On the Nature of Comparative Subclauses: A Crosslinguistic Approach

A hasonlító mellékmondatok szintaktikai természetéről: Nyelvközi vizsgálat

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Eötvös Loránd Tudományegyetem
Budapest, 2010
The aim of this thesis is to examine the syntactic nature of comparative subclauses within a Minimalist framework, partly considering the relevant results of standard Government and Binding Theory as well. My primary aim is to prove that comparatives should be treated as subordinating structures and not as coordinated conjuncts.

Although comparative subclauses are traditionally treated as subordinate, the possibility has been raised in the secondary literature to analyse it rather as a conjunct coordinated with the matrix clause, and to consider comparatives as hybrid constructions. Thus, the subclause is indeed base-generated within the Quantifier Phrase in the matrix clause but is to be coordinated with the matrix clause during the derivation, and the structure is finally interpreted as coordination. First and foremost, with the help of coordination this model aims at explaining deletion phenomena within the comparative subclause (Comparative Deletion and Comparative Ellipsis), which, according to the fundamental hypothesis for the model, van only be conditioned within a strictly symmetric, isomorphic structure.

However, the crosslinguistic approach discussed in my paper shows that the prerequisites for a coordination analysis are not satisfied in comparatives, and therefore subordination should be considered as the universal structure for comparatives. In my thesis I will elaborate on the (mostly) language-specific phenomena refuting the idea of comparative coordination, such as phrasal comparison, word order in the subclause, or extraposition. At the end of the paper I will also show that coordination is not indispensible for conditioning deletion phenomena, since their exists deletion, similar to that found in comparatives, in clearly subordinate (adjoined) structures as well.
ACKNOWLEDGEMENTS

I would like to thank my supervisor, Gergely Kántor, who provided me with helpful pieces of advice during my research, and without whose encouragement this thesis could not have been written.

For their comments on the final and previous version of the paper, I am highly grateful to Mark Newson, László Varga, Krisztina Szécsényi, and Márton Sóskuthy. Special thanks to Marianna Hordós, Lajos Marosán, Péter Szigetvári, Ádám Nádasdy, and András Imrényi for their useful remarks on the departmental presentation. For his questions and suggestions for my talk given at the 19th National Conference of the Students’ Scholarly Circles (2009, Szeged), I would like to thank István Kenesei.

I also owe many thanks to János Fodor and Rudolf Szentgyörgyi for calling my attention to the Old Hungarian and present-day dialectal Hungarian data.

Last but not least, I would like to thank Vivienne Agrillo for her indispensable help with the Italian data.
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1. INTRODUCTION

Although comparatives are traditionally treated as subordinate structures, it has been proposed (Lechner 1999: 183–193; 2004: 185–198) that they rather resemble coordination and should be analyzed accordingly. However, various cross-linguistic phenomena show that a coordination analysis cannot be universally applied to comparative structures as they conflict with the assumptions on which Lechner’s theory is based. The aim of this thesis is to prove that comparatives are always subordinate structures and that a coordination analysis is fundamentally flawed.

The paper is divided into nine major sections. In section 2 the main arguments for subordination will be considered; the third section will briefly describe Lechner’s coordination proposal. Sections 4–9 concentrate on specific issues of comparatives, showing the impossibility of applying a coordination analysis. Finally, section 10 will argue that coordination is not necessary to account for ellipsis in comparatives.
2. COMPARATIVES AS SUBORDINATION

Let us begin with a general characterization of comparative structures. Consider:

(1) Peter is more intelligent than John.

The structure of comparatives consists of two major parts: the matrix clause (*Peter is more intelligent*) expresses the reference value of the comparison and the comparative subclause (*than John*) expresses the standard value. Their relation can be described in the following way (based on Kántor 2008: 97; see also Lechner 2004: 53–56; for the semantics of comparison, see Kennedy in press: 1–3).

