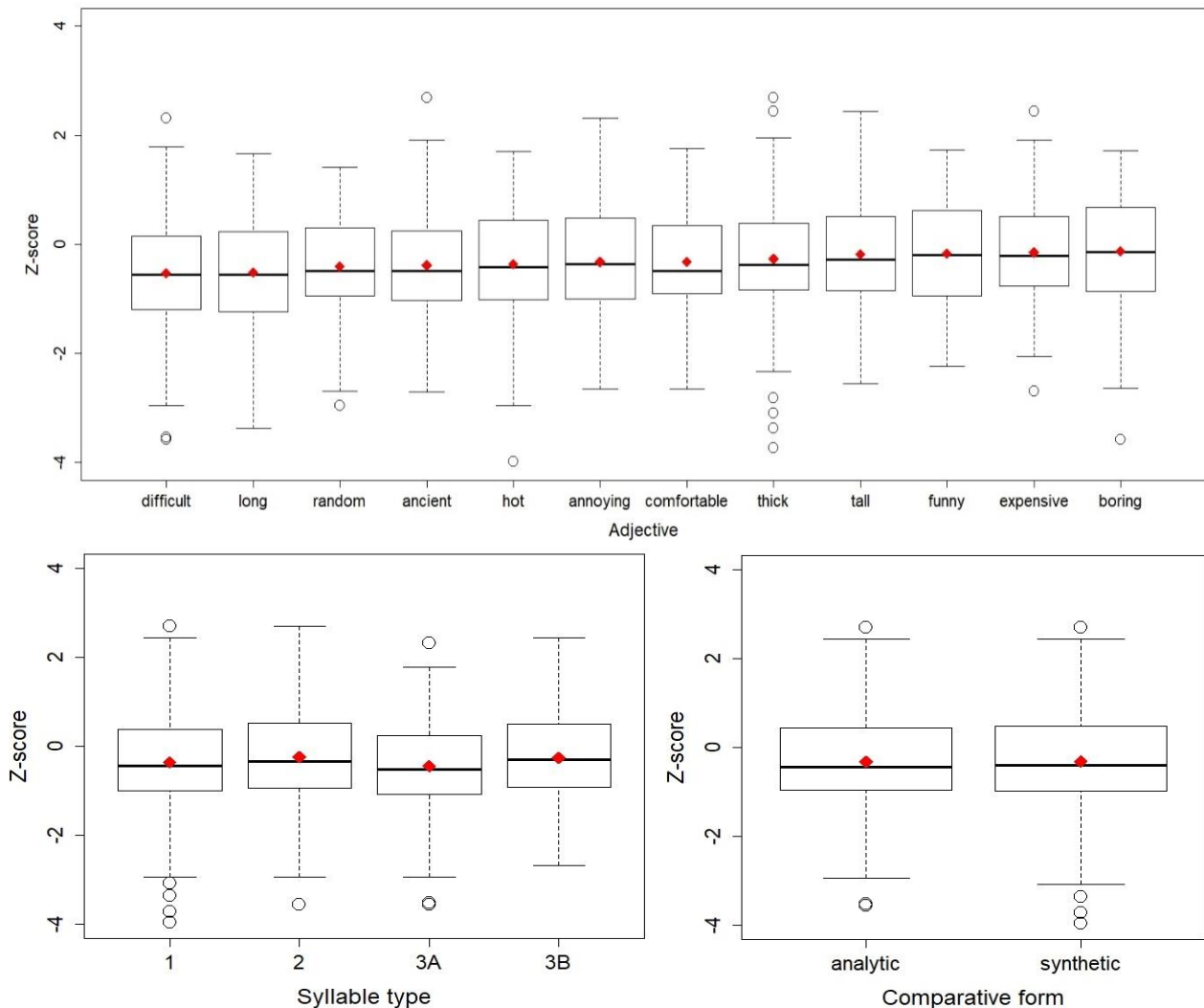


Figure 13: Box plots showing the distribution of z-scores for each adjective (top), syllable type (bottom left) and category for comparative form (bottom right). For each category, the thick black line indicates the median z-score. Values within the box are within the inter-quartile range. The whiskers show the range of values, excluding outliers (shown as black circles). Red markers indicate the mean.

