

**NOUN PHRASE STRUCTURE AND MOVEMENT: A CROSS-
LINGUISTIC COMPARISON OF *SUCH/SÅDAN/SOLCH* AND
*SO/SÅ/SO*****

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Abstract

We investigate the etymologically related words: *so* and *such* (English); *så* and *sådan* (Danish); and *so* and *solch* (German). Similarities and differences that have to be accounted for cross-linguistically are i) position (pre- or post- indefinite article), ii) semantics (degree or referential readings) and iii) agreement morphology (in Danish and German). English *such* may have either a degree reading or an identifying (referential) reading (Bolinger 1972, Wood 2002) and may only precede the indefinite article. Danish and German allow inflected *sådan/solch* to follow the article. English and Danish *so/så*, only have a degree reading, while German *so* may be identifying. We discuss two possible syntactic derivations, predicate raising (e.g. Corver 1998, Bennis, Corver & den Dikken 1998) and XP movement from an attributive adjective position within the nominal (e.g. Matushansky 2002). The analysis accounts for the morphological agreement of predicate and attributive adjectives in Danish and German (Vikner 2001).

1. Introduction

The focus in this paper is on two etymologically related words, cognates of which are used to express degree in three Germanic languages: *so* and *such* in English, *så* and *sådan* in Danish, and *so* and *solch* in German. The syntax and semantics of degree expressions have been of interest to linguists for around forty years, much of the interest stemming from influential works of the 1970s, e.g. Bolinger 1972 and Bresnan 1973. More attention was paid to nominals following Abney's (1983) suggestion that noun phrases are headed by the functional category determiner phrase and adjective phrases are headed by the functional category degree phrase (1983:301-321). English expressions involving *so*, *too*, *as*, *how*, *this*, *that* plus an adjective are particularly interesting in this respect as these expressions may occur on the left periphery of nominals, preceding the indefinite article:

- (1) . . . which are so big a part of the present system
(COCA: ABC Primetime)

The fact that these expressions may precede the indefinite article has led to further research into the fine grained structure of DPs. Degree phrases such

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as *so big* are either taken as evidence for functional structure to the left of D (e.g. Kennedy & Merchant 2000: 125), if the indefinite article is assumed to be D°, or functional structure to the right of D° (e.g. Matushansky 2002, Wood 2002), if the indefinite article is assumed to be the head of a phrase that follows DP, e.g. Num(ber)P or Card(inality)P.

Similarly, some of the interest in the word *such* is a consequence of this particular word's ability to be, in the terms of Quirk et al. (1985), a predeterminer, albeit a special predeterminer which, in English, may only precede the indefinite article and not the definite article, (2)b, and may not follow the indefinite article, (2)c:

- (2) a. ... which are such a big part of the present system
- b. *... which are such the big part of the present system
- c. * ... which are a such big part of the present system

There has been much discussion about which word class *such* belongs, for example: degree adverb, adjective, (demonstrative) pronoun, determiner, “semi-determiner (cf Altenberg 1994, Biber et al. 1999, de Mönnink 2000, Spinillo 2003). English *such* has been argued to function syntactically in a similar way to degree phrases (e.g. Matushansky 2002, Wood 2002), to behave as a head (Wood 2002), or to occupy the specifier of DP (Alexiadou et al. 2007:109). Arguments in support of the SpecDP analysis are based on the observation that *such* has a demonstrative reading, similar to *this* and *that*. Alexiadou et al. propose that all three elements occupy the same position, Spec-DP.

- (3) I did not expect this reaction.
- ‘I did not expect such a reaction.’

(Alexiadou et al. 2007:108, (63a)).

Such does indeed sometimes have a demonstrative function, i.e. it points to a contextual element and *such a reaction* means ‘a reaction of this kind’, a meaning that Bolinger (1972) terms “identifying”. However, it is well known that *such* also has a degree reading, “intensifying” in Bolinger’s terms. As soon as there is a gradable element in the context, either an adjective as in (4), or a gradable noun as in (5), *such* has the meaning ‘a reaction as violent as this reaction’ or ‘a person as foolish as this person’.

- (4) I did not expect such a violent reaction.
- (5) I did not expect to meet such a fool.

Whereas English *such* may have both kind and degree readings in a nominal, and sometimes be ambiguous between the two, English *so* in the nominal is predominantly a degree adverb. Kind readings are not possible

with English *so* plus a noun, and are marginally possible with an adjective, i.e. only with *just so* + Adj or with *about so* + Adj (Bolinger 1973: 176).

- (6) A person can get just so weary and no more.
 (7) He's about so tall.

Although it is fairly easy to describe the behaviour of English *such*, which can have both meanings but only precede the indefinite article, the situation is more complex in other Germanic languages. The Danish equivalent, *sådan*, and the German equivalent, *solch*, may both precede and follow the indefinite article and may have both meanings. In addition, the German equivalent of English *so*, which is *so*, readily has 'kind' as well as 'degree' readings.