The structure of the string *more intelligent than John* is shown below:

```
QP
  Q'
    Q
      DegP
        much
        AP
          Deg
            Deg'
              than-XP
                (to be specified later)
                than Peter

  AP
    Deg
      -er
```

The reference value is expressed in the matrix clause by a DegP, headed by the Deg head *-er* in English and *-bb* in Hungarian, which – being a bound morpheme – morphologically merges with the adjective/adverb in the Specifier in morphological comparatives (e.g. *taller*; see also Abney 1987: 189–204; Corver 1990: 34) or moves up to the Q head in periphrastic comparatives (e.g. *more intelligent*; see Kántor 2008: 100)\(^1\). The Specifier of the DegP hosts an AdjP/AdvP, which gives the semantic dimension of

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\(^1\) The existence of the QP layer is obviously necessary, as shown by periphrastic comparatives, where the element *-er* (the original Deg head) ultimately precedes the AP (see Kántor 2008: 99–101).
comparison (Kántor in 2008: 97; see also Lechner 1999: 25); the Complement of the Deg head expresses the standard value and is realized by the than-clause (see Bhatt–Pancheva 2004: 2–6), which is generally taken to be a CP in English (see Kántor 2008: 101).

There are various reasons to believe that the than-clause is base-generated as a complement of the Deg head. First, the presence of the element expressing the standard value is obligatory (Kántor 2008: 100) as the Deg head takes two arguments. Second, the Deg head imposes selectional restrictions on the complement: as shown in (3), differential comparatives (comparatives with -er) co-occur with a subclause introduced by than (see also Bhatt–Pancheva 2004: 3):

(3) Mary is more intelligent than/*that/*if Peter (is).

The Deg head imposes a restriction on the following CP: it has to have comparative force and as the only [+ COMP] C head in English is than, any other complementiser (heading a CP in the declarative, interrogative etc. force) is inappropriate (see Rizzi 1999: 1 on force).

Comparatives fall into two major types: clausal and phrasal comparatives (see also Kántor 2008: 101–102). The English than-XP is a clause, as exemplified by (4a):

\[ (4a) \text{Mary is more intelligent than Peter.} \]

---

2 Note that the presence of arguments may remain implicit. Consider (i), where the standard value (than it was before) is not expressed explicitly:

(i) My admiration for him is greater since I met him in person (than it was before).

This phenomenon is not restricted to comparatives; for instance, a transitive verb like eat may appear without an explicit object:

(ii) Ann is eating.

3 We adopt Rizzi’s view that there are several kinds of force other than declarative and interrogative; they show syntactic differences. As Rizzi (1997: 283) argues, ‘Force is expressed sometimes by overt morphological encoding on the head (special C morphology for declaratives, questions, relatives, etc.), sometimes by simply providing the structure to host an operator of the required kind, sometimes by both means (…). See also Cheng (1991), Sportiche (1996), Bayer (2004).
(4a) George wrote more books than Andrew read.
(4b) George read more books than Andrew.
(4c) George read more books than Andrew read d-many books.
(4d) George read more books than Andrew did.

Although *than* is followed by the single DP *Andrew* in (4b), it is underlyingly still clausal since the full clause can be recovered, as shown in (4c); and *do*-insertion is possible for replacing the elided VP, as shown in (4d).\(^4\) The final structure of (4b) is derived from that of (4c), by means of two operations, both of which take place in overt syntax. One is Comparative Deletion (CD), whereby the gradable property of the *than*-XP (which is in our case *d-many books*) is deleted (Lechner 2001: 1; Bresnan 1973: 317–342, Kennedy 1998: 1) The other is Comparative Ellipsis (CE), which deletes all the other elements that can be recovered from the matrix clause (Lechner 2001: 2; Bierwisch 1989; Bresnan 1973; McCawley 1988; Pinkham 1985).

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\(^4\) In some cases, *than* is followed by a DP in the Accusative Case:

(i) He is taller than me.