Firstly, we can note that Adjective has only a small effect on z-scores: every adjective has a wide range even excluding outliers, and the boxes overlap. Nonetheless, the effect of Adjective is statistically significant: a linear mixed-effects model with Adjective, Position and their interaction as fixed effects and Participant as a random effect was tested using a Wald chi-square test¹³, with results shown in Table 11. Although the Adjective-Position interaction effect is also significant, this mostly results from data for *thick*, where the predicative and attributive test items were not very closely-matched; the interaction will therefore be ignored.

Factor tested	χ^2	Degrees of freedom	p
Position	86.994	1	$< 1 \times 10^{-15}$
Adjective	56.523	11	$< 1 \times 10^{-7}$
Interaction of Position and Adjective	41.430	11	0.0000203

Table 11: Results of the Type III Wald chi-square test performed on a linear mixed-effects model with Position, Adjective and their interaction as fixed effects, and Participant as a random effect. A factor is claimed to have a significant effect if the p-value is below 0.05.

Two more linear mixed-effects models were tested, replacing Adjective with Syllable_Type and Morphology_Type respectively, and adding Adjective as a random effect. Neither Syllable_Type ($\chi^2 = 0.9842$, $p=0.81$), nor Morphology_Type ($\chi^2 = 1.3125$, $p=0.25$) was significant as a main effect. However, there are interesting interaction effects, shown in Figure 14 (overleaf).

¹³ This test was used as it is simpler and computationally cheaper without much loss in power compared to the alternative of a likelihood ratio test (Gudicha et al., 2017).

