

# Comparative Correlatives Comparatively

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The comparative correlative construction (*The more you eat, the fatter you get*) has received sporadic attention in the literature, with few concrete results when it comes to our understanding of the syntax of the construction. This article analyzes comparative correlatives as well-behaved, crosslinguistically consistent correlative constructions whose initial clause is a relative clause adjoined to the second clause, which functions as the root of the construction. Examining comparative correlative data from a variety of languages, the article subjects the internal structure of the construction's two clauses to careful scrutiny, as well as the microscopic structure of the comparative-headed constituents introducing the two clauses.

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## 1 Introduction

Constructions of the type in (1) (variously called *comparative conditional*, *comparative correlative*, or *proportional correlative*; I will use the second of these terms in this article) have received sporadic attention in the generative literature (see, e.g., Ross 1967, Thiersch 1982, Fillmore, Kay, and O'Connor 1988, McCawley 1988, 1998, von Stechow 1994, Beck 1997, Culicover 1999, Culicover and Jackendoff 1999, Borsley 2003, Hsiao 2003, Leung 2003).

- (1) a. The higher the stakes (are), the lower his expectations (are).  
b. The more you eat, the fatter you get.

The literature on the construction has focused much more on its quirks than on its regularities. Not surprisingly in this light, some (Culicover in particular) have used this construction to argue against a principles-and-parameters approach to language and its acquisition, insisting that the construction is *sui generis* and therefore must be learned in some other, non-Universal-Grammar-

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Less familiar abbreviations used in the article are *ABL* = ablative, *ADESS* = adessive, *CPR* = comparative, *HAB* = habitual, *Q-PRT* = question particle, *VM* = verbal modifier.

based way; the fact that it *is* learned, combined with the claim that it is not learned on the basis of UG principles, then serves to undermine the case for UG-based learning in general, a line that Culicover (1999) pursues further by bringing a whole catalogue of other ‘‘syntactic nuts’’ to bear on his general program. Here, I seek to counter this line of thought by studying the comparative correlative in detail against the background of facts from a variety of languages, showing that the construction exhibits a very high degree of crosslinguistic consistency and that its syntax is that of a well-behaved correlative, analyzable in keeping with the principles and parameters of UG.

## 2 Macrosyntax: A Correlative Construction

### 2.1 The Signature of a Correlative Construction

Taking seriously the term *comparative correlative* used in the descriptive and most<sup>1</sup> of the generative literature on the construction in (1) gives us a head start toward a general perspective on the macrosyntax of constructions of this type and leads us to consider them as *correlative* constructions similar to the Hindi correlative in (3) (see Srivastav 1991).

- (2) [IP[<sub>DP</sub> *Vo* laRkii [<sub>CP</sub> *jo* khaRii hai]] [<sub>I</sub> lambii hai]]. (Hindi)  
 DEM girl REL standing is tall is  
 ‘The girl that is standing is tall.’

<sup>1</sup> McCawley (1988) (and, following him, Michaelis (1994) and Beck (1997)) calls the construction the *conditional comparative*, in an effort to express the robust intuition that the first clause in (1a–b) states a condition under which the truth of the second clause holds: *The more you eat, the fatter you get* is most felicitously paraphrased as ‘As you eat more, you get correspondingly fatter’. In English, the formal parallel between comparative correlatives and conditionals is basically restricted to the suppression of *will* in the ‘‘protasis.’’ But in some languages (e.g., Turkish, Japanese, and Korean; see Leung 2003:29–30 and references cited there), the comparative correlative is in fact morphosyntactically a conditional construction, obligatorily featuring the conditional marker (see Turkish (i)). In other languages (including Mandarin and Khalkha Mongolian, judging from the evidence provided in Hsiao 2003), a comparative marker (Mandarin *jiù* ‘then’, in the matrix clause; Khalkha *-vel* ‘if’ in the relative clause) shows up only in a subset of comparative correlatives.

- (i) Ne kadar fazla çalış-ir-\*(sa)-n, o kadar fazla kazan-ir-sin. (Turkish)  
 what much more work-AOR-COND-2SG that much more win-AOR-2SG  
 ‘The more you work, the more you will earn.’

For a semantic analysis capturing the conditional semantics of the construction, see Beck 1997. It seems to me that its conditionality is at least *compatible* with the syntax assigned to the comparative correlative here (see (30)). The parallel between comparative correlatives and conditional *inversion* constructions (*Had he run a little faster, he would have caught the train*) is particularly close: in both, the ‘‘conditional’’ clause is adjoined to the matrix clause; there is operator movement to Spec,CP inside the ‘‘conditional’’ clause (see Iatridou and Embick 1994:196, 201); and the construction is a correlative (as is particularly apparent in Dutch, for example, where ‘if’-conditionals and inverted conditionals differ in that the latter force the presence of the correlative particle *dan* in the matrix clause: *Als je komt, (dan) bak ik pannenkoeken* ‘If you come, (then) I bake pancakes’ versus *Kom je, \*(dan) bak ik pannenkoeken*). Here, I will make no specific attempt to derive the conditionality of comparative correlatives explicitly. (Also see Michaelis 1994:55; note that Iatridou and Embick (1994:201) likewise leave open the question of what exactly the conditional semantics of V1 (verb-first) adjuncts derives from, and what the role of their null (topic or discourse) operator is in deriving the conditionality of inverted conditionals: ‘‘Why couldn’t this operator appear in a different adjunct, resulting in a V1 adjunct with something other than a conditional interpretation?’’). For discussion of the semantics of comparative correlatives, see also Wold 1991, Michaelis 1994 (on Latin), and Leung 2003.

- (3) [<sub>IP</sub>[<sub>CP</sub> *Jo larRkii khaRii hai*] [<sub>IP</sub> *vo lambii hai*]].  
 REL girl standing is DEM tall is  
 (lit.) ‘Which girl is standing, that (one) is tall.’

Hindi (2) is a simple relative clause construction familiar from languages like English (cf. *The girl that is standing is tall*). To an English speaker, (3) looks exotic, but correlative constructions of this type are crosslinguistically quite common. Srivastav (1991) argues that the correlative in (3) has the structure I have assigned to it, with the relative clause left-adjoined to the matrix clause introduced by the demonstrative (the correlative particle). Generalizing, we can assign the structure in (4) to correlative constructions.

- (4) [<sub>MATRIXCL</sub> [<sub>RELCL</sub> REL/WH-operator . . . ] [<sub>MATRIXCL</sub> DEM . . . ]]

## 2.2 The Correlativity of Comparative Correlatives Crosslinguistically

The Hindi *comparative* correlative construction fits this macrostructure perfectly. As the examples in (5) show, it likewise features a relative clause in sentence-initial position followed by a clause introduced by a demonstrative (*utnii*).<sup>2</sup>

- (5) a. [<sub>IP</sub>[<sub>CP</sub> *Jiitnaa suuraj chamk-aa*] [<sub>IP</sub> *utnii(-hii) ThanD* (Hindi)  
 how-much.MSG sun.M shine-PF that-much.F(-only) cold.F  
 baRh-ii]].  
 increase-PF.F  
 ‘The more the sun shone, the colder it got.’
- b. [<sub>IP</sub>[<sub>CP</sub> *Jiitnii der ho-tii gayii*] [<sub>IP</sub> *utnii(-hii) ThanD*  
 how-much.F late.F be-HAB.F go-PF.F that-much.F(-only) cold.F  
 baRh-tii gayii]].  
 increase-HAB.F go-PF.F  
 ‘The later it got, the colder it became.’

This parallel between (3) and (5) thus establishes the link between standard correlatives and comparative correlatives, vindicating the use of the latter term with reference to constructions of the type in (5).

Casting our nets wider, we find that crosslinguistically, the comparative correlative wears its correlative nature on its sleeve. The following examples illustrate (the relative and correlative particles are italicized in all examples):<sup>3</sup>

<sup>2</sup> The examples in (5) were provided by Rajesh Bhatt; thanks to Alex Grosu for passing them on to me. In (5b), the combination of the habitual morpheme with the verb *gayii* ‘go’ indicates that the event denoted by the verb is continued; as (5a) shows, the use of this habitual morpheme and aspectual ‘go’ is by no means obligatory in the Hindi comparative correlative.

<sup>3</sup> The Polish and Greek examples are from Borsley 2003, Plautus’ (*Captivi*, 781–2) Latin one from Michaelis 1994 (q.v. for Latin *noncomparative* correlative constructions as well), and the Khalkha Mongolian one from Hsiao 2003. The Russian examples used in this article were supplied by Yana Pugach and Elena Rudnitskaya, and all Hungarian examples are due to Anikó Lipták. I will largely remain silent here on the Chinese comparative correlative, discussed in detail in

- (6) a. *Im* bardziej jesteś zmęczony, *tym* gorzej pracujesz. (Polish)  
 IM more you.are tired TYM worse you.work  
 b. *Im* jesteś bardziej zmęczony, *tym* gorzej pracujesz.  
 IM you.are more tired TYM worse you.work  
 Both: ‘The more you are tired, the worse you work.’
- (7) a. *Chem* bol’she vina, *tem* veseleye. (Russian)  
 what-INST more wine-GEN that-INST merrier  
 ‘The more wine, the merrier.’  
 b. *Naskol’ko* luchshe mashina, *nastol’ko* ona dorozhe.  
 by-how-much better car-NOM by-that-much it-F.NOM more.expensive  
 ‘The better the car, the more expensive it is.’
- (8) *Minél* többet olvasol, *annál* többet (Hungarian)  
 what-ADESS more-ACC you.read that-ADESS more-ACC  
 {megértesz / értesz meg}.  
 VM-you.understand you.understand VM  
 ‘The more you read, the more you understand.’
- (9) *Oso* pio poli diavazo, *toso* pio poli katalaveno. (Greek)  
 as-much more much I.read that-much more much I.understand  
 ‘The more I read, the more I understand.’
- (10) *Quanto* in pectore hanc rem meo magis voluto, (Latin)  
 how-much-ABL in heart this matter my more ponder-1SG  
*tanto* mi aegritudo auctior est in animo.  
 that-much-ABL me grief greater is in spirit  
 ‘The more I turn this matter over in my mind, the greater grief is in my soul.’
- (11) *Xedii* targan max, (bol) *tödi* amttai. (Khalkha Mongolian)  
 how-much fat meat TOPIC that-much delicious  
 ‘The fatter a piece of meat is, the more delicious it is.’

That the comparative correlative construction properly deserves its title is clear even in languages that are not particularly known for their correlatives. Thus, present-day Dutch does not productively feature correlative constructions of the Hindi type in (3). But its stock of proverbs has handed a few of these constructions down to the modern Dutch speaker. Two of these are exemplified in (12).<sup>4</sup>

McCawley 1988, Hsiao 2003 (which also discusses Southern Min *lú* . . . *lú* . . .), and Leung 2003 (which also mentions Cantonese *zyut* . . . *zyut* . . .; in addition, Leung’s paper includes examples, and references to discussion of comparative correlatives in Italian, Finnish, Swedish, Samoan, Persian, Turkish, Japanese, Korean, and Thai).

<sup>4</sup> In (i), which contrasts minimally with (12b), the sentence-initial free relative is followed by a verb-second construction: *die*, the demonstrative pronoun, is immediately followed by the finite verb. This construction is grammatical (in fact, the expected word order, given the general properties of Dutch syntax), but it has only a literal interpretation. It is

- (12) a. *Wat* niet weet, *dat* niet deert. (Dutch)  
 what not knows that not bothers  
 ‘What you don’t know won’t hurt you.’  
 b. *Wie* het eerst komt, *die* het eerst maalt.  
 who the first comes that the first grinds  
 ‘First come, first served.’

Of interest here is that the construction in (12) behaves exactly like the Dutch comparative correlative in (13a) with respect to subject- $V_{fin}$  inversion: there is none in either clause.

- (13) a. *Hoe* meer je leest, *hoe* minder {je begrijpt / \*begrijp je}. (Dutch)  
 how more you read how less you understand understand you  
 b. *Hoe* meer je leest, *des te* minder {?je begrijpt / begrijp je}.  
 how more you read the-GEN TE less you understand understand you  
 c. *Des te* meer je leest, *des te* minder {je begrijpt / begrijp je}.  
 the-GEN TE more you read the-GEN TE less you understand understand you  
 All: ‘The more you read, the less you understand.’

The Dutch picture is complicated by the fact that the language has three variants of its comparative correlative (see (13a–c)), differing with respect to the (cor)relative particles used (the *wh*-word *hoe* or a combination of a genitival form of the definite article/demonstrative *des* and a syncategorematic element *te*; cf. German *desto*) and to the word order possibilities in the second clause (see Den Dikken 2003b for discussion). But what all Dutch comparative correlatives share is precisely the fact that they allow (and sometimes force) a “verb-third” order in the second clause—a word order in which the finite verb fails to invert with its subject in that clause.<sup>5</sup> It is this property that they share with the few noncomparative correlative constructions found in present-day Dutch, including the proverbs in (12).

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not a correlative construction: instead, its structure is that of the familiar contrastive left-dislocation pattern found with so-called *d*-words (*die* in (12b)) in Dutch and German (cf. *Jan, die ken ik* ‘Jan, *d*-word know I: Jan, I know’; see the contributions to Anagnostopoulou, Van Riemsdijk, and Zwarts 1997, and also Grohmann 2003 for discussion).