A further fairly recent area of syntactic research in which expressions of this type are significant is "article doubling" which has been noted in several languages, for example Dutch (Corver & van Coppen 2006), English (Wood 2002:109), German (Kallulli & Rothmayr 2008) and Swedish (Delsing 1993:143) and which we note also occurs in Danish:


- (8) Og det gør han med en sådan en flid, at hans medarbejdere ikke mener, han overhovedet kan afse tid til andet.
And he does that with a such a diligence that his colleagues do not think he can at all afford time for anything else.
 (KorpusDK)
- (9) Men detektivarbejdet har været en så stor en succes.
But the detective work has been a so big a success.
 (KorpusDK)

Although an extended discussion of this phenomenon is beyond the scope of this paper the analysis we suggest in Section 5 is fully compatible with article doubling.

This paper, then, has two goals, first to describe and compare the possible meanings and syntax of *such*, *sådan* and *solch* and *so*, *så* and *so*, and secondly to suggest the derivation of nominals of this type. With respect to the syntax, two possible derivations of pre-article *such* and *so* in English have been suggested in the recent literature. In one suggestion there is movement from the prototypical Germanic adjective position preceding the noun to a position preceding the indefinite article, as in (10):

- (10) [such / so big]_j a t_j house
 ↑

The other suggestion is that *such* originates as a predicate in a small clause that has a DP subject as in (11):

(11) [such / so big]_k a house t_k


In this paper, we suggest, on the basis of adjectival agreement morphology in Danish and German, that the pre-article forms are derived from predicate raising, as in (11), while the post-article forms are represented by the base order of (10), *a so big house*.

In Section 2 we discuss the two different meanings, demonstrative and degree, that these expressions may have. Section 3 sets out the different meanings, word orders and derivations in the three languages for expressions with *such* and Section 4 does the same for expressions with *so*. In Section 5 we conclude with our analysis of the two different derivations.

2. The semantics of ‘such’: kind and degree

The semantic, syntactic and register behaviour of English *such* is shown in Table 1 below. As may be seen, “degree” *such* and “kind” *such* differ syntactically:

Table 1: English *such*: syntactic, semantic and register differences (adapted from Wood 2002:97):

Kind	Degree
Referential—requires a defining referent in the context (12)-(14)	Degree—requires a gradable element in its noun phrase (15),(16)
Paraphrased by ‘ <i>of that kind</i> ’ or ‘ <i>like that</i> ’	Paraphrased by ‘ <i>so</i> ’ + adj.
Correlative clause is restrictive (12),(14)	Correlative clause is comparative or resultative (15),(16)
May be a post-determiner (13),(14)	Never a post-determiner
May co-occur with quantifiers (13),(14)	Does not co-occur with quantifiers
Pronominal may be partitive	
Tends to be used in more formal registers	Tends to be used in less formal registers

Examples of kind *such* are shown in (12)-(14) below:

- (12) Had Appleby felt himself to be in charge he could no doubt have assembled in ten minutes such preliminary facts as there were.

In (12) there is no possibility of “preliminary facts” being gradable and so only the kind reading is available. However, one of the most striking differences between the kind and degree readings is that only kind *such* may be a “post-determiner”, i.e. it may follow a quantificational determiner (but never the definite article) as in (13) and (14):

- (13) on the basis of any such a proposal or application form

- (14) For the time being at least, no such a change in Congressional attitudes would occur.

(Wood 2002:110).

Examples of degree *such* are shown in (15) and (16). They show two different types of correlative clause, resultative and comparative, whereas with the examples of kind *such* in (12) and (14) above the correlative clauses are restrictive.

- (15) She gave way to such grief that I was alarmed.
 (16) No other manufacturer makes such a wide variety of shirts as the CWS.

In (15) the meaning could be either a high intensity of grief or a particular type of grief and so the expression is ambiguous. Thus these examples also show that both the degree and the kind readings are possible with just a noun or with an adjective and noun.

Examples (17) and (18) below show kind and degree *sådan* respectively in Danish:

- (17) Det vanskelige ved sådan et forbud er ...

The problem with such a ban is . . .

(KorpusDK)

- (18) Du gør sådan et sympatisk indtryk på mig.

You make such a pleasant impression on me.

(KorpusDK)

Examples (19) and (20) below show kind and degree *solch* respectively in German:

- (19) a. mit einem solch großen Aufwand

b. mit solch einem großen Aufwand

with a such big effort / with such a big effort

(Fabricius-Hansen et al. 2005:330)

- (20) Dann wird es klar, wie klug und peinlich solch ein Künstler wie Wagner war.

Then it becomes clear how intelligent and embarrassing such an artist like Wagner was.