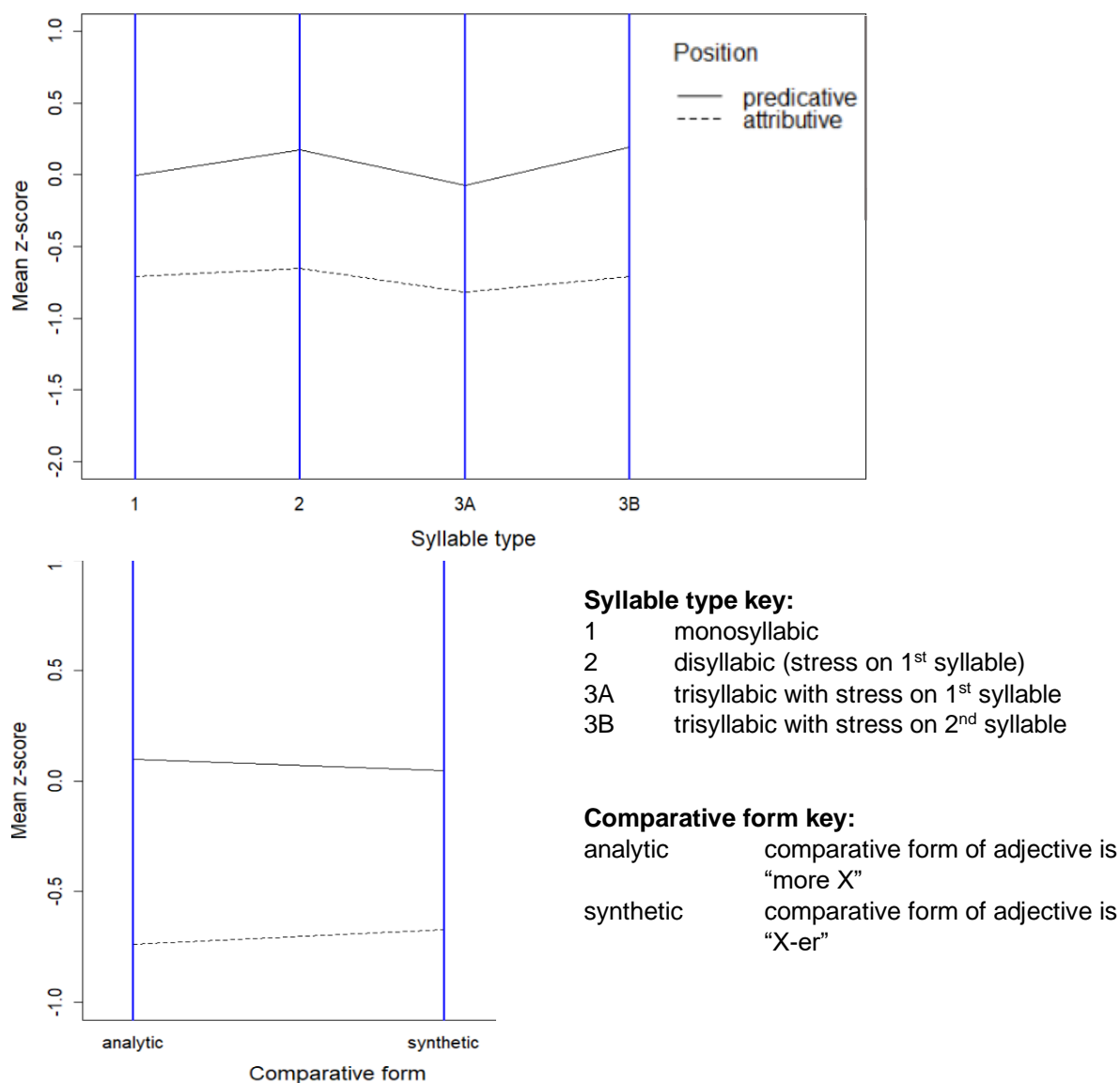


Figure 14: Interaction plots for Syllable-Position pairs (top) and Morphology-Position pairs (bottom) with the *as* intensifier only (4964 responses). Parallel lines would indicate no interaction.

The interaction between Syllable_Type and Adjective was significant ($\chi^2 = 12.5808$, $p < 0.01$). Figure 14 shows that whereas in predicative positions Types 2 and 3B (with penultimate stress) are preferred, in attributive positions shorter words are preferred, with mono- and disyllabic adjectives favoured. Interaction between Morphology_Type and Adjective was also significant ($\chi^2 = 7.4193$, $p < 0.01$), resulting from a preference for adjectives with synthetic comparatives in attributive position but not in predicative position. Overall, it seems that prosodic conditions on the acceptability of the *as*-intensifier differ between attributive and predicative positions. This raises the question of whether *as* might be interpreted as a suffix or clitic in attributive positions where additional prosodic restrictions on the base adjective apply, although this seems unlikely given the full vowel in *as*.

4.2.3 Interim summary

The *as*-intensifier is judged to be substantially less grammatical than the *af*-intensifier or control sentences with *as fuck*. Despite acceptability being lower for all three intensifiers when used with attributive adjectives, the *as*-intensifier is affected more severely than the other two: average acceptability ratings drop much lower, particularly for adjectives with more syllables and those which do not have a synthetic comparative or superlative form. However, there is large variation between individuals in their acceptance of *as* in attributive position. It is beyond the scope of the dissertation to investigate whether this variation is related to other factors such as age or, for example, the style of definition given for *guilty as*, but future work on this may reveal further subtleties.

Whereas the preference for predicative positions is shared across the survey and corpus data, the data relating to any prosodic conditioning of intensifiers is less clear. Unlike in the corpus data where *af* displayed a very high amount of productivity and close similarity with *as fuck* in the adjectives it appeared with, the survey results show *af* following a pattern more similar to *as* than *as fuck* in its behaviour with adjectives of different prosodic types.

With regard to overall acceptability, *af* falls consistently in between *as* and *as fuck*. Thus while the prosodic awkwardness of monosyllabic stressed intensifiers may contribute partly to the low acceptability of *as*, there must be other factors which lower the acceptability of *as* still further.

5 Discussion

Looking at the corpus and survey data together, there is clearly substantial variation among English speakers in their use of the *as*-intensifier. Although the *as*-intensifier must be fairly productive for some British English speakers to appear with so many distinct adjectives in a small sample, there seem to be others who use it only with a prosodically-restricted set of adjectives, producing the skewed distributions. Furthermore, although the *as*-intensifier was equally grammatical in attributive and predicative positions for at least some survey participants, others find *Adjective as* drastically less acceptable attributively.