- (i) *Wie* het eerst komt, *die* maalt het eerst. (Dutch)  
 who the first comes that grinds the first  
 ‘The one who comes first gets the first shot at grinding.’

<sup>5</sup> Inversion in the second clause in (13) seems to depend both on the “lightness” of the predicate and, more significantly, on the choice of correlative marker in the second clause (contrast (13a) with (13b) and (13c)). For many speakers, *des te* + comparative (but not *hoe* + comparative) is also allowed to stay in situ in the second clause (%*Hoe/Des te meer je leest, je begrijpt des te minder* ‘how more you read, you understand the-GEN TE less’), which introduces an additional parameter of variation in the realm of Dutch comparative correlatives. Thanks to Marjo van Koppen, Gertjan Postma, Johan Rooryck, Ton van der Wouden, and Hedde Zeijlstra for their help with these examples. The details of the distribution of subject- $V_{fin}$  inversion in Dutch comparative correlatives (and also in Hungarian (8)) are beyond the scope of this article; they are addressed in Den Dikken 2003a. It is worth noting that (13b–c) refute a hypothesis to the effect that the two clauses of the comparative correlative must have fully parallel word order properties, and consequently disconfirm an approach to comparative correlatives that likens them to constructions featuring paired parallel phrases, such as *Cold hands, warm heart*, or *Scratch a Russian, find a Tartar*, or *Garbage in, garbage out* (an approach Fillmore, Kay, and O’Connor 1988:507n4 attribute to a reviewer of their article).

### 2.3 The Correlativity of English Comparative Correlatives

Much of the trouble that the English-centered literature on comparative correlatives has run into can be traced to the unfortunate fact that the examples in (1) do not look like (cor)relative constructions at first sight. In fact, they do not seem to look like anything we are familiar with—whence their *sui generis* classification in Culicover and Jackendoff 1999. But two observations from Jespersen 1961 indicate that it is indeed a descendant of a correlative construction, and additional considerations suggest that it still is a correlative today. First, overtly correlative variants of (1) manifested themselves in earlier varieties of English: the ones in (14) and (15) (taken from Jespersen 1961:5.383) are cases in point.<sup>6</sup>

- (14) a. By how much the lesse he looked for this discourse, by so much the more he lyked it.  
(Lyly, *Euphues*, 16th c.; frequent in his work)
- b. By how much the better then my word I am, by so much shall I falsifie mens hopes.  
(Shakespeare, *Henry the Fourth*; 16th c.)
- c. By how much the better man you are yourself, by so much the more will you be inclined to believe me.  
(Fielding, *Tom Jones*; 18th c.)
- (15) In proportion as the listener . . . becomes an active interpreter, in that proportion does he lose, the kind of consciousness which it is the purpose of the art to produce.  
(Spencer, *Facts and Comments*; 19th c.)

Second, Jespersen (1961:5.381) points out that *the* + COMPAR in the first clause is often followed by the complementizer *that* (see (16)) and that “[i]n many of these *that* might be taken as the ‘relative’. This is confirmed by the exceptional use of *which*,” illustrated in (17).<sup>7</sup>

- (16) a. The moore queynte crekes *that* they make, the more wol I stele whan I take.  
‘The more quaint creaks they make, the more I want to steal when I take.’  
(Chaucer, *Canterbury Tales*; 14th c.)
- b. The neerer *that* he came, the more she fled.  
(Marlowe, *Hero and Leander*; 16th c.)

<sup>6</sup> Jespersen (1961:5.383) notes that comparative correlatives of the type in (14) occur “often in Lyly”; he also gives an example from Lyly’s work that has the *how*- and *so*-clauses inverted (*By so much the more hast thou increased thy care by how much the more thou hast shewed thy cunning*) and provides similar examples from Shakespeare. On the freedom of placement of the two constituent clauses of comparative correlatives, see also footnotes 17 and 18.

<sup>7</sup> Note that Jespersen gives no examples of *that* (or *which*) in the second clause. If, in Jespersen’s data, *that* is systematically “relative-*that*” (as its replaceability by *which* suggests), this is as expected: the first clause of the comparative correlative, but not the second, is a relative clause. (The *which* of (17) is a relative operator, occupying whatever position *wh*-operators in relative clauses are taken to occupy on current assumptions. According to Kayne (1994), *which* would start out as the selector of the DegP in (30) below, and that DegP would subsequently raise into the specifier position of *which*.) In present-day colloquial registers, *that* (but never *which*) is possible in both clauses, as a lexicalization of the C head (see Fillmore, Kay, and O’Connor 1988:508, Culicover and Jackendoff 1999:546). Examples are given in (i).

- (i) a. The more (that) you eat, the less (that) you want.  
b. The angrier (that) Sue gets, the more (that) Fred admires her.

- c. The more *that* my life disappointed me, the more solemn and wonderful it became to me.  
(Ruskin, *Sesame and Lilies*; 19th c.)
- (17) a. The more even of fugitive evil *which* it sees . . . , nay, the more *which* is disclosed to it . . . , only the more convinces it that the great mystery of all things will allow of no lasting evil.  
(Hunt, *Autobiography*; 18th c.)
- b. Henceforth the less communication *which* passes between me and any member of your family the better.  
(Kingsley, *Hypatia*; 19th c.)

In relation to this, Culicover and Jackendoff (1999:556) observe that there are speakers (Culicover being one) for whom comparative correlatives with a subject gap in one or both of its constituent clauses must feature the overt complementizer *that* following the comparative phrase in the clause(s) containing the subject gap; that is, there are speakers who reject (18a–b) if *that* is omitted. This behavior is reminiscent of the fact that in English highest-subject relatives lacking a *wh*-operator, *that* cannot be omitted (*the people \*(that) arrived late*), and thus enhances the correlative nature of the construction in present-day English.<sup>8</sup>

- (18) a. The more people %(that) *t* arrive, the louder it gets.  
b. The more people you give beer to, the more people %(that) *t* get sick.

Finally, a notable property of the comparative correlative (not just in English but crosslinguistically; see, e.g., Hsiao 2003:3–4 for Mandarin *yuè . . . yuè . . .* ‘more . . . more . . .’ constructions) is that it does not allow stacking: (19) is grammatical only with an overt conjunction between the two consequent clauses.

- (19) The more you eat, the fatter you get \*(and) the sooner you die.

This behavior matches that of correlatives in general (see Dayal 1996 for discussion). Thus, in Hindi (20a) (from Dayal 1996) and Hungarian (20b) (provided to me by Anikó Lipták (pers. comm.)), stacking of main clauses is likewise impossible.

- (20) a. \*Jo laRkii khaRii hai jo lambii hai vo Colaba-me rahtii hai. (Hindi)  
REL girl standing is REL tall is DEM Colaba-in lives is  
‘The girl who is standing, who is tall, she lives in Colaba.’

<sup>8</sup> The obligatoriness, for the relevant speakers, of *that* in the second clause (as in (18b)) is not expected. I also have no clear perspective on what is going on in the syntax of comparative correlatives of those speakers who freely omit *that* in (18a). It is not the case that all speakers for whom (18a) is grammatical without *that* will generally allow *that*-omission in subject relatives (which, though possible in some varieties, is much more restricted in distribution than (18a) without *that*). It should be noted, for completeness’ sake, that (18a–b) without *that* give rise to speaker variation only on a parse in which these sentences feature a subject gap, as indicated by the trace: all speakers readily accept *that*-less (18a–b) with only *more* raised to the left periphery, and with *people* in situ in the subject position of the clause (‘the extent to which people arrive/get sick’). This is irrelevant to the text discussion.

- b. Ami olcsó, az rossz \*(és) az csúnya. (Hungarian)  
 what cheap that bad and that ugly  
 ‘What is cheap, that is bad \*(and) that is ugly.’

I will have more to say about sentences of the type in (14) in section 4, where they will serve as a model for the microsyntactic structure of the comparative correlative construction. For the moment, let us take the discussion in this section to have established that the macrostructure of comparative correlatives is that of correlative constructions (see (4))—a first indication that comparative correlatives are not *sui generis* as far as their overall  $X'$ -structure is concerned, and that their syntax does not involve parataxis (contra Culicover and Jackendoff 1999:567): a parataxis approach would leave the ban on stacking unexplained. In the next section, we will encounter additional evidence in favor of (4) and against an analysis of comparative correlatives in terms of parataxis, from the domain of extraction restrictions.

#### 2.4 Extraction from Comparative Correlatives

Culicover and Jackendoff (1999:sec. 7) present the extraction facts of English comparative correlatives as their primary case for *sui generis* status of the construction's  $X'$ -syntactic makeup. They note that extraction from either the first or the second clause delivers a grammatical result in English; and to this I might add that it is also possible to have a gap in *both* clauses of the English comparative correlative. Thus, the full array of possibilities is illustrated in (21).<sup>9</sup>

- (21) a. a person *who* [the more you meet *ec*], [the more you hate *him*]  
 b. a person *who* [the more you meet *him*], [the more you hate *ec*]  
 c. a person *who* [the more you meet *ec*], [the more you hate *ec*]

But it is important to note that (21) does not represent the extraction possibilities of comparative correlatives universally (also see footnote 13 for restrictions on extraction from English comparative correlatives). Thus, in Dutch and German, the direct counterparts of the examples in (21) are all ungrammatical: though some speakers indicate that the (b) and/or (c) examples might be marginally acceptable, the general picture is that extraction from either or both clauses fails completely or is at best highly marginal if the comparative fronts in both clauses.<sup>10</sup>

<sup>9</sup> I should make it explicit that (21) only includes examples with a gap in at least one of the clauses. Their completely gapless variant, *a person who the more you meet him, the more you hate him*, is acceptable as well, instantiating resumption; this is irrelevant in the context at hand. Of (21a–c), (21c) is the preferred option. Thanks to Peter Culicover and Paul Postal for their judgments.

<sup>10</sup> For help with the Dutch examples discussed in this section, I am indebted to Sjeff Barbiers, Hans Bennis, Hans Broekhuis, Henk van Riemsdijk, Guido Vanden Wyngaerd, and Jan-Wouter Zwart. Henk van Riemsdijk deserves special thanks for also conducting an extensive survey among 11 (Viennese) German speakers; additional judgments on German were obtained from Josef Bayer, Sigrid Beck, Gisbert Fanselow, Thomas Leu, and Dorian Roehrs. The judgments reported in the main text reflect the average speaker judgments; significant deviations from the general pattern will be discussed.

- (22) a. \*een man *die* [hoe vaker je *ec* ziet], [hoe/des te meer je (Dutch)  
 a man who how often-CPR you see how/the-GEN TE more you  
 'm gaat haten]  
 him go hate
- b. ?\*een man *die* [hoe vaker je 'm ziet], [hoe/des te meer je  
 a man who how often-CPR you him see how/the-GEN TE more you  
*ec* gaat haten]  
 go hate
- c. ?\*een man *die* [hoe vaker je *ec* ziet], [hoe/des te meer je  
 a man who how often-CPR you see how/the-GEN TE more you  
*ec* gaat haten]  
 go hate  
 All: 'a man who the more often you see (him), the more you get to hate (him)'
- (23) a. \*ein Sänger, *den*, [je öfter du *ec* hörst], [desto mehr du (German)  
 a singer who Q often-CPR you hear the-GEN-TO more you  
*ihn* treffen möchtest]  
 him meet would-like
- b. ?\*ein Sänger, *den*, [je öfter du *ihn* hörst], [desto mehr du  
 a singer who Q often-CPR you him hear the-GEN-TO more you  
*ec* treffen möchtest]  
 meet would-like
- c. ?\*ein Sänger, *den*, [je öfter du *ec* hörst], [desto mehr du  
 a singer who Q often-CPR you hear the-GEN-TO more you  
*ec* treffen möchtest]  
 meet would-like  
 All: 'a singer who the more often you hear (him), the more you would like to  
 meet (him)'

That the fronting of the comparative plays the key role in making (22)–(23) ungrammatical is shown by the fact that if the comparative in the second clause is not fronted, the (b) sentences (with an object gap in the second clause) become quite acceptable.<sup>11</sup> And interestingly, for many

<sup>11</sup> In Dutch, leaving the comparative in situ in the second clause is possible only if one chooses *des te* 'the-GEN TE' as the correlative particle; recall footnote 5. The ameliorating effect associated with an in-situ comparative is perhaps particularly robust if the first clause of the comparative correlative is placed to the right of the subject of the relative clause, as in (ia–b), which differ minimally from (24c) and (25c). However, to stay as close as possible to the English examples discussed by Culicover and Jackendoff (1999), I will base the main-text discussion on cases in which the first clause is in presubject position. In future research, the details of the analysis of the postsubject cases (which is not entirely self-evident) should be addressed.

- (i) a. (?)een man *die* je, [hoe vaker je 'm ziet], [*ec* des te meer gaat haten] (Dutch)  
 a man who you how often-CPR you him see the-GEN TE more go hate
- b. (?)ein Sänger, *den* du, [je öfter du *ihn* hörst], [*ec* desto mehr treffen möchtest] (German)  
 a singer who you Q often-CPR you him hear the-GEN-TO more meet would-like

speakers the double-gap (c) examples then become grammatical as well—though there is considerable variation on this point. What all speakers agree on, however, is that a gap in the first clause remains entirely impossible, which is directly related to the fact that fronting of the comparative in the first clause is obligatory.