(Fabricius-Hansen et al. 2005:331).

Finally, the significance of the register difference is relevant when considering language change and grammaticalization. According to Bolinger (1972:92), the direction of change involving degree words is from a demonstrative function (identifying) to a degree function (intensifying),

that is, demonstrative elements change to degree elements. Change is expected to start in less formal registers first, and this is apparent with English *such* where the degree reading is in general considered less formal than the kind reading. The direction of change is also apparent with English *so* where, in the nominal, the kind reading is almost obsolete (as was seen with (6) and (7) above). It will be seen in the discussions in Sections 3 and 4 that the equivalent words are in different stages of grammaticalization in the three languages.

In the next section we describe the possible positions of *such*, *sådan* and *solch* with respect to the indefinite article and the possible meaning (kind or degree) in each of the three languages.

3. 'such' constructions in English, Danish and German

There are 4 possible combinations of word order and meaning. *Such* obligatorily precedes the article in present-day English (although, as Wood 2004:315 points out, in earlier English and in some dialects post-article *such* is found). However, in Danish and German pre- and post-article orders are found:

(21)

	pre-article	post-article
kind	a	b
degree	c	d

(22) **English**

	pre-article	post-article	
kind	such	-	a. such a hotel
degree	such	-	b. *a such hotel
			c. such a bad hotel/ *such bad a hotel
			d. *a such bad hotel

(23) **Danish**

	pre-article	post-article	
kind	sådan(t)	sådant	a. sådan(t) et hotel
degree	sådan(t)	-	b. et sådant hotel
			c. sådan(t) et dårligt hotel/ *sådan(t) dårligt et hotel
			d. *et sådan(t) dårligt hotel

(24) German

	pre-article	post-article
kind	solch	solches
degree	solch	solch

- a. solch ein Hotel
- b. ein solches Hotel
- c. solch ein schlechtes Hotel/
*solch(es) schlecht(es) ein Hotel
- d. ein solch(es) schlechtes Hotel

As may be seen in (22) above, English is the most restrictive as far as word order goes and does not allow *such* to follow the article. Danish, in (23), allows *sådan* to follow the article, in which case *sådan* is inflected to agree with the noun and only has a kind reading. German, in (24), is the least restrictive. It allows *solch* to follow the article, both inflected and uninflected. When *solch* is inflected following the article, the b example, it has a kind reading (as in Danish). For (24)d there are two possibilities. When *solch* is uninflected following the article, it is a degree adverb modifying the adjective, and when it is inflected and followed by an adjective it is an agreeing adjective.

3.1 German 'solch'

English *such* has been analysed as adjective, adverb and determiner. Grammars of German likewise say that *solch* can be adjective or determiner. Unlike English, German and Danish morphology gives an indication of the word class, as attributive adjectives in German and both predicative and attributive adjectives in Danish have agreement morphology. As was indicated above, English *such* with a kind reading is more archaic, and something similar may be seen in German, where even though *solch* can appear pre- and post-article with a kind reading, kind *solch* in both positions is being replaced by *so*.

When following the article, kind *solch* inflects like an adjective:

- (25) [. . .] was ein solcher Künstler für eine Gage bekommt
what a such artist receives for a fee

However, when *solch* precedes the indefinite article it is uninflected (as also are German *manch ein* and *welch ein*) as seen in (20) repeated here:

- (26) Dann wird es klar, wie klug und peinlich solch ein Künstler wie Wagner war
Then it becomes clear how intelligent and embarrassing such an artist like Wagner was.

(Fabricius-Hansen et al. 2005:331).

Apparently this function of *solch* is archaic and is being replaced by *so'n*, as will be seen in Section 4.2. The change that is happening with German *solch* is according to Zifonun et al. (1997: 1936), from a determiner to an adjective. In German the morphology gives some indication of word class, and the fact that *solch* can be followed by a weak adjective shows that it is a determiner, but the fact that it can also be followed by a strong adjective indicates that it may be an adjective:

- (27) a. für solche neuen Wege
 for such.STR new.WK approaches
 b. für solche neue Wege
 for such.STR new.STR approaches
- (Fabricius-Hansen et al. 2005:330)

Degree *solch* differs from kind *solch* in that it is never inflected. When used as a degree adverb (=of that quality or quantity, to that degree) *solch* is uninflected, regardless of whether it precedes or follows the article.

- (28) mit einem solch großen Aufwand
with a such big effort
 (Fabricius-Hansen et al. 2005:330)
- (29) Selten hat ein solch dickes Buch meine Aufmerksamkeit mehr
 gefesselt als dieses.
Seldom has a such thick book captured my attention more than this.
 (Fabricius-Hansen et al. 2005:332)

In the following section we discuss two possible derivations.