As Newson (2008: 3) argues, in English the Default Case is the Accusative, which means that in the absence of a Case assigner, DPs are in the Accusative Case. This is so for instance in Small Clauses, where the I head fails to assigns Nominative Case to [Spec; IP], see also Carnie (2002: 149–150).
As was already mentioned in the introduction, Lechner (1999: 183–193) proposed that comparatives are coordinated structures. His claim is that the comparative subclause is base-generated as a subordinate clause, but it is then adjoined via rightward movement to the matrix clause, ending ultimately in coordination. Let us first see the syntactic representation of this hypothesis. According to Lechner (1999: 189; 2004:187–189), the initial structure of a comparative sentence would be like the one in (5b), whereas the final structure derived by rightward movement would be like the one in (5c), the representation I am going to refute (note that Lechner does not suggest that the than-XP should be a CP, therefore he works with IP coordination; on the other hand, he uses ternary branching, which I will adopt in the representations to show which elements are in the same depth):

(5a) George read more books than Andrew.

(5b)

\[
\text{IP} \\
\text{DP} \quad \text{VP} \\
\text{George} \quad \text{read} \quad \text{DP} \\
\text{more books} \\
\text{than-XP} \\
\text{than} \quad \text{IP} \\
\text{Andrew read many books}
\]

(5c)

\[
\text{IP} \\
\text{IP} \\
\text{DP} \quad \text{VP} \\
\text{George} \quad \text{read} \quad \text{DP} \\
\text{more books} \\
\text{IP} \\
\text{than} \\
\text{IP} \\
\text{DP} \quad \text{VP} \\
\text{Andrew} \quad \text{read} \quad \text{DP} \\
\text{d-many books}
\]
Originally, ‘the than-XP is base-generated as the complement position of the degree head’ in the matrix clause (Lechner 1999: 189), which is a structure similar to (2). However, the than-XP is then forced to be extraposed to the right and be adjoined to the matrix IP node by a movement process called than-XP Raising (TR) and ‘is reinterpreted as part of a coordinate structure’ (Lechner 1999: 190). In other words, TR causes the element than to act as a coordinator between the original matrix clause and the original subordinate clause. Comparative Deletion and Comparative Ellipsis operate after TR has applied; i.e., when the two clauses are coordinated.

As Lechner states: ‘comparatives have to be treated as hybrid constructions with properties of both sub- and coordination’ (Lechner 1999: 183; see also Moltmann 1992, Smith 1961). In other words, subordination in Lechner’s concept only serves to generate the structure but does not impose any specific characteristics on the subclause, which is in turn a structure essentially similar to the matrix clause with which it is – and in fact has to be – coordinated. Hybrid nature means that even if the than-clause is base-generated as a subordinate clause, it is at the same time base-generated so that it may be coordinated, i.e. coordination is an essential part of the derivation (Lechner 1999: 190). Moreover, it is actually a more vital part than subordination since comparatives are, according to Lechner, interpreted as coordinate structures.

The IP that takes part in coordination5 is not necessarily the topmost one: Lechner claims that whenever there is ambiguity in comparatives, as in (6a), this can be explained in

\[\text{(6a)} \] I want to have a dog and/or a cat. (DPs)

\[\text{(6b)} \] I can resist everything but temptation. (DPs)

\[\text{(6c)} \] The house should be painted yellow and/or green. (AdjPs)

\[\text{(6d)} \] The house is new but comfortable. (AdjPs)

\[\text{(6e)} \] She drives fast and/or recklessly. (AdvPs)

\[\text{(6f)} \] She was driving slowly but recklessly. (AdvPs)

\[\text{(6g)} \] Mary cleaned the windows and/or she did the washing up. (IPs)

\[\text{(6h)} \] Mary did not clean the windows but she did the washing up. (IPs)

5 Of course, the idea that than should be treated as a coordinator also rises the problem that it is restricted to conjoin IPs (or, at most, CPs). In ordinary coordination, such restrictions do not hold; compare:

(i) I want to have a dog and/or a cat. (DPs)
(ii) I can resist everything but temptation. (DPs)
(iii) The house should be painted yellow and/or green. (AdjPs)
(iv) The house is new but comfortable. (AdjPs)
(v) She drives fast and/or recklessly. (AdvPs)
(vi) She was driving slowly but recklessly. (AdvPs)
(vii) Mary cleaned the windows and/or she did the washing up. (IPs)
(viii) Mary did not clean the windows but she did the washing up. (IPs)
terms of Isomorphism. Isomorphism means that the two coordinated clauses must have a strictly parallel structure: ‘the antecedent and the Gap have to be embedded at the same depth’ (Lechner 2004: 104, based on Hankamer 1971, 1979, Hudson 1976, Sag 1976). As a result, whenever there is ambiguity, it can be traced back to the fact that the than-XP may be adjoined to two different IPs and there are therefore two competing structures when it comes to interpretation (see Lechner 1999: 187): either the higher IPs are coordinated, as in (6b) or the lower ones, as in (6c):

(6a) George wanted to read more books than Andrew.

(6b) [George wanted to read more books] than [Andrew wanted to read many books].

(6c) George wanted [to read more books] than [Andrew read many books].

In order to derive coordinate structures, the than-XP always has to be a clause, otherwise it could not be coordinated with an IP since Isomorphism would be violated. Isomorphism in Lechner’s system does not only account for possible ambiguities but it also makes deletion and ellipsis possible: elements in the second clause may be deleted if they have an antecedent in the first clause in the same depth. On the other hand, it is Isomorphism (or strict parallelism) that provides a ground for coordination at all.

To sum up what has been said about Lechner’s theory so far, it can be concluded that his proposal is based on the assumption that the two clauses show a rather strict structural parallelism. Thus, in order to analyse comparatives universally as coordinate structures, four major factors have to be observed:

---

6 This is a problem inasmuch as in some languages (for instance in Hungarian and Italian) there seem to exist phrasal comparatives as well. Lechner claims that phrasal comparatives are actually reduced clausal comparatives (Lechner 2001; 1999: 138–141; 2004: 124–127) but this, as we shall see in section 4, cannot be maintained in cross-linguistic terms.
(i) The XP following than must be a clause.

(ii) The than-XP must not show syntactic phenomena restricted to subordinate clauses.

(iii) The deleted elements must be in the same depth as their antecedents.

(iv) There must be a possible coordinator.

However, various cross-linguistic phenomena violate these constraints and suggest that comparatives are always subordinate structures. (i) and (iv) are questioned by phrasal comparatives, as will be discussed in section 4; (ii) is neglected by comparatives that are either relative clauses, or are in the subjunctive or show a word order restricted to subordinate clauses: these issues are to be dealt with in sections 5, 6 and 7 respectively. (iii) is cast into doubt both by subclauses with a specific word order and by comparatives containing intervening clauses, as shown in sections 7 and 9.
4. PHRASAL COMPARISON

Although in most cases the *than*-XP is a clause, in some languages it is also possible to have phrasal comparison, which refutes the idea of coordinating two clauses and having an element serve as a conjunction between these clauses too.

Consider the following examples; (7a) is from Italian, (7b) is from contemporary standard Hungarian, whereas (7c) is characteristic of certain Hungarian dialects and of Old Hungarian and (7d) is an example from Old Hungarian (see Horváth 2003: 459):

(7a) Maria è piú alta di me.
   Mary be-3rd Sg. Pres. Ind. more tall-Fem. Sg.of I-Acc.
   ‘Mary is taller than me.’

(7b) Mari magasabb Péternél.
   Mary taller Peter-Ade.
   ‘Mary is taller than Peter.’

(7c) Mari magasabb Pétertől.
   Mary taller Peter-Abl.
   ‘Mary is taller than Peter.’

(7d) Jobb te írgalmasságod életek felett.
   better you mercy lives above
   ‘Your mercy is more important than life.’
   (Before 1494; Festetics Codex. 29; ex. from Horváth 2003: 459)

Let us begin with (7a). The element *di*, which follows the QP (*piú alta*) is the equivalent of the English *than*; however, it is not a complementizer but a preposition. It must be mentioned that there are two distinct *di* elements in Italian: one is a complementizer introducing non-finite clauses (Rizzi 1999: 2), – the other is a preposition taking DP complements. That *di* is a preposition in comparatives is supported by two facts. First, it exclusively takes DP complements; second, it assigns Accusative Case to its DP complement (see Burzio 1986: 115). This is contrary to the properties of the C° *di*, which introduces a clause with a PRO subject (Rizzi 1997: 305) and hence cannot govern – and assign case to a DP in – the subject position. The behaviour of the prepositional *di* is illustrated below:
(8) Maria è fiera di te.