- (24) a. \*een man *die* [hoe vaker je *ec* ziet], [je 'm des te (Dutch)  
 a man who how often-CPR you see you him the-GEN TE  
 meer gaat haten]  
 more go hate
- b. ?(?)een man *die* [hoe vaker je 'm ziet], [je *ec* des te  
 a man who how often-CPR you him see you the-GEN TE  
 meer gaat haten]  
 more go hate
- c. %een man *die* [hoe vaker je *ec* ziet], [je *ec* des te  
 a man who how often-CPR you see you the-GEN TE  
 meer gaat haten]  
 more go hate  
 All: 'a man who the more often you see (him), the more you get to hate (him)'
- (25) a. \*ein Sänger, *den*, [je öfter du *ec* hörst], [du *ihn* desto (German)  
 a singer who Q often-CPR you hear you him the-GEN-TO  
 mehr treffen möchtest]  
 more meet would-like
- b. ?(?)ein Sänger, *den*, [je öfter du *ihn* hörst], [du *ec* desto  
 a singer who Q often-CPR you him hear you the-GEN-TO  
 mehr treffen möchtest]  
 more meet would-like
- c. %ein Sänger, *den*, [je öfter du *ec* hörst], [du *ec* desto  
 a singer who Q often-CPR you hear you the-GEN-TO  
 mehr treffen möchtest]  
 more meet would-like  
 All: 'a singer who the more often you hear (him), the more you would like to meet (him)'

In this article, I argue for a syntactic representation of comparative correlatives as genuine correlative constructions, the first clause being a relative clause adjoined to the second clause, along the lines of (4). The fact that fronting in the first clause is obligatory thus matches the fact that fronting in relatives is obligatory. That extraction from the first clause is impossible in Dutch and German comparative correlatives is in line with this as well: relatives are generally impenetrable in these languages. That extraction from the second clause succeeds only if the comparative is not fronted also falls into place straightforwardly, on the assumption (to be motivated in section 4) that the fronted comparative lands in Spec,CP, thus creating a *wh*-island: as

is well known, extraction from *wh*-islands is systematically severely deviant in Dutch and German. Overall, then, the single-gap extraction facts in Dutch and German comparative correlatives accord with what the analysis leads one to expect; and the fact that English behaves differently in this domain can at least descriptively be related to the language's general permissiveness when it comes to extracting nominal arguments from islands (see also footnote 13).

The double-gap cases in the (c) examples raise interesting questions of their own. Here we find that some speakers accept the (b) examples in (24)/(25) but reject the (c) examples outright, while others judge the (b) and (c) cases both grammatical, often indicating a slight preference for the double-gap cases. On Culicover and Jackendoff's (1999) *parataxis* approach to comparative correlatives (which takes them to be asyndetic coordinations), the double-gap (c) examples are instances of across-the-board (ATB) extraction. By contrast, the *correlative* approach taken here, which treats the first clause as an adjunct to the second, likens them to parasitic gap constructions. The fact that speakers' judgments vary with respect to the (c) examples helps us adjudicate between these two analyses. There is complete uniformity across Dutch and German speakers when it comes to ATB extraction cases such as (26a–b). On the other hand, double-gap constructions with a parasitic gap in a high adverbial clause, such as (27a–b), give rise to much less stable judgments.

- (26) a. een man *die* [je *ec* vaak ziet] en [*ec* daardoor gaat haten] (Dutch)  
 a man who you often see and therefore go hate  
 'a man who you often see and as a result come to hate'
- b. ein Sänger, *den* [du *ec* oft hörst] und [*ec* gern treffen (German)  
 a singer who you often hear and gladly meet  
 möchtest]  
 would-like  
 'a singer who you often hear and would very much like to meet'
- (27) a. %een man *die*, [zodra je *ec* ziet], [je *ec* meteen gaat haten] (Dutch)  
 a man who as-soon-as you see you immediately go hate  
 'a man who, as soon as you see, you come to hate right away'
- b. %ein Sänger, *den*, [wenn du *ec* hörst], [du *ec* gleich treffen (German)  
 a singer who when you hear you immediately meet  
 möchtest]  
 would-like  
 'a singer who, when you hear, you would like to meet right away'

Further confirmation for the parasitic gap analysis can be derived from diagnostics that distinguish between parasitic gap constructions and cases of ATB extraction, such as the ones summed up in Postal 1993. A particularly clear test in this context is that predicate nominals, while freely extractable across the board, have severe trouble in parasitic gap constructions. Thus, Postal (1993:746) mentions examples such as \**What Jane turned into ec after praying not to become pg was a zombie*, and notes that they contrast robustly with similar ATB cases (cf. *What*

*Jane turned into ec last week and John is expected to become ec tomorrow is a zombie*).<sup>12</sup> With this in mind, let us consider the behavior of double-gap comparative correlatives.

- (28) a. \*het soort dokter *dat* [hoe liever hij *ec* wil worden], (Dutch)  
 the kind doctor that how gladly-CPR he wants become  
 [hij zich des te minder in staat acht *ec* te worden]  
 he SE the-GEN TE less in state (i.e., capable) deems to become
- b. het soort dokter *dat* [hij graag *ec* zou willen worden] maar  
 the kind doctor that he gladly would want become but  
 [zich niet in staat acht *ec* te worden]  
 SE not in state deems to become  
 ‘the kind of doctor that he would very much like to become but does not consider himself capable of becoming’
- (29) a. \*the kind of doctor *Op* that [the more he wants to be *ec*], [the less able he will be to actually become *ec*]
- b. the kind of doctor *Op* that [he would very much want to be *ec*] but [does not consider himself capable of becoming *ec*]

The picture is clear: the (a) examples in (28)–(29) fail miserably—even the English example is

<sup>12</sup> For Postal, the fact that predicate nominals are an antipronominal context (e.g., \**John became it*) is responsible for the ungrammaticality of the parasitic gap example (see also Cinque 1990). Levine, Hukari, and Calcagno (2001) reject the Cinque/Postal approach on the basis of the claim that it would fail to accommodate examples such as (ia–b) (from Levine, Hukari, and Calcagno 2001:185, 193), which they claim are grammatical (though one of the reviewers of this article finds that (ia–b) ‘‘call for some question marks’’). The contrast in Dutch between (iia) (with nominal as well as adjectival predicates) and (iib) suggests, however, that the Cinque/Postal approach *is*, after all, on the right track: the topicalization example in (iia) works because a so-called *d*-word (a pronominal resumptive element) can felicitously be used here; see also (iibb). The fact that in the *wh*-extraction example in (iib) no *d*-word can be used apparently correlates with its deviance. For English, this may lead one to assume a covert *d*-word in examples like (ia–b), parallel to Dutch (iia). No *d*-word (covert or overt) can be postulated in the structure of (28a)/(29a) (because there is no space for one in the tree), whence the fact that comparative correlatives with two predicate-nominal gaps do not improve even when modeled closely on (ia–b) (cf. (ic)).

- (i) a. A doctor, YOU could spend your whole life trying to be *ec* without ever becoming *pg*!  
 b. A doctor, one could spend one’s whole life STUDYING to be *ec* without ever becoming *pg*!  
 c. \*the kind of doctor that the more time you spend STUDYING to be *ec*, the less able you find yourself to become *ec*
- (ii) a. ?Psychiater/Gelukking, (*dat*) kun je je hele leven *ec* proberen te worden zonder ooit (Dutch)  
 psychiatrist/happy that can you your whole life try to become without ever  
 echt *pg* te worden!  
 really to become
- b. \*Wat voor soort dokter heeft hij jarenlang geprobeerd *ec* te worden zonder ooit echt *pg* te worden?  
 what for sort doctor has he years-long tried to become without ever really to become
- (iii) a. Wat je zegt, *dat* ben je zelf. (Dutch)  
 what you say that are you (your)self  
 ‘What you say, that’s what you are yourself.’
- b. Jan is psychiater/gelukking, en Piet is *dat* ook.  
 Jan is psychiatrist/happy and Piet is that also  
 ‘Jan is a psychiatrist/happy, and Piet is, too.’

ungrammatical; on the other hand, the (b) examples, involving ATB extraction, are perfect.<sup>13</sup> The ungrammaticality of (28a) and (29a) mimics that of Postal's (1993) parasitic gap examples and confirms the conclusion based on (24)–(27) that we are dealing here with parasitic gap constructions.

This finding is highly significant. On the one hand, it disconfirms Culicover and Jackendoff's (1999:567) claim that "from the perspective of extraction, both clauses [of the comparative correlative] have the status of coordinate clauses." Were this the case, the (c) examples in (24)–(25) and the (a) examples in (28)–(29) should have the status of the corresponding ATB cases (see (26) and (28a)/(29a)); but plainly, they do not. Since Culicover and Jackendoff present their claim that the two clauses of the comparative correlative are connected paratactically (see their page 567 for illustration of what they believe is the gross syntactic structure of comparative correlatives) as the primary basis for asserting that "the CC [comparative correlative] construction is *sui generis*, in that its basic paratactic structure does not conform to the general patterns of X-bar theory" (p. 567), the fact that the syntactic evidence just reviewed disproves the parataxis approach thus substantially weakens their case for *sui generis* syntax.<sup>14</sup> On the other hand, the parallel between the double-gap comparative correlatives and parasitic gap constructions confirms that the first clause of the comparative correlative is in an adjunction position to the second clause, as the correlative analysis advocated here leads one to expect.

## 2.5 Roadmap

We are now almost ready to start exploring the more microscopic details of the comparative correlative construction—details that have earned the construction its reputation of being irremediably quirky. In the remainder of this article, I will first of all distinguish the comparative correlative "proper" from semantically very similar yet syntactically different comparative constructions, arguing that only the former properly deserve the label "correlative construction." After this, I

<sup>13</sup> Thanks to Peter Culicover and Paul Postal for their help with the English examples. I confine illustration here to Dutch and English; the German facts are entirely parallel. Note that English (ia–b) are also ungrammatical: even the single-gap examples fail (in contrast to (21a–b)). This actually confirms the main-text discussion of the Dutch and German facts in (24)–(25), where the ungrammatical examples were ruled out on the basis of an island violation: English allows direct objects to circumvent these islands, but predicate nominals, being nonreferential, cannot escape from islands even in English (see (ii)). The facts in (i) thus show that extraction in English comparative correlatives is by no means free, and at the same time corroborate the island-based approach to extraction taken in the text.

(i) a. \*the kind of doctor *Op* that [the more he wants to be *ec*], [the less able he will be to actually become *one*]  
 b. ?\*the kind of doctor *Op* that [the more he wants to be *one*], [the less able he will be to actually become *ec*]

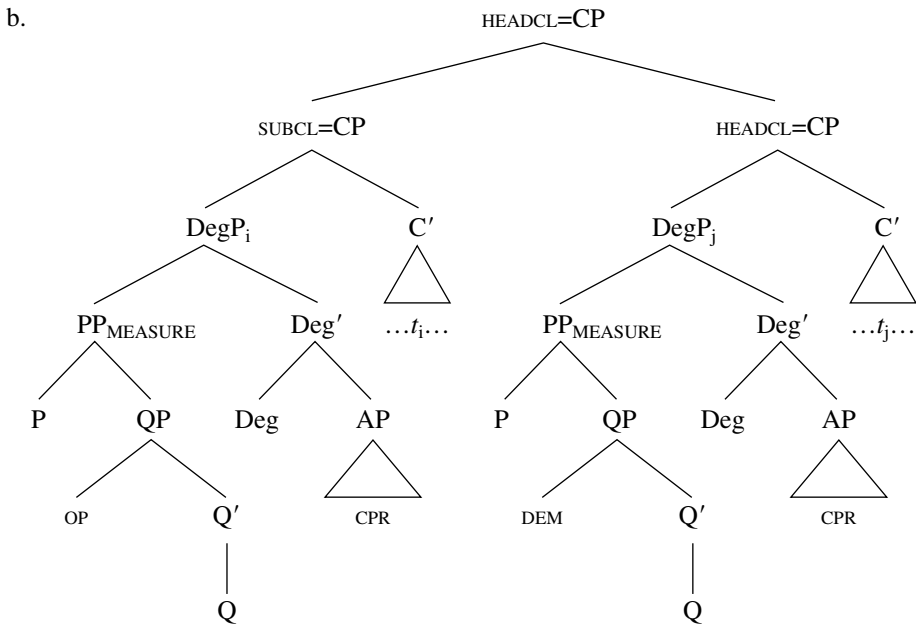
(ii) ?\*the kind of doctor *Op* that [I don't know [why he wants to become *ec*]]

<sup>14</sup> McCawley's (1988) observation that the comparative correlative allows backward pronominalization (*The more he<sub>i</sub> eats, the fatter John<sub>i</sub> gets*) likewise seems to militate against a parataxis approach to comparative correlatives (cf. *He<sub>s<sub>i</sub></sub> eats more and more, (and) John<sub>i</sub> gets fatter and fatter*); it is compatible with the correlative approach advocated here (cf. Hungarian *Akit pro<sub>i</sub> szeret, azt mindig meghívja János<sub>i</sub> vacsorára* 'who (he) loves, that always invites János for-dinner (i.e., János always invites the people he loves for dinner)', Dutch *Wat hij<sub>i</sub> doet, dat doet Jan<sub>i</sub> goed* 'What he does, that Jan does well', or English *Just as they<sub>i</sub> are a challenge for syntacticians, so these facts<sub>i</sub> are a headache for semanticists*). Culicover and Jackendoff (1999:sec. 6) discuss the binding facts of comparative correlatives in detail, note that the asymmetries observed are unexpected from the point of view of their paratactic syntax, and relegate them to the semantic component, where (by assumption) the SUBCL is subordinate to the HEADCL.

will embark, in section 4, on a detailed discussion of the microsyntax of the comparative correlative, looking carefully at the internal structure of its constituent clauses and also at the internal makeup of the comparative phrase at the left edge of each clause, against the background of morphosyntactic evidence from a variety of languages. The microsyntactic structure of comparative correlatives that I will defend here is (30),<sup>15</sup> which at the macrosyntactic level parses the construction as a correlative with a relative clause functioning as the subclause (SUBCL) adjoined to the second clause (HEADCL), and at a more microscopic level analyzes the fronted comparative phrase as a DegP whose specifier position is occupied by a (typically but not necessarily prepositional) measure phrase and whose Deg head (spelled out in English as *the*) takes the comparative AP as its complement.