Based on the typology developed in Table 12 (repeated and expanded below), we might expect that there are in fact only two distinct groups: one which uses the *as*-intensifier entirely productively but only in predicative (or non-pre-nominal) positions, and one group where *as* can intervene between attributive adjectives and nouns but only with a limited range of adjectives.

Language	Phonological restrictions			Semantic restrictions	
	Degree markers are clitic or suffix	Other phonological elements already intervene	Adjectives must be of certain prosodic type	Intervening degree words are intensifiers	Adjectives must be of one class
Carib					
Tariana	✓				
Maung		✓ (repetitions of class markers)		✓	
Alamblak	✓ (for enclitics)				✓ (for full degree words)
Tzutujil	✓	✓ (connecting vowel)		✓	
Kwoma				✓	
Savosavo	✓?			✓	
English	✓ (-ass, -ish, ?af, ??as)		✓? (?-ass, ?af, ??as)	✓ (-ass, as, af)	

Table 12: Summary of recurring properties across languages with degree words which can intervene between pre-nominal adjectives and nouns, partly repeated from Table 3 above.

An alternative possibility is that another group exists who use the *as*-intensifier fully productively with adjectives in any position in the sentence, but for whom *as* has become a suffix or clitic attaching to the adjective rather than a truly independent word, much like *-ass*.

The fact that *af* is more productive and consistently deemed more acceptable than *as* (despite almost certainly having existed for a shorter time) may support this idea. Although *af* was investigated alongside *as* on the grounds that they are phonologically near-identical, the two intensifiers may in fact differ in their ability to lose stress in attributive positions, since only *as* has its origins in ellipsis.

If this is the explanation for the greater versatility of *af*, we would expect that some speakers who use the *as*-intensifier might gradually abandon its interpretation as the head of an elided complement, allowing *as* to lose its stress and become a fully productive suffix in attributive and predicative positions. Empirical investigation of the phonetic properties of *as* and *af* across different speakers and contexts would be highly illuminating in situating them clearly within the typology of post-adjectival degree words in Adjective-Noun languages.

6 Conclusions

This dissertation has aimed to set out the key properties of the previously undescribed *as*-intensifier in British English. Through a combination of grammaticality judgements, corpus methods, and a thorough review of cross-linguistic evidence for similar phenomena, it has been possible to establish a strong picture of the behaviour of *as*.

Like almost all other post-adjectival degree words in Adjective-Noun languages, it follows a clear pattern in its distribution, greatly preferring predicative adjectives and utterance-final positions, and dis-prefering pre-nominal attributive positions. There are, however, some speakers who do not find the attributive position significantly less grammatical, which is problematic for the *AdjDegN generalisation. Furthermore, the *as*-intensifier is productive for a large number of British English speakers (especially compared to another group of speakers who allow it only with a single adjective *simple*), ensuring that *Adjective as* constructions cannot easily be explained away as structure-less compounds. For most speakers currently, it has an obligatory full vowel which cannot be reduced much even in attributive positions, probably explaining the consistent discrepancy between the acceptability and productivity of the *as*-intensifier compared to the *af*-intensifier. If *as* becomes more widespread, we may see a gradual shift away from its origins into ellipsis, allowing it to lose its stress.

Even by understanding only part of the behaviour of the *as*-intensifier, we have also been able to shed light on broader questions in comparative syntax. Firstly, it serves as a useful reminder that we should not believe claims of universality too easily: *AdjDegN seems to be a very powerful constraint, reflected in typological skews as well as avoidance strategies in languages like Ndyuka and Yareba, but it *is* possible to find languages which violate it. More importantly, however, the *as*-intensifier reminds us that finding exceptions to a near-universal rule does not put a halt to investigating the rule and its effects. Often, understanding the patterns among the exceptions can be deeply illuminating in understanding the nature of the rule. In the case of *AdjDegN, the role of prosody cross-linguistically seems paramount, and the greater acceptability of *af* compared to *as* seems to have a prosodic explanation also. It is vital that future research into word order generalisations considers the deep parallelism between syntax and prosody, which is intrinsic to the ‘primary linguistic data’ from which the structure of language is derived.