3.2 Deriving pre-article ‘such’

As was mentioned earlier, one analysis of *such* in English according to Alexiadou, Haegeman & Stavrou (2007:108-9), is that “as a first approximation it can be proposed that *such* occupies SpecDP”. Demonstratives and *such* are supposed to have the same (derived) position as shown in (30) below:

- (30)
-
- The diagram shows a syntax tree for the noun phrase 'such this that a reaction'. The root node is 'DP', which branches into 'Spec' and 'D\''. 'Spec' branches into the words 'such', 'this', and 'that'. 'D\'' branches into 'D°' and 'NP'. 'D°' branches into the word 'a'. 'NP' branches into the word 'reaction'.
- ```
graph TD
 DP --> Spec
 DP --> D_prime[D']
 Spec --> such[such]
 Spec --> this[this]
 Spec --> that[that]
 D_prime --> D_deg[D°]
 D_prime --> NP
 D_deg --> a[a]
 NP --> reaction[reaction]
```

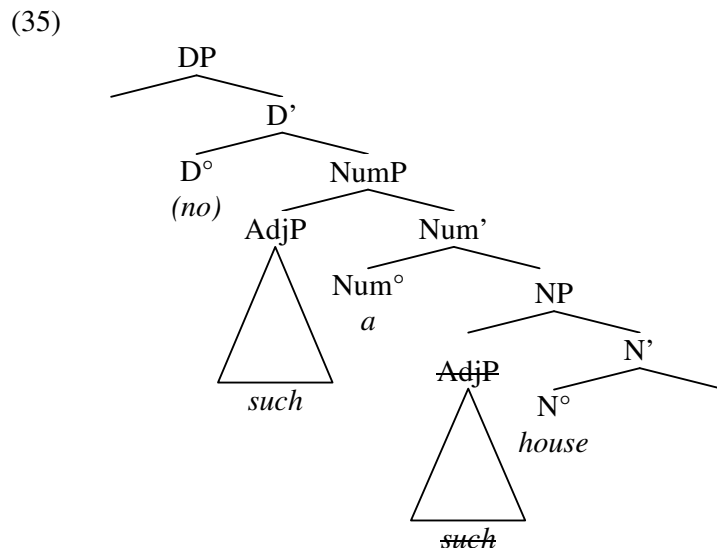


However, there are two problems with such an analysis. The first problem is that kind *such*, that is *such* with a demonstrative reading, can co-occur with another determiner, unlike *this* and *that*. Therefore if *this* and *that* are in Spec-DP, *such* clearly is not, cf. (13) and (14) above, repeated here:

- (31) on the basis of any such a proposal or application form . . .  
 (32) For the time being at least, no such a change in Congressional attitudes would occur.  
 (Wood 2002:110)  
 (33) \*any that a proposal . . .  
 (34) \*no that a change . . .

The second problem is that a structure such as (30) says nothing about the interaction with adjectives.

One possible derivation of pre-article *such* is for it to be base generated in the prototypical adjective position and then moved to a position preceding the indefinite article. One implementation based on Ritter (1991) was suggested by Wood (2002) (see also Matushansky 2002). Here, *such* moves from the prototypical attributive adjective position<sup>1</sup>:

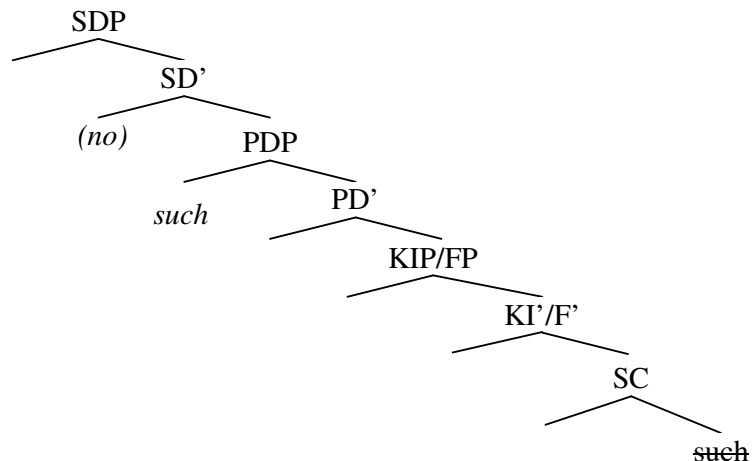


Another possible derivation is predicate raising (Wood 2002:112), taking the idea from Zamparelli (1995) and Bennis, Corver & den Dikken's (1998)

<sup>1</sup> We are abstracting away from the internal structure of the adjective phrase (e.g. Bresnan 1973, Corver 1997, Wood 2002).

derivation of *wat voor* constructions. The main idea is that *such* originates as a predicate in a small clause that has a DP subject. In the structure that follows, the categories SDP, PDP and KIP represent “strong DP”, “Predicate DP” and “Kind phrase”, respectively as argued for by Zamparelli.