(30) *The structure of the comparative correlative*

- a. [HEADCL [SUBCL [DegP ([PP P] [QP OPERATOR [Q]](I) [Deg' Deg [AP COMPARATIVE]]] ]<sub>i</sub> . . .  
*t<sub>i</sub>* . . . ],  
 [HEADCL [DegP ([PP P] [QP DEMONSTRATIVE [Q]](I) [Deg' Deg [AP COMPARATIVE]]] ]<sub>i</sub> . . .  
*t<sub>j</sub>* . . . ]



<sup>15</sup> See Beck 1997:234 for a similar structure (cf. (ib), the structure Beck assigns to the German comparative correlative in (ia)), sharing the correlative outlook on the macrosyntax of the construction (which Beck attributes to von Stechow (1994)). Her article gives the most detailed view of the macrostructure of the comparative correlative available in the literature on the construction that I am aware of; but it brings substantially less attention to bear on its microsyntax (which was not the focus of her paper) than does the present paper. Beck assumes a DegP analysis of the comparative phrase, taking the comparative morpheme itself to be the realization of the head Deg<sup>0</sup> (which I will show cannot be correct; see especially footnote 29) and taking *je* and *umso* to occupy Spec,DegP (without, however, taking a stand on the category

After defending the structure in (30), I proceed, in section 5, to reappraise Culicover and Jackendoff's (1999) perspective on the status of the comparative correlative construction.

### 3 Comparative Correlatives and Comparative Noncorrelatives

The first clause of the comparative correlatives in (1) is a SUBCLAUSE (Jespersen (1961:5.382) calls it the conditioning clause; see footnote 1) and the second clause is their HEADCLAUSE. This is particularly clear from Culicover and Jackendoff's (1999) examples in (31). As (31a) shows, the choice of pronoun in the tag is determined by the HEADCL, not the SUBCL. Similarly, it is the HEADCL and not the SUBCL that is sensitive to the selectional properties of the matrix predicate in embedding contexts such as (31b), where subjunctive inflection is legitimate only on *pay*, not on *eat*.<sup>16</sup> Notice that the status of the constituent clauses is not determined on the basis of linear order: in (31a') and (31b'), which instantiate what Culicover and Jackendoff (1999) dub the "CC'," it is still the clause containing *eat* that is the SUBCL, even though it now follows the other clause. The SUBCL/HEADCL distinction is determined on the basis of the syntactic relationship between the two clauses, therefore, as Culicover and Jackendoff rightly emphasize.

- (31) a. [<sub>SUBCL</sub> The more we eat], [<sub>HEADCL</sub> the angrier you get, don't {you/\*we}]?  
 a'. [<sub>HEADCL</sub> You get angrier] [<sub>SUBCL</sub> the more we eat], don't {you/\*we}?  
 b. {It is imperative/I demand} that [<sub>SUBCL</sub> the more he eat\*(s)], [<sub>HEADCL</sub> the more he pay(s)].  
 b'. {It is imperative/I demand} that [<sub>HEADCL</sub> he pay(s) more], [<sub>SUBCL</sub> the more he eat\*(s)].

I call the second clause in comparative correlatives of the type in (1) the *HEADCLAUSE* (rather than, for instance, *main clause* or *root clause*) to capture the fact that it is the "head" of the correlative construction—in the same way that, in a relative clause construction like *the woman I love*, the noun phrase *woman* is the "head" of the construction. The term *HEADCLAUSE* has the additional advantage, compared with the alternative term *root clause*, of not implying that the construction is confined to root contexts (see (31b)).

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of *je* and *umso*). Beck capitalizes on the complementarity of *jelumso* and measure phrases such as *drei Meter* 'three meters' to support the placement of *je* and *umso* in Spec,DegP, which I believe is correct; but she does not discuss the microsyntax in any further detail.

- (i) a. Je schneller Hans rennt, umso schneller wird er müde. (German)  
 Q faster Hans runs P-so faster gets he tired  
 'The faster Hans runs, the faster he gets tired.'  
 b. [<sub>CP=HEADCL</sub> [<sub>CP=SUBCL</sub> [<sub>DegP</sub> je [<sub>Deg'</sub> schneller]]] [<sub>C'</sub> Hans rennt]] [<sub>CP[DegP</sub> umso [<sub>Deg'</sub> schneller]]] [<sub>C'</sub> wird er müde]]]

<sup>16</sup> The complete ban on subject- $V_{fin}$  inversion in the second clause of the Dutch comparative correlatives in (13) when these are embedded in a nonroot context (compare (i) with (13)) confirms that clause's status as a HEADCL.

- (i) Ik denk dat {hoe / des te} meer je leest, {hoe / des te} minder {je begrijpt / (Dutch)  
 I think that how the-GEN TE more you read how the-GEN TE less you understand  
 \*begríjp je}.  
 understand you

The fact that the comparative correlative is a *correlative* construction entails for the SUBCL that it is a *relative* clause. This conclusion immediately accounts for the fact that fronting is systematically obligatory in the SUBCL (see (32b)).<sup>17</sup> This property of the SUBCL of the comparative correlative ties in with the fact that, universally, relative clauses exhibit obligatory *wh*-fronting to Spec,CP, even in languages that leave *wh*-constituents in situ or in some position lower than Spec,CP in questions (see Huang 1982, Watanabe 1991, Ishii 1991, Lipták 2001; see also Chomsky 1995:71 and Den Dikken 2003b for discussion). Thus, the obligatoriness of fronting in the SUBCL lends support to an analysis of the SUBCL as a relative clause, consistent with the correlative hypothesis.

- (32) a. [<sub>SUBCL</sub> The higher the stakes are], [<sub>HEADCL</sub> the lower his expectations are].  
 b. \*[<sub>SUBCL</sub> The stakes are the higher], [<sub>HEADCL</sub> the lower his expectations are].

The SUBCL/HEADCL division and the status of the SUBCL as a *relative* clause are both blind, in principle, to the question of which clause comes first: as Srivastav (1991) points out, simple correlative constructions in Hindi, of the type in (3), allow the SUBCL to be positioned on either side of the HEADCL. But though (33) may, at first blush, suggest that the order of SUBCL and HEADCL is freely inverted with preservation of the internal syntactic properties of the two clauses, the semantics of the sentences reveals that (33) is not equivalent to (32a): the clause *the lower his expectations are* in (33) serves as the SUBCL, stating the condition under which the HEADCL, *the higher the stakes are*, will hold true.<sup>18</sup> Whenever the SUBCL of a comparative correlative is

<sup>17</sup> While ungrammatical as analyzed in (32b), strings of this type are accepted by some speakers on a HEADCL-SUBCL parse. Thus, Jespersen (1961:5.382) points out some examples of the use of *the* in the root clause in HEADCL-SUBCL orders (see (i)). The *OED* (s.v. *the* adv. 2) also notes that in the HEADCL-SUBCL order, *the* is possible in the HEADCL (giving (ii) as an example). Though in present-day English such examples are generally not very good, they are not categorically rejected by all speakers. In the text discussion, I will ignore these examples, noting here that the fact that they *do* include *the* in the HEADCL entitles them to an analysis as genuine comparative correlatives with an inverted order (unlike Culicover and Jackendoff's (1999) CC').

- (i) a. They said they liked the book the better the more it made them cry.  
 (Goldsmith; late 19th c.)  
 b. I believe in the absolutism of evil the more, the more I see of evil men and women.  
 One wants the more, the more one has.  
 (Mackenzie; early 20th c.)

<sup>18</sup> Recall footnote 17. For Mandarin, Hsiao (2003) likewise notes explicitly that the comparative correlative cannot be reversed with preservation of meaning. But Borsley (2003) points out that in Polish, the two clauses of the comparative correlative can be inverted freely *without* affecting the semantics (see (ia–b)). The same is true for Russian (Yana Pugach, pers. comm.).

- (i) a. ⟨Im bardziej⟩ jesteś ⟨\*im bardziej⟩ zmęczony, ⟨tym gorzej⟩ pracujesz ⟨tym gorzej⟩. (Polish)  
 IM more you.are IM more tired TYM worse you.work TYM worse  
 'The more tired you are, the worse you work.'  
 b. ⟨Tym gorzej⟩ pracujesz ⟨tym gorzej⟩, ⟨im bardziej⟩ jesteś ⟨\*im bardziej⟩ zmęczony.  
 TYM worse you.work TYM worse IM more you.are IM more tired  
 'You work worse, the more tired you are.'

Borsley systematically renders the *tym-im* cases in English with the construction in (31a'), which Culicover and Jackendoff (1999) refer to as the "CC'." I argue in the main text that the CC' should not be assimilated to the comparative correlative proper.

placed to the right of the HEADCL in present-day English, as in (31a'), the comparative in the HEADCL is in situ and must not be accompanied by *the*.

(33) [<sub>SUBCL</sub> The lower his expectations are], [<sub>HEADCL</sub> the higher the stakes are].

The *however*-construction in (34) shares many of the properties of the comparative cases (Culicover 1999:sec. 3.2.2) and exhibits two possible orders of SUBCL and HEADCL (where this time the *however*-clause is the SUBCL).

(34) a. However high the stakes (are), his expectations will be low.  
b. His expectations will be low, however high the stakes (are).

But despite the interpretive and formal parallels that indubitably exist between the comparative correlative proper on the one hand, and what Culicover and Jackendoff (1999) dub the “CC'” in (31a') and the *however*-constructions in (34) on the other, they should be kept separate from the comparative correlative. Neither the CC' nor *however*-constructions are correlatives—there is no correlative particle (*the*) in the structure of either of these constructions (see also footnote 17 and section 4.2.1). To this I may add that it suffices, in the CC', for a *sense* of parallel increase to be expressed in the two clauses, without a *formal* requirement that this parallel increase be expressed with two (or more) *comparatives*. In this respect, too, the CC' differs from the comparative correlative proper.<sup>19</sup>

(35) a. The more you think about it, the worse/harder the problem gets.  
b. \*The more you think about it, the problem worsens/broadens.  
c. \*The more you think about it, the problem compounds.  
d. \*The more you think about it, the problem drives you crazy.

(36) a. The problem gets worse/harder, the more you think about it.  
b. The problem worsens/broadens, the more you think about it.  
c. The problem compounds, the more you think about it.  
d. The problem drives you crazy, the more you think about it.

In this article, I reserve the term *comparative correlative* for constructions that feature (a) the morphosyntax of a correlative construction (in particular, a relative clause functioning as the SUBCL plus a HEADCL that contains a correlative particle and/or a lexicalization of the Deg head in the structure in (30)) and (b) the obligatory presence of a comparative in both clauses.<sup>20</sup>

<sup>19</sup> A reviewer notes that the ungrammatical (35b–d) improve to marginally acceptable if *just* is inserted before the verb in the HEADCL. It is unclear to me what would explain this effect of *just*-insertion. In any event, even with *just* included, (35b–d) are still significantly worse than their CC' counterparts in (36b–d).

<sup>20</sup> Beck (1997) also notes, correctly, that the HEADCL-SUBCL variant of the examples in (1) is not a correlative construction. A reviewer finds fault with my dismissal of the HEADCL-SUBCL variant of (1), calling it fallacious. However, while it is true that dismissing the HEADCL-SUBCL cases as noncorrelatives prevents me from discussing the merits of Culicover and Jackendoff's (1999) systematic comparison of the two word-order variants, I disagree that the dismissal is fallacious: the text discussion spells out the grounds on which it must be concluded that the SUBCL-HEADCL and HEADCL-SUBCL cases are syntactically fundamentally different.

Culicover and Jackendoff's *CC'* and the *however*-construction systematically fail (a) and do not satisfy (b) either. They may be semantically quite similar to comparative correlatives, but the two constructions have a different morphosyntax and should hence be kept distinct. Rather than developing the syntactic structures of all three construction types in full detail, I will continue to concentrate here on genuine comparative correlatives of the type in (1), whose macrostructure, modeled on that of correlative constructions in general (see (4)), reads as in (30a), repeated below. In the remainder of this article, I will develop the microscopic morphosyntax of this construction in detail.