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Appendix A: Survey materials

In Survey A, which tested all three intensifiers with six adjectives, participants were asked to judge the acceptability of the following sentences. Note that there are 36 sentences, but each participant only judged 30 randomly-selected sentences, presented in a random order.

- hot
 1. Steve's the kind of guy who always wears a jacket, even when the weather's hot as.
 2. Steve's the kind of guy who always wears a jacket, even when the weather's hot af.
 3. Steve's the kind of guy who always wears a jacket, even when the weather's hot as fuck.
 4. We've been sitting in this hot as room all day and Steve's still wearing his jacket.
 5. We've been sitting in this hot af room all day and Steve's still wearing his jacket.
 6. We've been sitting in this hot as fuck room all day and Steve's still wearing his jacket.
- long
 1. Anna told me the walk to the shops is long as, but it's actually alright.
 2. Anna told me the walk to the shops is long af, but it's actually alright.
 3. Anna told me the walk to the shops is long as fuck, but it's actually alright.
 4. Anna told me it was gonna be a long as walk, but it wasn't too bad in the end.
 5. Anna told me it was gonna be a long af walk, but it wasn't too bad in the end.
 6. Anna told me it was gonna be a long as fuck walk, but it wasn't too bad in the end.
- funny
 1. I thought the support acts at the comedy night on Friday were funny as.
 2. I thought the support acts at the comedy night on Friday were funny af.
 3. I thought the support acts at the comedy night on Friday were funny as fuck.
 4. I saw this funny as comedian doing the warm-up act at the comedy night on Friday.
 5. I saw this funny af comedian doing the warm-up act at the comedy night on Friday.
 6. I saw this funny as fuck comedian doing the warm-up act at the comedy night on Friday.
- boring
 1. The lecture I went to this morning was boring as.
 2. The lecture I went to this morning was boring af.
 3. The lecture I went to this morning was boring as fuck.
 4. I had to go to this boring as lecture this morning.
 5. I had to go to this boring af lecture this morning.
 6. I had to go to this boring as fuck lecture this morning.
- difficult
 1. Don't worry about it too much, Bryan told me he thought that question was difficult as.
 2. Don't worry about it too much, Bryan told me he thought that question was difficult af.
 3. Don't worry about it too much, Bryan told me he thought that question was difficult as fuck.
 4. Even Bryan thought it was a difficult as question, so I wouldn't worry about it too much.
 5. Even Bryan thought it was a difficult af question, so I wouldn't worry about it too much.
 6. Even Bryan thought it was a difficult as fuck question, so I wouldn't worry about it too much.
- annoying
 1. I can't watch that programme anymore, the presenters are annoying as.
 2. I can't watch that programme anymore, the presenters are annoying af.
 3. I can't watch that programme anymore, the presenters are annoying as fuck.
 4. I've stopped watching that programme since they got that annoying as presenter.
 5. I've stopped watching that programme since they got that annoying af presenter.
 6. I've stopped watching that programme since they got that annoying as fuck presenter.

In Survey B, which primarily tested the *as*-intensifier with 12 adjectives, participants judged the acceptability of all of the following 30 sentences.