(36)



In German and Danish the inflectional morphology of adjectives is evidence to support deriving pre-article *solch* and *sådan* through predicate raising. In Danish, attributive and predicative adjectives are inflected, but in German only attributive adjectives are inflected (see e.g. Vikner 2001).

Deriving German pre-article *solch* from a predicate would account for why, as discussed above, it is never inflected, given that predicate adjectives are never inflected in German. Danish pre-article *sådan* is peculiar in that it may be, but most often is not, inflected. This is completely in line with it being derived from a predicative, because also with predicative *sådan*, agreement is only a rarely used option, not a must. A Google search (August 2008) turned up the following figures:

|      |                                      |       |
|------|--------------------------------------|-------|
| (37) | a. det er sådan <u>t</u> at ...      | 101   |
|      | <i>it-NEUT is such-NEUT that ...</i> |       |
|      | b. det er sådan at ...               | 43700 |
|      | <i>it-NEUT is such-COM that ...</i>  |       |
|      | c. den er sådan <u>t</u> at ...      | 0     |
|      | <i>it-COM is such-NEUT that ...</i>  |       |
|      | d. den er sådan at ...               | 2000  |
|      | <i>it-COM is such-COM that ...</i>   |       |

As is seen with the figures for (37) a and c, inflection does occur with *sådan* but relatively infrequently.

#### 4. 'so' constructions in English, Danish and German

In this section we describe the possible positions of *so*, *så* and *so* with respect to the indefinite article and the possible meaning (kind or degree) in each of the three languages. We then discuss two possible derivations.

English *so* belongs to a class of degree adverbs that are part of the leftmost functional structure of the AdjP (Bresnan 1973, Corver 1997). The class includes the degree adverbs: *how*, *as*, *too*, *this*, *that*. (Danish: *så*, *for*, *hvor* and German *so*, *zu*, *wie*).

If we again look at the logical possibilities:

(38)

|        | pre-article | post-article |
|--------|-------------|--------------|
| kind   | a           | b            |
| degree | c           | d            |

(39) **English**

|        | pre-article | post-article           |
|--------|-------------|------------------------|
| kind   | -           | -                      |
| degree | <b>so</b>   | <sup>%</sup> <b>so</b> |

- a. \*so a hotel
- b. \*a so hotel
- c. so bad a hotel /  
      <sup>%</sup>so a bad hotel
- d. <sup>%</sup>a SO bad hotel

(40) **Danish**

|        | pre-article | post-article |
|--------|-------------|--------------|
| kind   | -           | -            |
| degree | <b>så</b>   | <b>så</b>    |

- a. \*så et hotel
- b. \*et så hotel
- c. så dårligt et hotel/  
      \*så et dårligt hotel
- d. et så dårligt hotel

(41) **German**

|        | pre-article | post-article |
|--------|-------------|--------------|
| kind   | <b>so</b>   | -            |
| degree | <b>so</b>   | <b>so</b>    |

- a. so ein Hotel
- b. \*ein so Hotel
- c. \*so schlecht ein Hotel/  
      so ein schlechtes Hotel
- d. ein so schlechtes Hotel

As may be seen from (39),(40) and (41) above, English and Danish are similar in that they only have degree *so/så* and not kind *so/så*. English and Danish pre-article *so/så* does not occur on its own preceding the article but it does occur together with an adjective preceding the article, as in (39) and (40)c, though it is perhaps becoming marginally possible in English, as shown in (45) and (46) below. English post-article *so* needs stress to be grammatical, as in (39)d, whereas this is not the case for Danish in (40)d and German in (41)d.

German is different in that pre-article *so* is not only possible with a degree interpretation like English and Danish, as in (41)c,d, but also with a kind interpretation, as in (41)a. Another difference is that both German types of pre-article *so* must occur on their own preceding the article, with adjectives (if there are any) following the article.

#### 4.2 German 'so'

As was seen above, German is again the most complex of the three languages, as it is possible to have a kind as well as a degree reading for *so*. It appears that *so* is moving into the area earlier covered by *solch*. It will be recalled from section 3.2, example (26), that the kind reading of *solch* is archaic. In German (and Dutch) the order [**so** ART (ADJ) NOUN] is grammatical. This construction is equivalent to those with *such* in English (*such a big house*).

- |      |                         |           |
|------|-------------------------|-----------|
| (42) | a. %so a (big) house    | (English) |
|      | b. * så et (stort) hus  | (Danish)  |
|      | c. so ein (großes) Haus | (German)  |
|      | d. zo'n (groot) huis    | (Dutch)   |

The grammaticalization of German *so* is evident from the observation that (43)b, in the plural, is possible, so that as it becomes more grammaticalised *ein* loses its singular feature.