(30) *The structure of the comparative correlative*

- a. [HEADCL [SUBCL [DegP ([PP P] [QP OPERATOR [Q]](I) [Deg' Deg [AP COMPARATIVE]]]]<sub>i</sub> . . .  
 $t_i$  . . . ],  
 [HEADCL [DegP ([PP P] [QP DEMONSTRATIVE [Q]](I) [Deg' Deg [AP COMPARATIVE]]]]<sub>j</sub> . . .  
 $t_j$  . . . ]]

#### 4 Microsyntax: The Internal Structure of the Constituent Clauses

##### 4.1 The Microsyntactic Skeleton

In the structure in (30), each of the two clauses is a CP featuring fronting into Spec,CP of a Degree Phrase (DegP; Corver 1991, 1997) whose specifier harbors a *measure* phrase, formally represented as a PP. In Lyly's example in (14a), repeated below, this PP is headed by *by* (as in *better by far than x*). The complement of this preposition is a QP whose specifier is an operator (typically a *wh*-element, *how* in (14a)) in the SUBCL (the relative clause), and a demonstrative element in the HEADCL—the element *so* in (14a). This *so* is the same *so* that we find in sentences like *Just as correlatives in general are UG-constrained, so are comparative correlatives*—which, in fact, are correlative constructions (with the *as*-clause construed as the relative clause; see Stowell 1987 on the structure of *as*-clauses). The head of the QP is a quantifier of the type instantiated by *much* in (14a), and the *the* to the right of *much* is accommodated in the Deg<sup>0</sup> position in the structure in (30). The comparative correlative in (14a), analyzed as in (37), thus spells out all the ingredients of the structure in (30), in both clauses.

- (14) a. *By how much the lesse he looked for this discourse, by so much the more he lyked it.*

- (37) a. [SUBCL [DegP [PP by [QP how much]] [Deg' the [AP lesse]]]<sub>i</sub> [ . . .  $t_i$  . . . ]]  
 b. [HEADCL [DegP [PP by [QP so much]] [Deg' the [AP more]]]<sub>j</sub> [ . . .  $t_j$  . . . ]]

This analysis immediately explains the fact, rightly emphasized by Beck (1997:233), that an additional measure phrase is never possible in comparative correlatives (see (38c)). Measure phrases uniformly occupy Spec,DegP. This is not immediately apparent from (38a), where Deg<sup>0</sup> is arguably empty (given that lexical adjectives do not raise up to Deg in English); but whenever Deg<sup>0</sup> is lexically realized (by *the* in comparative correlatives, or by *too* in excessive-degree constructions; see Corver 1997), systematically the measure phrase must precede Deg<sup>0</sup> (cf. (14a)

and (38b)).<sup>21</sup> All measure phrases thus compete for one and the same position, Spec,DegP. With the DegPs in a comparative correlative construction having a measure phrase in their specifiers, whether it be overt (as in Lyly's (14a)) or covert (as in present-day English (1)), it follows that no additional measure phrase can be inserted, either in the SUBCL or in the HEADCL.

- (38) a. He is three inches taller than me.  
 b. He is ⟨three inches⟩ *too* ⟨\*three inches⟩ tall.  
 c. The ⟨\*three inches⟩ taller a person gets, the ⟨\*four pounds⟩ heavier he gets.

As Jespersen (1961:7.509) puts it succinctly, the comparative correlative ‘means ‘by how much . . . by so much,’ i.e. [it] indicate[s] a parallel increase in two interdependent cases.’ With the measure phrases harboring the operator in the SUBCL and the correlative particle in the HEADCL, the structure in (30) also represents the comparative correlative's semantic interpretation largely compositionally:<sup>22</sup> a sentence like (1b), *The more you eat, the fatter you get*, can be paraphrased as ‘the measure by/degree to which you eat more parallels the measure by/degree to which you get fatter’, a paraphrase directly encoded in the syntactic structure in (30).<sup>23</sup>

<sup>21</sup> Corver (1997:137) takes measure phrases to occupy his Spec,QP, the specifier of a functional projection ‘‘QP’’ between Deg<sup>0</sup> and AP (whose head is lexicalized by the ‘‘dummy’’ element *much* in what he calls ‘‘*much*-support’’ constructions: *He is fond of Mary; perhaps he is too \*(much) so*). But for adjectival extended projections featuring an overt realization of Deg<sup>0</sup> (such as *too* and *the*), this is demonstrably false, as (38b) clearly shows. On the basis of (38b), I therefore reject Corver's hypothesis regarding the locus of measure phrases, and place them in Spec,DegP instead. Note that the QP embedded in Spec,DegP in (30) is different from Corver's QP: *much* qua measure phrase and *much* qua support morpheme can actually cooccur, as in *much too much so*, where the first instance of *much* is the measure phrase and the second is the ‘‘dummy’’; measure-*much* precedes Deg<sup>0</sup> (lexicalized by *too*) by virtue of originating in Spec,DegP.

I am not convinced that Corver's QP between Deg and AP is in fact a regular ingredient of the extended projection of adjectives. Corver himself wavers on whether *so* (which is the only element in whose extended projection we find ‘‘dummy’’ *much* in English) is an adjective: though in his structures *so* is systematically dominated by an AP, on page 129 he says that in *too much so*, ‘‘the absence of an adjectival head (A<sup>0</sup>) precludes the licensing of the Q<sup>0</sup> position via A<sup>0</sup>-to-Q<sup>0</sup> raising,’’ thereby denying in *so* many words that *so* is an adjective. The categorial status of *so* is indeed very difficult to establish; given that it is not plain that it is an adjective, the presence of Corver's QP in the extended projection of *so* does not, in and of itself, tell us anything about the presence or absence of QP in the extended projection of lexical adjectives. The question of whether APs are or are not (systematically) separated from DegP by an intervening functional projection is an open one, as far as I can determine; since it is of no consequence to the present discussion (where the question of ‘‘*much*-support’’ never arises), I will omit Corver's QP from my structures (along with other functional projections that may conceivably be postulated outside the lexical AP—for example, one that checks agreement), stacking DegP immediately on top of AP, for simplicity's sake.

<sup>22</sup> I say ‘‘largely’’ because it remains unclear how the construction's conditional nature is compositionally derivable. See footnote 1 for discussion.

<sup>23</sup> The ‘‘parallel increase’’ (or proportionality) aspect of the interpretation of comparative correlatives is arguably the combined result of the presence of comparatives (which gives the increase—or decrease, as the case may be) and the correlative structure (which is responsible for the parallelism: correlatives, at least in languages that do not use them as their *sole* relativization strategy, are generally subject to a strict parallelism or matching constraint, which is likely the reflex of morphosyntactic rather than semantic properties of correlatives; thanks to Anikó Lipták for discussion of this point, which I will leave to be explored in future research). As Alexander Grosu (pers. comm.) points out with respect to comparative correlatives such as (i), the parallel increase, if measured in fixed increments in one of the two clauses of the comparative correlative, need not involve such fixed increments in the other clause as well: thus, it is by no means

One might want to think of (30) as the general “template” for comparative correlatives. But I am not advocating a construction-based approach. The idea here is emphatically not that the comparative correlative is a “construction” with a fixed template; rather, the comparative correlative has a number of lexical ingredients, in language after language, that incontrovertibly lead to projection of a structure like (30) in syntax. I will illustrate this in the next section, by looking specifically at three ingredients of the DegP in (30): the preposition introducing the measure phrase, the choice of operator and correlative particle, and the Deg head. I will discuss these in reverse order, starting with Deg<sup>0</sup>, lexicalized by what is perhaps the most mysterious ingredient of the English comparative correlative: *the*.

## 4.2 *Fleshing It Out: Microscopic Morphosyntax*

**4.2.1 *The Deg Head*** How reasonable is it to take *the* to be the lexicalization of Deg<sup>0</sup>? This *the* looks exactly like the definite determiner, and we are familiar with generating *the* in D, not Deg. So what is a definite determiner doing in Deg? Jespersen (1961:7.509) is often cited as pointing out that neither *the* of the present-day English comparative correlative actually goes back to a definite article. He traces them back to an instrumental case-form of the demonstrative *se* of Old English (i.e., *y*) and the invariant relative particle *e*. Jespersen’s remark touches the surface of a small-scale yet animated debate in the early twentieth-century literature on Old English (represented in particular by Johnsen 1911–12, Small 1923, 1929, and Christophersen 1939), picked up later in Mitchell 1985. I will briefly review the debate here.

Old English had two types of comparative correlative construction.<sup>24</sup> The one relevant here is illustrated in (39), involving the particle *y/y/e* (referred to collectively as *y* in what follows).<sup>25</sup>

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required that the number of customers decrease by fixed percentages over time in order for (i) to be true. The only thing that seems to be required is that there be a decrease in the volume of customers *at every point along the way*.

- (i) The later it got, the fewer the customers that entered the shop.

The universality/maximality of correlative constructions (noted by Srivastav (1991); thus, the plural version of (3) would necessarily assert that *all* the standing girls in the universe of discourse are tall) finds its reflex in comparative correlatives in the requirement that there be a *parallel* increase at *every point along the scale*.

<sup>24</sup> I would like to thank Olga Fischer, Ans van Kemenade, Susan Pintzuk, and Wim van der Wurff for their invaluable help with the Old and Middle English material presented in this section. The responsibility for any remaining errors is entirely my own.

<sup>25</sup> In the other type of comparative correlative in Old English (which occurs only in the prose records according to Mitchell (1985:656) but according to Mustanoja (1960:282–283) was actually more common in Old and Middle English than the pattern in (39)), *swa* ‘so’ preceded each comparative, and a word meaning ‘ever’ preceded the first *swa* (e.g., *aa swa leng swa wyrse* (*WHom(EI)*, 20.8) ‘ever so longer so worse’; also see (40b)). In the Middle English period, this construction lived on in a slightly different form, no longer featuring *swa/so* but still including *ever* (e.g., *ever lenger the wers* (“Reeve’s Tale,” 3872) ‘ever longer the worse’). This construction, which seems to have been Chaucer’s preferred way of rendering the comparative correlative, shares with German comparative correlatives the use of the quantifier *ever* (*je* in German; see (42)). It is presumably a *phrasal* (as opposed to *sentential*) comparative correlative; compare Dutch *Ik vind [sc het [hoe langer hoe lekkerder]]* ‘I find it how longer how nicer (I find that it gets nicer all the time)’, where the comparative correlative serves as the predicate of a complement small clause. Like the Dutch case, this Old/Middle English construction seems largely restricted, in the first constituent, to the comparative ‘longer’. I will not discuss this construction (which is now obsolete in English) any further here, since it is quite orthogonal to the genesis of the Modern English comparative correlative.

- (39) . . . 7 woldon t her y *mara* wisdom on londe wre y we *ma*  
 and wanted that here the more wisdom in land were the we more  
 geeoda cuon.  
 language-GEN.PL knew  
 ‘. . . and desired that the more wisdom there was in the land, the more languages we  
 knew.’  
 (*Cura Pastoralis*, 5.24 (Mitchell 1985:683))

In Old English, these particles were often separated from the comparative—especially in the HEADCL (as illustrated in (39)).<sup>26</sup> Mitchell (1985:683–684) seizes upon the separation of the particle *y* from the comparative in the HEADCL of the Old English examples and claims that this “makes it impossible to claim that the second clause *must* be one of correlative comparison” [original italics]. Mitchell’s dismissal of the correlative approach to examples such as (39) on this basis is puzzling, however, since it is by no means unheard of in the world’s languages for the operator (whether the *wh*-element or the demonstrative) to be separated from the comparative in constructions that, by all available criteria, behave like comparative correlatives. The Slavic languages are a case in point. In the Polish example in (6a), repeated here, the operator *im* and the comparative *bardziej* ‘more’ front together as a constituent but in (6b) the operator is on its own in the left periphery (see also Russian (7b)).

- (6) a. *Im* *bardziej* *jesteś zmęczony, tym gorzej pracujesz.* (Polish)  
 IM more you.are tired TYM worse you.work  
 b. *Im* *jesteś bardziej zmęczony, tym gorzej pracujesz.*  
 IM you.are more tired TYM worse you.work  
 Both: ‘The more you are tired, the worse you work.’

Old English, like Slavic, has a highly flexible word order—and indeed, sentences in which the operator is severed from the comparative are occasionally found outside the comparative correlative in Old English, as in (40a), provided to me (along with (40b), a comparative correlative structurally very similar to (40a)) by Susan Pintzuk (pers. comm.).

- (40) a. *Ac hu micale inc e onne sio sawl betere & deorwyrre onne*  
 but how much seems you-DAT then the soul better and precious-CPR than  
*se lichoma?*  
 the body  
 ‘But then how much better and more precious does the soul seem to you than the  
 body?’  
 (*Boethius*, 32.72.24.1346)

<sup>26</sup> Stranding the comparative under fronting of just the particle *þy/þe* became very rare in the Middle English period.

- b. Swa mycele deorewurre u byst beforen Gode, *swa mycele* u e  
 so much precious-CPR you are before God so much you you-DAT  
 sylfen *forseowenlicre* yncest.  
 self-DAT despicable-CPR seem  
 ‘The more precious you are before God, the more despicable you seem to yourself.’  
 (Alcuin, 276.204)

Though Pintzuk stresses that sentences like (40a) are by no means common, estimating their frequency is no straightforward matter; to do so, one would have to find sentences in which such splitting could have occurred but did not, and I do not have the relevant data at this time. For now, I will take the occurrence of (40a) to be significant, and conclude that neither within Old English itself nor crosslinguistically is there any a priori reason to exclude an approach to examples such as (39) that treats them as garden-variety comparative correlatives, merely differing from the more familiar cases in featuring the particle *y* in the left periphery by itself, analogous to what we find in Polish (6b) and Old English (40a).