- hot
 1. Steve's the kind of guy who always wears a jacket, even when the weather's hot as.
 2. We've been sitting in this hot as room all day and Steve's still wearing his jacket.
 3. Steve's the kind of guy who always wears a jacket, even when the weather's hot as fuck.
- long
 1. Anna told me the walk to the shops is long as, but it's actually alright.
 2. Anna told me it was gonna be a long as walk, but it wasn't too bad in the end.
- thick
 1. You'd have to be thick as to not realise it's just for the publicity.
 2. Imagine the thick as people who don't realise this is just a publicity stunt.
 3. Imagine the thick as fuck people who don't realise this is just a publicity stunt.
- tall
 1. I'm not surprised they picked Anita for the basketball team, she's tall as.
 2. They've picked this tall as girl to play on the basketball team.
- boring
 1. The lecture I went to this morning was boring as.
 2. I had to go to this boring as lecture this morning.
 3. I had to go to this boring as fuck lecture this morning.
- ancient
 1. Everything in that building is falling apart, it's ancient as.
 2. I hate having to go to that ancient as building, everything there is falling apart.
- funny
 1. I thought the support acts at the comedy night on Friday were funny as.
 2. I saw this funny as comedian doing the warm-up act at the comedy night on Friday.
 3. I thought the support acts at the comedy night on Friday were funny as fuck.
- random
 1. The food on the shelves was random as, I barely knew what most of it was.
 2. The shop assistant was useless, he just sent me to this aisle full of random as foods.
- difficult
 1. Don't worry too much, Bryan told me he thought that question was difficult as.
 2. Even Bryan thought it was a difficult as question so I wouldn't worry about it.
 3. Don't worry too much, Bryan told me he thought that question was difficult as fuck.
- comfortable
 - I got to try out some of the sofas in the shop, they were comfortable as.
 - I love that shop, it has these comfortable as sofas that you can try out.
- annoying
 - I can't watch that programme anymore, the presenters are annoying as.
 - I've stopped watching that programme since they got that annoying as presenter.
 - I've stopped watching that programme since they got that annoying as fuck presenter.
- expensive
 - The train tickets Elly wanted me to buy were expensive as.
 - Elly wanted me to buy these expensive as train tickets.

On the final page of the survey, which tested the use of the *as*-intensifier in conjunction with other forms of adjectival modification, participants were asked to rate four more sentences on the 1-7 Likert scale.

- That must be the most boring *as* event I've ever been to.
- My interview this morning was easier *as* than the one last week.
- That was a really long *as* car journey.
- He's too short *as* to dance professionally.

They were also asked to compare the following pairs of sentences, and state whether the first was more acceptable than the second or vice versa. They also had the option to say that the sentences were equally acceptable and both bad, or equally acceptable and both good. (This data is not analysed within the dissertation, but the survey questions are included here for completeness).

1.
 - A: "Have you seen that woman standing in the corner? She's dodgy-*as*-looking."
 - B: "Have you seen that woman standing in the corner? She's dodgy-looking-*as*."
2.
 - A: "He always speaks loudly *as*, but I don't know why."
 - B: "He always speaks loud-*as*-ly, but I don't know why."
3.
 - A: "She's fast *as* enough to be a good sprinter."
 - B: "She's fast enough *as* to be a good sprinter."

Appendix B: Testing whether to use a linear mixed-effects model for survey analysis

Linear mixed-effects models are able to handle a mixture of ‘fixed’ effects (effects of the variables which the researcher intended to investigate) and ‘random’ effects (effects caused by other variables present in the survey design) (Bates et al., 2015). Because each survey participant answered several questions in my survey, the 8460 z-scores in my dataset were not theoretically independent of each other: they can be split into 282 groups of 30 scores which might be more correlated with each other than with other participants’ scores.

Using R, I tested a linear mixed-effects model where Intensifier, Position and Adjective were modelled as fixed effects with potential interactions with each other, and Participant was a random factor. This was represented by the following formula in R:

```
rating ~ intensifier*position*adjective + (1 | Response_ID)
```

However, the actual amount of variance explained by the random factor for Participant was found to be 2.615×10^{-32} fit using maximum likelihood estimates (or 2.630×10^{-32} using restricted maximum likelihood estimates). Given that the total variance in z-scores is 0.9565, we can see that Participant accounts for such a miniscule proportion of variance in the data that in practice we can treat the overall z-scores as independent. (This is not particularly surprising, since the process of z-score transformation is designed to minimise variation between participants for easier comparison between them.) I therefore used statistical tests which assume independent samples when analysing the data overall.

I did, however, revert, to using linear mixed-effects models when discussing only the data for the *as-intensifier* in §4.2.2.3, on the grounds that the z-score transformation may not be as effective in minimising inter-participant variation within a particular subset of the data, since the normalisation takes place based on all of the participant’s ratings.