- |      |                                              |  |
|------|----------------------------------------------|--|
| (43) | a. so'n Pullover                             |  |
|      | <i>a sweater like that /of that kind</i>     |  |
|      | b. so'ne Pullover                            |  |
|      | <i>sweaters like that /of that kind</i>      |  |
|      | (Hole & Klump 2000, Lenerz & Lohnstein 2004) |  |

Although often reported as ungrammatical in present-day English, the construction was, however, grammatical in Middle English with *so* and also seems to be acceptable in colloquial PDE as seen in (45) and (46).

- |      |                                                                  |
|------|------------------------------------------------------------------|
| (44) | Ther roose <u>so a grete torment</u> in the see.                 |
|      | <i>There arose such a great torment in the sea</i>               |
|      | (OED: 1471 Caxton <i>The Recuyell Of The Historyes Of Troy</i> ) |

- (45) I am delighted that there has been so a good response to the park and ride scheme in its first week.

(<http://www.cararthenshire.gov.uk/English/news>)

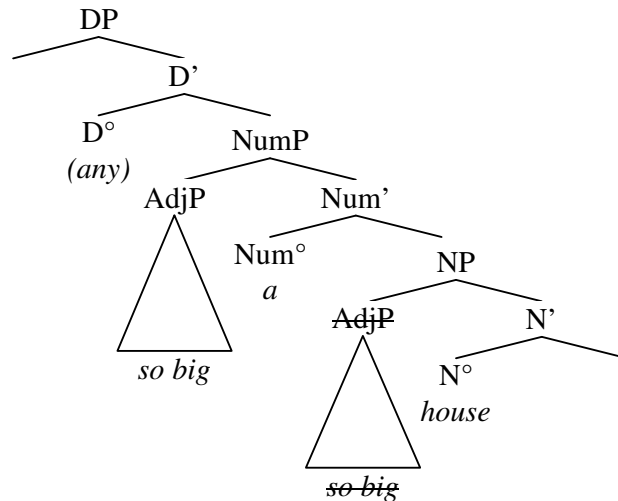
- (46) And that's why Hulu has been so a huge success.

([http://blog.brandexperienclab.org/experience\\_manifesto/2009/01/](http://blog.brandexperienclab.org/experience_manifesto/2009/01/))

#### 4.3 Deriving pre-article 'so'

A possible way to derive pre-article *so* could be for it to move from the canonical attributive adjective position in a similar way to pre-article *such* (in 3.2). In (47) below, the adjective phrase *so big* could have moved into Spec-NumP (Matushansky 2002; Wood 2002, 2004):

- (47)



The structure in (47) would capture the fact that it is possible for certain determiners to precede the degree phrase:

- (48) D'Cey feared he would not cut half so good a figure.

(CCAÉ)

- (49) I can at any rate promise you that I will not be the medium of any so absurd a requisition.

(Anthony Trollope, *Barchester Towers*, 1857)

This also would capture the fact that both (51) and (52) are possible:

(50) \*so big the hotel

(51) so big a hotel

(52) the so big hotel

(53) An example based on the so impressive work of José Roca  
([www.powerbasic.com/support/forums](http://www.powerbasic.com/support/forums))

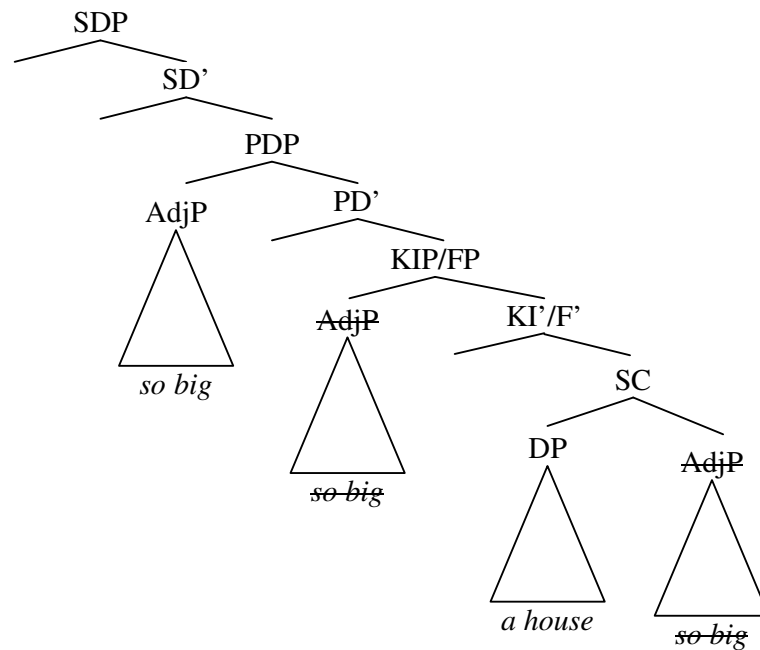
(54) Day at leisure to explore the so impressive city.  
([www.aegeantours.com.au/south-america-highlights-tour](http://www.aegeantours.com.au/south-america-highlights-tour))