This approach to (39) suggests that the *y* that introduces the HEADCL in the comparative correlative construction of Old English is the instrumental case-marked demonstrative.<sup>27</sup> I side on this score with Christophersen, who writes that ‘‘from a historical point of view, *the* is not the article, but the demonstrative pronoun functioning as a primary in *the worse for drink* and *the more the merrier*’’ (1939:115), taking both tokens of *the* in the Modern English comparative correlatives in (1) to go back to the instrumental demonstrative. To account for the diachronic change from *y* to *e*, Christophersen (1939:116) assumes that over time, this instrumental element ‘‘became shortened and unaccented,’’ being reduced to *e*. Jespersen’s (1961:7.509) alternative, which seems to me rather more revealing, amounts to analyzing *e* as akin to the invariant relative particle *e*, found in examples such as (41) (from Van Kemenade 1987:147).

- (41) . . . and se weg *e* læt to heofonum.  
 and the road that leads to heaven  
 (Ælfric’s *Homilies*, ed. Thorpe, I.52:14)

Such an approach may be prompted by the existence of comparative constructions in which the particle *e* cooccurs with a lexically case-marked demonstrative pronoun to its left—genitival *s*, in particular (e.g., *s e gewisre* ‘that-GEN *e* certain-CPR (i.e., (all) the more certain)’, found, e.g., in Ælfric’s *Homilies*, ii.20.31; see Mitchell 1985:591). This particular combination of a genitival demonstrative, an invariant particle, and a comparative (which was quite rare in Old English) has survived into present-day Dutch and German in comparative correlative constructions featuring *des te* (see (13b–c)) and *desto* (see (42)).<sup>28</sup>

<sup>27</sup> On the source and function of the instrumental case marking, see section 4.2.3.

<sup>28</sup> Two notes are in order here. First, Roehrs, Sprouse, and Wermter (2002) take issue with factoring *desto* into genitival *des* and a particle *-to*, instead taking it to be an unanalyzed form base-generated in Deg<sup>0</sup>. They claim that this explains why the *desto*-clause (the HEADCL of the comparative correlative) cannot precede the *je*-clause (the SUBCL), as

- (42) *Je müder Otto ist, desto aggressiver ist er.* (German)  
 Q tired-CPR Otto is the-GEN-TO aggressive-CPR is he  
 ‘The more tired Otto is, the more aggressive he is.’

The structure of these combinations arguably features the lexically case-marked demonstrative in the specifier of a DegP whose head, Deg<sup>0</sup>, is phonologically realized as an invariant, syncategorematic particle: *e* in Old English, *te* in Dutch, *-to* in German. Under this view, the change from *y* to *e* as the introducer of the comparative in the Old English comparative correlative is a change from realizing the demonstrative inside Spec, DegP overtly, as *y*, to realizing the Deg head overtly, as the invariant particle *e*—which gives us (43) as the structure of Old English comparative correlatives of the type in (39) (where, as is typical in Old English, the measure PP fronts by itself in the HEADCL, stranding the rest of the DegP in situ).

- (43) a. [SUBCL [DegP [PP INST [QP *y*  $\emptyset$ ]] [Deg' (e) [AP CPR]]]i [ . . . t<sub>i</sub> . . . ]  
 b. [HEADCL [PP INST [QP *y*  $\emptyset$ ]]j [ . . . [DegP t<sub>j</sub> [Deg'  $\emptyset$  [AP CPR]]] . . . ]

Against the background of this analysis of the Old English comparative correlative, the invariant particle *e* of Old English emerges as the lexicalizer of the highest functional head in the extended projections of [+V] lexical categories: verbs (the *e* in the C position of relative clauses) and adjectives (the *e* in the Deg head of the SUBCL of comparative correlatives). By taking this line, we see the mysterious *the* of the Modern English comparative correlative as the successor of the invariant particle *e* that lexicalized the Deg head of Old and Middle English comparative correlatives.

This approach is demonstrably superior to that of Culicover and Jackendoff (1999:557), who, noting in passing Jespersen's (1961:7.509) remark about the ancestry of *the*, suggest that “[*t*]he appears to be a specifier of *more* and *less*, in alternation with other specifiers such as *much*, *far* and *a lot*.” If this were true, one would expect this *the* to be in complementary distribution with the other specifiers listed. But as (44) shows, there is no general complementarity between the *the* that combines with comparatives and elements like *much*.

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in ??*Otto ist desto aggressiver, je müder er ist* ‘Otto is the-GEN-TO, aggressive-CPR the tired-CPR he is’. But this sentence is poor even with the two constituent clauses reversed, as Roehrs, Sprouse, and Wermter note themselves; and there is in fact nothing in their analysis of *desto* comparative correlatives that would account for these facts. Whatever underlies the fact that *desto* + CPR cannot easily remain in situ, it seems unlikely that it bears on whether *desto* should be represented as an unanalyzed unit or should instead be factored into its constituent parts, the genitival correlative marker and the Deg head *-to*. For Dutch, where *des* and *te* are spelled as separate words in the standard orthography (though *deste* is common as well), treating *te* as a Deg particle has the added advantage of likening it to the degree modifier *te* corresponding to English *too* (e.g., *Die doos is te klein* ‘That box is too small’). Although the semantics of ‘excessive degree’ is absent from *des te*, it is nonetheless likely that the *te* we find here is associated with the projection of Deg; the fact that Dutch *te* of *des te* doubles as a degree modifier supports approaching it as a lexicalization of Deg<sup>0</sup>.

Second, the use in German (42) of the quantifier *je* as the operator in the SUBCL is parallel to the use of English *ever* preceding comparatives (as in (ia)) and functioning as a modifier of the demonstrative *so* in Spec, QP (as indicated in (ib)). Recall also the Old and Middle English examples mentioned in footnote 25, likewise featuring *ever* (e.g., *ever lenger the wers*).

- (i) a. *ever so much better*  
 b. [DegP[QP[*ever so*] *much*] [Deg'  $\emptyset$  [AP *better*]]]

- (44) a. so much the better  
 b. [<sub>DegP</sub>[<sub>QP</sub>[<sub>Spec</sub> so] [<sub>Q'</sub> much]] [<sub>Deg'</sub> the [<sub>AP</sub> better]]]  
 c. much the wiser  
 d. all the more serious

Example (44a) (cf. the parallel Dutch case *zo veel te beter* ‘so much TE better’, featuring the Deg<sup>0</sup> particle *te*) is in fact extremely helpful in charting the territory available for overt material to occupy in a comparative phrase. As structure (44b) with *the* in Deg<sup>0</sup> illustrates (see the discussion immediately above), the construction in (44a) involves a quantifier phrase in Spec,DegP whose head is lexicalized as *much* and whose specifier is the demonstrative *so*.<sup>29</sup>

4.2.2 *Spec,DegP and the (Non)realization of the Relative and Correlative Particles* The specifier position of the Deg head in both clauses of the comparative correlative is systematically occupied—even in languages where Deg<sup>0</sup> is not usually preceded by anything. Thus, in Modern English, *the* is typically the first element in each clause. This holds true particularly robustly for the SUBCL: though in the HEADCL it is possible to some extent to put *so much* in front of *the* + CPR, in the SUBCL it is entirely impossible to place an overt measure phrase to the left of Deg = *the*.

- (45) (\*How much/\*That much) the less you say, (?so much/\*that much) the better it is.

But it cannot be that Spec,DegP is radically empty—the fact that the comparative correlative is incompatible with the expression of an additional measure phrase (recall (38c)) shows that it is in fact occupied. That it *must* be occupied follows from the fact that, given that the comparative correlative is a correlative construction, we need an operator to turn the SUBCL into a relative clause, and to establish the link with the HEADCL, where a correlative particle must appear. Since no overt operator shows up in front of the *the* of the SUBCL, we are led to conclude that there is a *null operator* in Spec,DegP. In the HEADCL, *so* in Spec,QP (in combination with an overt quantifier in Q) can serve as the correlative particle (see (45)); but in the HEADCL of the examples in (1), no overt material precedes *the*. I therefore assume that in examples like (1), Spec,DegP of the HEADCL is filled by a QP whose head is null and whose specifier is a null demonstrative.<sup>30</sup>

<sup>29</sup> Note that, with Deg<sup>0</sup> occupied by *the*, the comparative morphology on the adjective cannot be base-generated there (contra Beck 1997:235; recall also footnote 15). This is in line with what a lexicalist approach to inflectional morphology would lead one to assume on independent grounds. By the same token, the comparative ‘‘support morpheme’’ *more* used to form the comparative of adjectives that do not tolerate the *-er* suffix cannot originate in Deg<sup>0</sup> either (e.g., *The more intelligent a girl is, the more attractive I find her*). Instead, *more* should be analyzed as a comparative-inflected complement of Deg (‘‘Q’’ in Corver 1997; but recall footnote 21).

<sup>30</sup> A reviewer asks how there could be such a thing as a ‘‘null demonstrative,’’ given that phonological emptiness would appear to be incompatible with the criterial property of demonstrating. The thing to realize is that when used as a correlative particle, the demonstrative is not being used in its purely deictic sense; it is more akin to demonstratives used as ‘‘resumptives’’ in Dutch left-dislocation and topic (drop) constructions featuring so-called *d*-words (i.e., demonstratives), as in *die man (die) ken ik niet* ‘that man (that) know I not’ and *Die man? (Die) ken ik niet*, where the demonstrative is likewise not obligatorily overt.

The net result, for the Modern English comparative correlative, is thus the following:<sup>31</sup>

- (46) a. [SUBCL [DegP[QP  $\emptyset$ -Op  $\emptyset$ ] [Deg' the [AP CPR]]]i [(that) . . . t<sub>i</sub> . . . ]]  
 b. [HEADCL [DegP[QP  $\emptyset$ -DEM  $\emptyset$ ] [Deg' the [AP CPR]]]j [(that) . . . t<sub>j</sub> . . . ]]

Why it is apparently impossible to lexicalize the measure QP in the SUBCL in Modern English and why it sounds archaic to do so in the HEADCL is a question I cannot answer at this time. These facts are not the result of some general constraint barring anything overt to the left of the qua Deg head: in noncorrelative contexts, Deg = *the can* be preceded by overt material, as we saw in (44). Nor does English provide the most dramatic example of leaving positions empty in the comparative correlative. Perhaps the most spectacular case in this context are the Romance languages. In French, for example, the only overt element in the left periphery of each of the two clauses in (30) is the comparative (*plus* ‘more’ in (47), taken from Beck 1997:231), located in the complement of Deg (recall footnote 29); everything above it (including Deg, Q, and Spec.QP) is covert.

- (47) Plus quelqu'un est grand, plus il a de grands pieds. (French)  
 more someone is tall more he has of big feet  
 ‘The taller somebody is, the bigger his feet are.’

- (48) a. [SUBCL [DegP [QP  $\emptyset$ -Op  $\emptyset$ ] [Deg'  $\emptyset$  [AP plus]]]i [ . . . t<sub>i</sub> . . . ]]  
 b. [HEADCL [DegP [QP  $\emptyset$ -DEM  $\emptyset$ ] [Deg'  $\emptyset$  [AP plus]]]j [ . . . t<sub>j</sub> . . . ]]

At the other extreme, we have already come across archaic English (14). Russian (7b), repeated here, is of exactly the same type, overtly spelling out everything except the Deg head: *na* ‘on’ is the lexicalization of the preposition (cf. (14)’s *by*), and *skol'ko* and *stol'ko* are the spell-outs of the two QPs (where *skol'ko* is the [+WH] variant in the relative clause, and *stol'ko* the [+DEM] variant in the HEADCL).<sup>32</sup>

<sup>31</sup> I assume that, in the absence of an overt preposition introducing the measure QP, there is simply no PP projected at all (rather than assuming that there *is* a PP whose head, however, is null). On optional *that*, see footnote 7.

Note that the SUBCL of the Modern English comparative correlative involves a null operator pied-piping its container up to Spec,CP—presumably the only successful case of its kind. Other attempts at having a null operator take part in pied-piping fail for independent reasons, (ia) being ungrammatical because the ‘Saxon genitival’ morpheme ‘s has no host and (ib) crashing because null operators (which are to be identified as PRO; see Jaeggli 1981, Hendrick 1988) cannot occur in governed positions.

- (i) a. \*a man [CP [DP  $\emptyset$ -Op's wife] I know] (cf. *a man whose wife I know*)  
 b. \*a man [CP [PP to  $\emptyset$ -Op] to talk] (cf. *a man to talk to, a man to whom to talk*)

The relative clause in (46a) steers clear of the problems incurred by (ia–b): the null operator neither needs to play host to a dependent morpheme to its right nor finds itself in an illegitimate structural configuration. Thus, pied-piping succeeds. Pied-piping is in fact obligatory in present-day English comparative correlatives—in general, English resists Left Branch Condition violations (\**How do you think I am tall?*). While it is presumably fair to say that current understanding of the restrictions on extraction of left branches is suboptimal, the fact that subextraction fails here is not something that needs to be stipulated with specific reference to the comparative correlative, hence does not stand out as a quirk of this particular construction.

<sup>32</sup> Note that (7b) matches Old English (39) in featuring pied-piping of DegP to Spec,CP in the SUBCL and fronting of just the measure PP in the HEADCL.

- (7) b. *Naskol'ko luchshe mashina, nastol'ko ona dorozhe.* (Russian)  
 by-how-much better car-NOM by-that-much it-F.NOM more.expensive  
 'The better the car, the more expensive it is.'