An alternative derivation would be through predicate raising from the small clause as in (55), in a similar way to the movement of *such* in (35):

(55) [<sub>sc</sub> [<sub>DP</sub> a house] [<sub>AdjP</sub> so big]]

(e.g. Zamparelli 1995; Bennis, Corver and den Dikken 1998; Corver 1998; Wood 2002:106). Here, adapting from Zamparelli (1995), we would have a nominal structure as follows:

(56)



There is some evidence to support the derivation in (56). Firstly, constructions with the surface word order of (55) are possible:

(57) She told me she never saw a man so pleased by a glass of wine.  
(BNC: F9R 64)

(58) It is rare to see a house so little altered.  
(BNC: AB4 474)

These are possibly reduced relative clauses.

The second piece of evidence for predicate raising, i.e. in support of the derivation in (56) comes from constructions such as (59) below, from Zamparelli (1995: 132-33), and (60), from the BNC, many dialects of English have an optional *of* in constructions like these.

(59) so tall (of) a man (that he had to lean on the basket)

(60) I was so cold of a person at one time in my life; closed off all my own feelings  
(COCA: panel discussion (19960724))

This *of* is not a case assigning preposition, nor a possessive *of* or a partitive *of*. It is similar to the meaningless element, Dutch *van*, argued by Bennis, Corver and den Dikken (1998:86) to be a functional head parallel to the clausal copula as in the Dutch examples below:

(61) De grootste beer is die kerel  
*The biggest bear is that guy*

(62) een beer van een kerel  
*a bear of a guy*

Similar constructions are possible in English and Danish:

(63) The island is a jewel.

(64) a jewel of an island

(65) Den taxachauffør var et rigtigt fjols.  
*That taxi-driver was a real fool*

(66) et fjols af en taxachauffør  
*a fool of a taxi-driver*

(<http://fyrstelin.nationenblog.dk/2009/01/11/>)

The head of the extended phrase ( $F^0$ ) in (56) is spelled out by the prepositions *van/of/af*.

A third piece of evidence is that in English, adjectives that are usually only predicative (e.g. *alike*, *awake*, *ashamed*, *upset*, *afloat*, *alike*, *alone*) appear to be better in these constructions than when they occur in the canonical attributive position. Comparing the b and c examples in (67) and (68) below it may be seen that the c examples are grammatical.

- (67) a. The shoplifter is ashamed.  
 b. \*the ashamed shoplifter  
 c. the so ashamed shoplifter  
 d. So ashamed a shoplifter have I never seen.
- (68) a. The twins are alike.  
 b. \*the alike twins  
 c. the so alike twins

A fourth piece of evidence is provided by Lenerz and Lohnstein (2004:83), who point out that although (69)b is ungrammatical, native speakers nevertheless have clear intuitions of what the form should be, not only uninflected (as predicate adjectives are in German, see e.g. Vikner 2001) but also in the predicate form, *hoch*. Therefore, although both are ungrammatical, (69)b is better than (69)a.

- (69) a. \*so \*hoh- ein Haus  
*so high-ATTR a house*  
 b. \*so hoch ein Haus  
*so high-PRED a house*

## 5. Conclusion: Can morphology help with the derivations?

Here again are the possibilities:

(70)

|        | pre-article | post-article |
|--------|-------------|--------------|
| kind   | a           | b            |
| degree | c           | d            |

(71) English

|        | pre-article | post-article | pre-article | post-article |
|--------|-------------|--------------|-------------|--------------|
| kind   | <b>such</b> | -            | -           | -            |
| degree | <b>such</b> | -            | <b>so</b>   | <b>%so</b>   |

(72) Danish

|        | pre-article     | post-article    | pre-article | post-article |
|--------|-----------------|-----------------|-------------|--------------|
| kind   | <b>sådan(t)</b> | <b>sådan(t)</b> | -           | -            |
| degree | <b>sådan(t)</b> | -               | <b>så</b>   | <b>så</b>    |