- (49) a. [SUBCL [DegP [PP na [QP skol'ko]] [Deg'  $\emptyset$  [AP CPR]]]<sub>i</sub> [ . . . t<sub>i</sub> . . . ]  
 b. [HEADCL [PP na [QP stol'ko]]]<sub>j</sub> [ . . . [DegP t<sub>j</sub> [Deg'  $\emptyset$  [AP CPR]]] . . . ]

Measure phrases associated with comparative APs can alternatively be realized with instrumental case, as in (50a). In present-day Russian, this option (sounding archaic and not accepted by all speakers) is highly lexically restricted. But to the extent that it is available, it also manifests itself in the comparative correlative (50b).

- (50) a. *Skol'kimi godami on tebya starshe?* (Russian)  
 how-many-INST years-INST he-NOM you-GEN older  
 'How many years older than you is he?'  
 b. *Skol'kimi godami ty starshe, {nastol'ko ty umnee /*  
 how-many-INST years-INST you older by-that-much you smarter  
 ?*stol'kimi dnjami ran'she ty umresh'.*  
 that-many-INST days-INST earlier you die-FUT.PRF-2SG  
 'The (more years) older you are, {the smarter you are/the (more days) earlier you will die}.'

Combined with the fact that the instrumental-marked *wh*-particle *chem* can form relative clauses in Russian (e.g., *Eto to, chem Tanya gorditsja* 'this that which-INST Tanya proud (i.e., this is what Tanya is proud of)'), this also leads to an alternative (and much preferred) strategy for forming comparative correlatives in the language—with the aid of *chem* as the relative operator in the SUBCL and *tem*, the instrumental form of the demonstrative 'that', as the correlative particle in the HEADCL (see (7a), the counterpart of the Polish examples in (6)).<sup>33</sup>

- (7) a. *Chem bol'she vina tem veseleye.* (Russian)  
 what-INST more wine-GEN that-INST merrier  
 'The more wine, the merrier.'

- (51) a. [SUBCL [DegP [PP P $\emptyset$  [QP chem<sub>INST</sub>  $\emptyset$ ]] [Deg'  $\emptyset$  [AP CPR]]]<sub>i</sub> [ . . . t<sub>i</sub> . . . ]  
 b. [HEADCL [DegP [PP P $\emptyset$  [QP tem<sub>INST</sub>  $\emptyset$ ]] [Deg'  $\emptyset$  [AP CPR]]]<sub>j</sub> [ . . . t<sub>j</sub> . . . ]

4.2.3 *The Preposition and Case* The use of instrumental case on the relative operator and the correlative demonstrative in Russian matches that of Old English, where the instances of *y* in (39) are the instrumental forms of the distal demonstrative. At this point, then, let us return to

<sup>33</sup> Borsley (2003) notes that, on the surface, the *im* introducing the SUBCL of the Polish comparative correlative (see (6)) is the third person plural dative pronoun. But comparison with other Slavic languages (in Czech, the *wh*- and demonstrative elements used in comparative correlatives are, as in Russian, unambiguously instrumental-marked; František Kratochvíl, pers. comm.) suggests that this *im* is arguably an incarnation of the *wh*-pronoun that, for reasons that remain obscure and need to be further investigated, has lost the obstruent in its onset.

(39) and ask what the function of the instrumental case in examples of this type might be. The literature turns out to be rather divided on this point. Johnsen (1911–12) takes the position that the instrumental demonstrative is an expression of the *measure* of the degree. Johnsen literally says “*the* = *y* properly means ‘by that’”—which of course goes along very well with what I have just said about examples like Russian (7a) and archaic English (14). However, later authors (see esp., early on, Small 1923, 1929 and, more recently, Mitchell 1985) distanced themselves from the view that the instrumental demonstrative expresses a measure. Small treats the instrumental demonstrative as an expression of present-day English (PE) *than that/before*, as is clear from the following passage from Small 1929:384–388, quoted by Mitchell (1985:641) (original italics):

In the opinion of the writer the form *the* immediately before the comparative *never*, from OE to PE, means ‘by that much’. It always in that position refers to a condition or object previously named or understood, and is functionally a true case of comparison, meaning not ‘by that’, but ‘*than* that’ or ‘*than* before’.

If Small were right that Old English *y* preceding a comparative *never* expresses a measure and instead expresses the comparative standard (“comparee”), it would be unclear how *y* could be eligible for use in the comparative correlative (which it clearly was; recall (39)). After all, as Beck (1997) notes and discusses in detail, comparative correlatives with a (nonclausal) *than*-phrase harboring the comparative standard, as in (52), are crosslinguistically very rare.<sup>34</sup>

(52) The more (\*than Mary) you eat, the fatter (\*than Mary/Sue/ . . . ) you get.

Even if a *than*-phrase were generally legitimate in a comparative correlative, it would still appear entirely inappropriate to take *y* to be an expression of it: *The more you eat, the fatter you get* is paraphrased as ‘The measure by/degree to which you eat more parallels the measure by/degree

<sup>34</sup> Beck (1997:232n3) writes that this “seems to be the case in all languages that I could check, for instance (apart from English and German) Korean and Dutch, as well as Mandarin Chinese.” However, Leung (2003:36–37) gives grammatical examples of comparative correlatives from Mandarin, and also from Cantonese, Thai, and Japanese, that include overt comparative standards. Leung (2003:37) appears to suggest a correlation between the allowability of an overt comparative standard and the absence of a comparative marker (like English *-er*); but Hungarian (Anikó Lipták, pers. comm.) and Serbo-Croatian (Boban Arsenijević, pers. comm.) freely allow overt comparative standards in combination with comparative morphology on the adjective (see below for discussion of Hungarian comparative correlatives). In English comparative correlatives, a *than*-expression is possible in the SUBCL provided that it is *clausal*: note Leung’s (2003:18) \**The taller John is than Mary, the happier I am* versus *The taller John is than you think he is, the more money I win*. A reviewer suspects that the category of the constituents being compared (in particular, whether they are clausal or not) may play a key role in determining the status of comparative correlatives with *than*-expressions—though the following example (from a dissertation) suggests that in the HEADCL of the English comparative correlative, comparative standards do not seem to have to be overtly clausal: *The longer it takes for subjects to read a sentence in a minimal materials-pair (or -group), the less processable the sentence is than its counterpart(s)* (but here the fact that the *than*-phrase is in extraposed position may indicate, depending on one’s assumptions about the syntax of “extraposed” *than*-phrases, that it is at least covertly clausal). The precise role played by the clausal nature of the constituent harboring the comparative standard should be looked into more fully in future research. Note, finally, that (as Michaelis (1994:48) points out) the ban on (nonclausal) comparative standards may be a general property of instantiations of what Michaelis calls “moving-standard comparison” (i.e., comparatives whose comparative standard is not fixed), including the *noncorrelative* cases: for example, *He got sicker and sicker (\*than before/Harry)*.

to which you get fatter’ (recall section 4.1), not as something like ‘If/As you eat more than *x*, you get fatter than *x*’.

I conclude, then, that it is unlikely that Small’s (1926, 1929) general claim that *y* is *never* used as an expression of the measure of the degree could be correct. On the contrary, it seems plausible, from the standpoint of the interpretation of the comparative correlative, to take the instrumental-marked demonstrative to be a measure phrase—the counterpart, in effect, of the *by*-phrases of measure in (14).

The view that the *y* of the Old English comparative correlative is a measure is further confirmed by the facts of comparative correlatives in other languages—not just by Russian (7a) or archaic English (14), but also by the so-called ablative of measure in Latin (10) (see Michaelis 1994:53), and by the variant of the German comparative correlative in (42) featuring *umso* ‘P + so’ instead of *desto* (see (53)), where *um* ‘about, around’ spells out the P head introducing the DegP in the HEADCL in structure (30).

- (53) Je müder Otto ist, umso aggressiver ist er. (German)  
 Q tired-CPR Otto is P-so aggressive-CPR is he  
 ‘The more tired Otto is, the more aggressive he is.’

That these various prepositions and case particles independently serve to introduce measure phrases is clear, for Russian, from (50a),<sup>35</sup> for German from (54) (see Beck 1997, and also Roehrs, Sprouse, and Wermter 2002:22), and for English from (55).<sup>36</sup>

- (54) a. Es ist *um* zwei Meter (zu) lang. (German)  
 it is P two meters too long  
 ‘It is two meters too long.’  
 b. Es ist *um* zwei Meter länger.  
 it is P two meters longer  
 ‘It is two meters longer.’  
 (55) This is *<by far>* better *<by far>* than that.

<sup>35</sup> And also from the use of the *na* of (7b) in *Temperatura uvelichilas’ na 10 gradusov* ‘(the) temperature rose by 10 degrees’, *Tseny vyrosli na 20%* ‘prices increased by 20%’, *On postarel na tri goda* ‘he got-old by three years’, *On vyros na tri santimetra* ‘he grew by three centimeters’. Note that to express the ‘comparee,’ Russian uses genitive rather than instrumental (see, e.g., (50a)); this further compromises Small’s (1929) proposal.

<sup>36</sup> The *by* in (55) is freely omissible (in fact, preferably omitted) in preadjectival position; postadjectivally, *by* is obligatory in present-day English (Cole Porter’s *I know every type of love / Better far than they*, from ‘‘Love For Sale,’’ is probably a case of poetic license). Concomitantly, we find that in archaic comparative correlatives in which the Deg head in the HEADCL is preceded by an overt operator (as in (14)), *by* is likewise used optionally, as (ia–b) illustrate. (Sentence (ia), which is identical, in the HEADCL, to Lyly’s (14a)/(37), is from chapter 17 of *The Sea-Gunner* (1691) by John Seller, Sr. (available in part at <http://www.shipbrook.com/jeff/seagunner>); (iib) is a translated quotation from Goethe’s conversations with Eckermann (*Faust: A Tragedy*, translated by Walter Arndt. New York: Norton, 1976).)

- (i) a. The harder the corns are in feeling, *by* so much the better it is.  
 b. I am rather of the opinion, that the more incommensurable, and the more incomprehensible to the understanding, a poetic production is, so much the better it is.

The Hungarian comparative correlative presents some interesting data in this context. Consider the examples in (56).<sup>37</sup>

- (56) a. Amennyivel magasabb az apa, annyival alacsonyabb (Hungarian)  
 A-how.much-INST taller the father that.much-INST shorter  
 a gyerek.  
 the child
- b. (\*A)minél magasabb az apa, annál alacsonyabb a gyerek. (cf. (8))  
 A-what-ADESS taller the father that-ADESS shorter the child  
 Both: ‘The taller the father, the shorter the child.’

Of the two comparative correlatives in (56), which exist side by side, (56a) is straightforward. There, the measure phrase bears instrumental case, in line with what we found in Old English and Slavic, and also consonant with the fact that comparative measure phrases in Hungarian always have instrumental case, as shown in (57).

- (57) a. János három deciméterrel magasabb Péternél. (Hungarian)  
 JÁNOS-NOM three decimeter-INST taller PÉTER-ADESS
- b. János három deciméterrel magasabb, mint Péter.  
 JÁNOS-NOM three decimeter-INST taller than PÉTER-NOM  
 Both: ‘János is thirty centimeters taller than Péter.’

What (57a) also shows is that the comparative standard of a Hungarian comparative construction can be expressed with adessive case (alongside the alternative of using a ‘than’-phrase, as in (57b); the latter option is not of interest to us here, and I will leave it aside). This combination of facts—that instrumental case is normally used to express the measure of the comparative degree, and that adessive case serves to express the comparative standard—now makes the comparative correlative in (56b) (see also (8)), with its adessive case on the relative operator *mi* ‘what’ and the correlative demonstrative *az* ‘that’, look outlandish at first glance. Recall that something like *The more you eat, the fatter you get* is paraphrased as ‘The measure by/degree to which you eat more parallels the measure by/degree to which you get fatter’, not as something like ‘If/As you eat more than *x*, you get fatter than *x*’. So the adessive-marked elements in (56b), their case forms notwithstanding, should not be construed as comparative standards. This is further confirmed by the fact that Hungarian (unlike many other languages; see (52) and footnote 34) allows an overt

<sup>37</sup> Besides the case conundrum I will be concentrating on in the main text, the comparative correlative in (56b) treats us to an additional surprise: it obligatorily lacks the *a*- prefix on the *wh*-element introducing the SUBCL, differing from garden-variety (cor)relative constructions in the language (cf. (56a), where *a*- does occur, and also (ia–b)). I have nothing to say about this puzzle.

- (i) a. Ami olcsó, az rossz. (Hungarian)  
 A-what cheap that bad  
 ‘What is cheap is bad.’
- b. Ez egy olyan ár, aminél alacsonyabbat sehol nem találsz.  
 this a such price A-what-ADESS lower-ACC nowhere not you.find  
 (lit.) ‘This is a price lower than which you won’t find anywhere.’

adessive-marked comparative standard to show up *alongside* the *wh*-pronoun and demonstrative in each clause of the comparative correlative, as seen in (56') (identical to (56) except for the italicized adessive-marked comparative standards, *Annánál* and *Péternél*; the interpretation of (56') is such that if the father is, say, three centimeters taller than Anna, then the child is three centimeters shorter than Péter).

- (56') a. Amennyivel        magasabb *Annánál*    az apa,    annyival        alacsonyabb  
 A-how.much-INST taller        Anna-ADESS the father that.much-INST shorter  
*Péternél*    a gyerek.  
 Péter-ADESS the child
- b. Minél        magasabb *Annánál*    az apa,    annál        alacsonyabb  
 what-ADESS taller        Anna-ADESS the father that-ADESS shorter  
*Péternél*    a gyerek.  
 Péter-ADESS the child
- Both: 'The degree to which the father is taller than Anna, to that degree the child is shorter than Péter.'