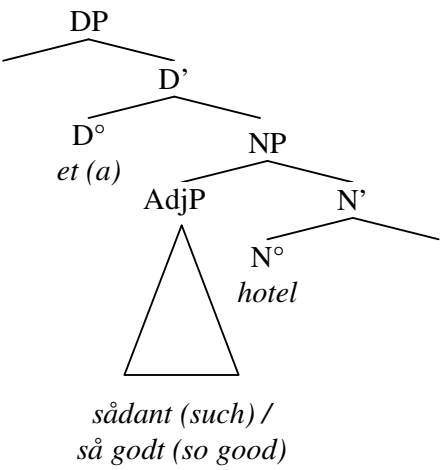


(73) German

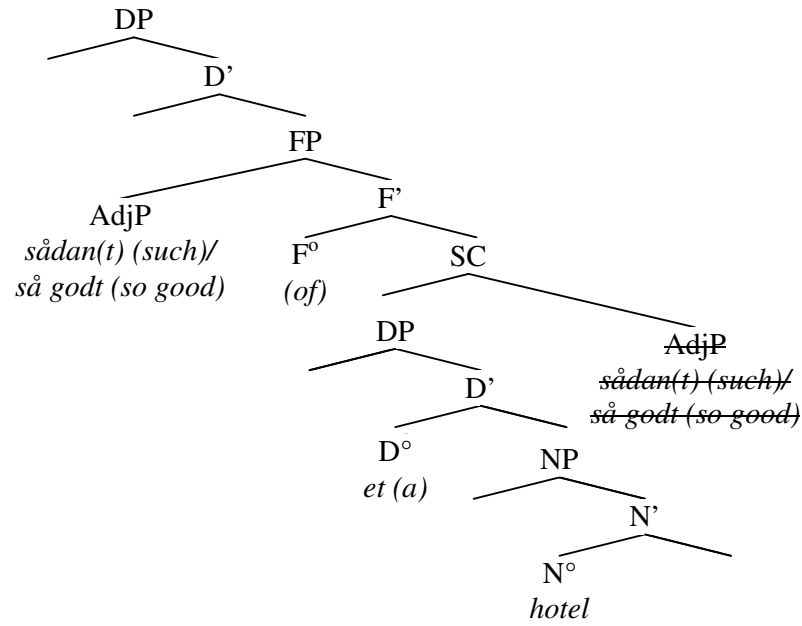
|        | pre-article  | post-article   | pre-article | post-article |
|--------|--------------|----------------|-------------|--------------|
| kind   | <b>solch</b> | <b>solches</b> | <b>so</b>   | <b>-</b>     |
| degree | <b>solch</b> | <b>solch</b>   | <b>so</b>   | <b>so</b>    |

Although one might expect to be able to choose one of the two derivations, or we suggest that both are possible.

(74)



(75)



As may be seen from (75), pre-article *so* and *such* are “pre-article” because they precede the small clause subject.

As (74) shows, (70)b/d are base-generated in situ, and inflected as all attributive adjectives in Germanic are. (70)b/d cannot give rise to (70)a/c as such a movement would be a left branch constraint violation.

As (75) shows, (70) a/c move from a postnominal predicate position, which is why they are inflected only in languages where predicative adjectives are inflected (in Germanic, these are only the VO-languages). Thus, the reason why German pre-article *solch* (i.e. (70) a/c) is never inflected is that it is derived from a predicative. The reason why post-article degree *solch* (i.e. (70)d) is not inflected is that it is an adverb, not an adjective. In Danish, there is no post-article degree *sådan* (i.e. (70)d). Pre-article *sådan* (i.e.(70)a/c) is peculiar in that it may, but most often doesn't, show agreement with the NP. This is completely in line with it being derived from a predicative, because also with predicative *sådan* agreement is only a rarely used option, not a must (cf. (37)).

There is a potential problem with pre-article degree *such*, (70)c, i.e. the degree reading of *such a nice hotel* / *sådan(t) et godt hotel* / *solch ein gutes Hotel* / *so ein gutes Hotel*. It would have to be derived much like (70)a/(75) *such a hotel*, but with *good* inside the DP subject of the small clause, even though one might expect such a derivation only to have a kind reading. It cannot be parallel to (70)a/(74) with *such good* instead of *so good*, as the movement would presumably be impossible, and as this would also mean that at some level we have an AdjP [*such good*], which is otherwise not possible in any of the languages, *\*the such good hotel*.

The structure in (75) is fully compatible with examples such as (31) (repeated as (76)) because the leftmost determiner determines the nominal and the following indefinite article is part of the small clause subject:

(76) on the basis of any such a proposal or application form

It is also compatible with double article constructions such as (9) (repeated below):

(77) Men detektivarbejdet har været en så stor en succes.  
*But the detective work has been a so big a success.*

We have aimed to clarify the possible readings of these two etymologically related words in three languages and found that English *such* has a more restricted word order compared to Danish and German. We have seen that kind readings of *solch* are archaic in German and formal in English giving support to Bolinger's suggestion that the direction of change is from demonstrative (kind) to degree. The interaction between the *such* forms and the *so* forms in the three languages is complex and remains for future work. Although it might be expected that of the two derivations, there might be a

difference between the derivation of kind and degree readings (as suggested by Wood 2002) we have shown that the morphological evidence gives support for pre-article word orders being predicates. Extending this analysis to other languages remains for future work.

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