This shows unequivocally that the Hungarian comparative correlative *is* well behaved in not treating the relative and correlative particles as comparative standards themselves—after all, if the adessive-marked *wh*- and demonstrative pronouns in (56b) had served as comparative standards, it should have been impossible to add the adessive-marked comparative standards in (56'b). So we can be certain that Hungarian does not in fact analyze its adessive-marked *mi* and *az* in the comparative correlative in (56'b) as expressions of the comparative standard: not only would that have resulted in a peculiar semantics for this kind of construction, it would also have wrought serious havoc for (56'b). This further confirms that, universally, the relative and correlative particles are *measure* phrases.

This said, we still need to know why *mi* and *az* surface with adessive case in (56b), rather than with the expected instrumental case, seen in (56a) and (57). I would like to argue that the key to this question lies in a close comparison of the two Hungarian comparative correlatives juxtaposed in (56). An essential difference between (56a) and (56b) is that the former features an overt realization of the quantifier Q in the skeletal structure in (30): *mennyi* 'how much' and *annyi* 'that much' are the *wh*- and demonstrative incarnations, respectively, of the quantifier corresponding to English *much*. In (56b), by contrast, there is no overt quantifier following *mi* or *az*. As on previous occasions, I will assume that there is nonetheless a QP present in the structure—but its Q head is silent in (56b).

Now suppose that in Hungarian (which is a strictly agglutinative language), instrumental case is the affixal lexicalization of the P head in the structure in (30), and that it needs to incorporate the head of its complement to find a host. In the absence of an overt quantifier heading the QP, P has nothing to incorporate: incorporation of the empty Q would not help satisfy P's need for an overt host, and incorporation of QP's specifier (OP/DEM) into P is impossible for the same reason that noun incorporation from subjects (specifiers) is impossible (see, e.g., Hale and Keyser 1993 for an Empty Category Principle-based account). This means that P in the structure of

Hungarian comparative correlatives lacking an overt expression of Q (i.e., (56b)) cannot be licensed as the instrumental affix and must therefore be radically absent. In languages like Russian and Old English, on the other hand, which are not agglutinative, INST is not a lexicalization of P but instead an inflectional affix: P is itself phonologically null, possessing an abstract bundle of morphological features that needs to be checked, under Agree, against the matching features borne by the host of the inflectional affix. In the absence of an overt ‘much’, P’s features can readily be checked by QP’s specifier (OP/DEM) in these languages—but not in Hungarian, where *-vall/-vel* is itself an affixal preposition.

This takes care of the unavailability of instrumental case on OP and DEM in the comparative correlative in (56b) and (8). And as an account of the provenance of the adessive case on *mi* and *az* in these examples, I tentatively suggest that Spec,QP here is filled by an adessive PP that in turn contains OP/DEM, lexically realized as *mi* and *az*, as in (58).

- (58) a. [SUBCL=CP [DegP [QP [PP -nél mi]  $\emptyset$ ]] [Deg'  $\emptyset$  [AP CPR]]]i [C' C $\emptyset$  [IP ... t<sub>i</sub>]]  
 b. [HEADCL=CP [DegP [QP [PP -nál az]  $\emptyset$ ]] [Deg'  $\emptyset$  [AP CPR]]]j [C' C $\emptyset$  [IP ... t<sub>j</sub>]]

While in (58) the QP in Spec,DegP is not introduced by an affixal preposition (because such a preposition would be unable to get supported), in the rather more straightforward alternative realization of the Hungarian comparative correlative in (56a), analyzed as in (59), the overt quantifiers *mennyi* and *annyi* heading QP manage perfectly well to host an affixal instrumental P.

- (59) a. [SUBCL=CP [DegP [PP -vel [QP mennyi]]] [Deg'  $\emptyset$  [AP CPR]]]i [C' C $\emptyset$  [IP ... t<sub>i</sub>]]  
 b. [HEADCL=CP [DegP [PP -val [QP annyi]]] [Deg'  $\emptyset$  [AP CPR]]]j [C' C $\emptyset$  [IP ... t<sub>j</sub>]]

### 4.3 Summary

To close this investigation of the microscopic morphosyntax of the comparative correlative constructions of a range of different languages, let me summarize the findings by bringing them together under the microsyntactic skeleton in (30) and fleshing out the DegP part of this skeleton for the languages surveyed, as in (60).<sup>38</sup> The limiting cases in this paradigm are archaic English (14) and French (47): the former lexicalizes every ingredient of the structure in (60), while the latter leaves everything outside AP empty. Between these two extremes, we have found a variety of intermediate patterns. But importantly, all that we found can be straightforwardly accommodated by the microsyntactic skeleton.

<sup>38</sup>The representations for Russian and Hungarian assume a factorization of *skol'kolstol'ko* and *mennyi/annyi* into a [+WH] or [+DEM] component and a quantifier component, for ease of assimilation to other languages. No necessary morphological claims are made here; whether these elements should be factored out, in syntax, into a [+WH/DEM] part and a quantifier part is a question that cannot be answered, it seems to me, on the basis of the facts of comparative correlative constructions per se. (Recall from footnote 31 that I assume that in the absence of an overt preposition introducing the measure QP, no PP is projected at all—as is represented in (60) with the aid of dashes in the “P” column.)

(60)	[DegP[PP P ↓	[QP OP/DEM ↓	Q]] ↓	[Deg' Deg [AP CPR]] <sub>i</sub> ↓
a. Archaic English	by	how/so	much	the
b. Old English	INST	y	∅	(e)
c. Modern English	—	∅	∅	the
d. French	—	∅	∅	∅
e. Dutch	GEN	des	∅	te
	—	hoe	∅	∅
f. German	—	je	∅	∅
	GEN	des	∅	-to
	um	so	∅	∅
g. Russian	INST	chem/tem	∅	∅
	INST	sk-/st-	-ol'kimi	∅
	na	sk-/st-	-ol'ko	∅
h. Hungarian	-vAl	mi/az	-nnyi	∅
	—	mi/az-nÁl	∅	∅

With this in mind, then, let us return to the broader questions raised by comparative correlative constructions—in particular, the alleged *sui generis* nature of the comparative correlative.

### 5 The Comparative Correlative: One of a Kind?

Though Culicover and Jackendoff (1999:569) duly note that “[i]t is surely significant that many other languages have similar constructions expressing the comparative correlative reading found in CCs,” they ignore all languages other than Modern English (barring some comparative observations in footnotes) and leave things at the statement that “specific syntactic properties of the constructions differ from language to language.” The summary at the end of the discussion in section 4 should make it clear, however, that in fact there is very little variation in the *syntactic* properties of the comparative correlative. Where languages differ is in the microscopic *morpholexical* properties of the elements used in their comparative correlative—but even here we find many parallels between languages. In fact, we find no haphazard variation across languages. Instead, the morphosyntax of the comparative correlative exhibits a very high degree of crosslinguistic consistency—the kind of consistency that is expected once one recognizes the comparative correlative as a well-behaved, regular *correlative* construction at the macrosyntactic level, a member of a family of constructions.<sup>39</sup> Thus, contrary to Culicover (1999) and Culicover and Jackendoff (1999), we have found that the comparative correlative is by no means *sui generis*.

<sup>39</sup> A peculiar case is the Berber comparative correlative, which comes in two variants (one featuring ‘how much’ in both clauses, the other having ‘every’ in both clauses), both sharing the presence, once again in both clauses, of the yes/no-question particle *ma* (see (ia–b) from Tarifit Berber; Noureddine Elouazizi, pers. comm.). This makes Berber comparative correlatives look distinctly unlike standard correlatives. More research is needed before we can confidently assess the implications of these Berber facts.

It is true that the grammar of English does not feature correlatives productively, which makes the comparative correlative look rather unlike more familiar constructions of the language. But English does in fact have noncomparative correlatives with *as/so*—for example, *Just as correlatives in general are UG-constrained, so are comparative correlatives*. This does not seem to be accidental: comparative correlatives and *as/so*-correlatives are presumably members of the same subspecies of correlative constructions, that of *adjectival* correlatives. The learner will not conclude from encountering a comparative correlative or *as/so*-correlative that his or her language features *all* types of correlative constructions—including nominal correlatives of the Hindi type (see (3)). Positive evidence for the existence of nominal correlatives will be required for a generalization to such correlatives to be legitimate.

The hardest part, no doubt, when it comes to learning the comparative correlative is mastering the lexical quirks of the construction: for example, the use of *thel/tel-to* as Deg<sup>0</sup>, the peculiar *im* in the SUBCL of Polish comparative correlatives (see footnote 33), and the use of obsolete case forms (the Dutch genitive, and also the Old English instrumental case, which was well on its way out already in the Old English period; Van Kemenade 1987).<sup>40</sup> This is cumbersome as always—but surely no threat to the comparative correlative qua representative of UG principles, and, concomitantly, no endorsement of the *sui generis* nature of the *syntax* of the construction: individual lexical items are quintessentially *sui generis* (that is precisely why they are listed in the lexicon), but it would be absurd to claim for a *syntactic construct* that possession of quirky lexical items per se makes it *sui generis*. As Fodor (2001:380) aptly puts it in her review of Culicover 1999, “[t]here may be a significant amount of ‘irreducible idiosyncrasy’ on *any* imaginable analysis of a construction, but it is still of interest where in the grammar that idiosyncrasy resides” (original emphasis); it has been my aim here to show that the idiosyncrasy resides wholly in the lexical domain, not in the syntax.<sup>41</sup> Significant here is the fact that some of the *prima facie* most baffling

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- (i) a. ʃha' ma θ-ʃʃið ʃha ma θ-marð. (Berber)  
 how much Q-PRT 2s.M/F-eat.PERF how much Q-PRT 2s.M/F-fatten.PERF  
 ‘The more you eat, the fatter you get.’  
 b. Kur ma θ-ʃʃið kur ma θ-marð.  
 every Q-PRT 2s.M/F-eat.PERF every Q-PRT 2s.M/F-fatten.PERF  
 ‘Every time you eat, you grow fat.’/‘The more you eat, the fatter you get.’

<sup>40</sup> The problem of lexically based idiosyncrasy is particularly acute in the Dutch comparative correlative, with its three surface patterns (see (13)), whose syntactic behavior with respect to verb-second (V2) in the HEADCL is determined to a large extent by the choice of correlative marker (recall footnote 5). A reviewer asks why Dutch learners do not generalize the comparative correlative to a V2 construction. This question factors into two subquestions: (a) why isn’t the finite verb of the HEADCL inserted right after the SUBCL (the first major constituent)? and (b) why isn’t there obligatory V2 after the fronted comparative in the HEADCL? The answer to question (a) is straightforward: the SUBCL is adjoined to the HEADCL (see (30)). The answer to question (b) is empirically much more complicated, as (13) shows. Elsewhere (Den Dikken 2003a), I discuss the syntax of the three patterns in (13a–c), but I am not in a position at this time to profoundly address the learnability question raised by the reviewer.

<sup>41</sup> Culicover (1999:33) claims that syntax learning and lexical learning are not significantly different: “the difference appears to be one of scale, not of type.” But as Fodor (2001:384) points out, this cannot possibly be right if, as is generally assumed, lexical learning involves rote memorization—syntax learning cannot plausibly proceed via memorization.

microscopic quirks of comparative correlatives actually follow from lexical idiosyncrasy coupled with syntactic regularity—a case in point being the ban in Hungarian on instrumental case on the relative and correlative particles of one of its comparative correlatives, which follows from (a) the representation of the syntax of the construction plus (b) the representation of lexical cases in this language as affixal prepositions.

Calling the syntax of comparative correlatives (at least partially) *sui generis*, never a particularly productive strategy in science,<sup>42</sup> leads Culicover and Jackendoff (1999) to condone a mismatch between syntax and semantics (“paratactic (i.e., quasi-coordinate) syntax with conditional semantics”; p. 551), to relegate to the semantic component binding asymmetries unexpected from the point of view of their paratactic syntax (recall footnote 14), and to admit that the fact that the second clause of the comparative correlative has “main clause force” (something not recognized by their paratactic syntax) must be a purely semantic issue as well, thus brushing aside the overwhelming amount of evidence, accumulated in recent syntactic studies within the “cartographic” paradigm (e.g., Rizzi 1997), that force is a syntactic property. Moreover, declaring the construction *sui generis* makes it a complete mystery that the comparative correlative shows the very high degree of crosslinguistic syntactic consistency that it does. As we have seen, the comparative correlative is built up of specific lexical building blocks (which may well have a distribution that is largely confined to the archaic or formulaic domain, and are therefore associated with a potentially arduous lexical learning process), but in syntax it is constructed with the aid of structure-building and movement operations that have broader, for the most part fully general applicability. Lexical quirks aside, what I have tried to argue for the comparative correlative is that the more refined our view of its spread and genesis, the less inclined we are to view it as *sui generis*.

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<sup>42</sup> The repeated use of *simple* and *simply* in their discussion of the virtues of their analysis (see, e.g., pp. 560–561) seems to suggest that Culicover and Jackendoff believe that “simply” stating that (certain syntactic aspects of) comparative correlatives are *sui generis* makes for a simpler account of these constructions and their syntactic properties (a “simpler syntax,” as per the title of Culicover and Jackendoff 2005). See Fodor 2001 for critical discussion (with reference to Culicover 1999, where the same belief surfaces), which I will not repeat here.

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