Mary be-3rd Sg. Pres. Ind. proud-Fem. Sg. of you-Acc.

‘Mary is proud of you.’

The claim is that, as the preposition di takes only DP complements, to which it assigns Case, we have an instance of phrasal and not clausal comparison. This is quite similar to Hungarian phrasal comparatives as shown in (7b)–(7d). The Hungarian DPs Péternél and Pétertől are instances of bare DPs standing for the comparative subclause: the standard value is expressed by morphologically inherent Case (Kántor 2008: 100; see also Kenesei 1992b: 42) – Adessive in (7b) and Ablative in (7c). In (7d) we have – as in Italian – a PP: according to É. Kiss (2002: 188–190), postpositional phrases are like PPs, so the DP életek is originally the complement of the P head felett, the latter acting as a comparative conjunction.7

The Italian and Hungarian data reinforce the two most obvious problems with phrasal comparison for a coordination analysis. First, DPs with morphologically inherent Case or DPs taken by P heads cannot be extended into a clause and therefore there is no clause to be coordinated; the relationship between the P head and the DP is such that they cannot be separated as a coordinating conjunction and an element in the second conjunct; as for inherent Case assignment, there is no possible separation at all. Second, there is no element that could act as a coordinating conjunction: this is clearly ruled out for inherent case assignment.8 On the other hand, me in (7a) and Péternél in (7b) both correspond to the subject of the clause, which in a coordination analysis would mean that they should be located in [Spec; IP]. This is highly problematic because then the subject of the second coordinated conjunct would be assigned Accusative/inherent Adessive Case.

7 In fact, an alternative analysis for DPs like Péternél is to assign them the following structure:

(i) [KP -nél [DP Péter]]

In this analysis, the counterpart of the English than is represented by a K head, which as a bound affix will be lowered and attached to the rightmost element of its complement DP (Bartos 2000: 700–701).

8 Even if we purport that there should be a K head, there is still no possible coordinator available: bound morphemes in Hungarian cannot act so. Note that this would be contrary to the fact that coordinating conjunctions cannot be found in the left conjunct as they form one phonological phrase with the right conjunct (Bánréti 1992: 736–738).
It can be concluded that phrasal comparison – by violating two criteria for a coordination analysis – refutes the idea that comparatives must be universally analyzed as coordinate structures.
5. RELATIVE CLAUSES

As stated at the start of this paper, the so-called hybrid nature of comparative subclauses is based on the assumption that although the than-XP is base-generated as a subclause, it has no special characteristics that would determine its nature as a subordinate clause. This cannot be maintained in the case of certain comparative clauses which have a structure of relative clauses: in these instances, the Deg head – just as in phrasal comparatives – takes a phrasal complement, to which the comparative subclause is adjoined. Besides presenting a structure impossible for coordination, these clauses also violate Isomorphism.

Consider the following sentence from Italian:

(9) Maria ama Giorgio più di quanto Susanna

‘Mary loves George more than Susan loves you.’

As can be seen, di – as opposed to what I have been dealing with so far – takes a complement other than a single DP. This is, however, a regular phenomenon shown by Italian prepositions, such as su and da in (10):

(10a) Sono d’accordo su quanto dici.

‘I agree with what you say.’

(10b) Era diverso da quanto i medici hanno detto.

‘It was different from what the doctors said.’

The examples in (10) – together with (9) – are instances of headless relative clauses.

Below are some English instances of headless relatives:
(11a) I agree with what you say.
(11b) What he says and what he means are not necessarily the same.

Headless relatives lack the presence of a modified noun in the matrix clause; however, they themselves behave as nominal expressions, as shown by their ability to be taken by P heads as in (11a) or by the fact that they show agreement in coordination as in (11b), see also Newson et al. (2006: 441) ; Vries (2002: 42). There is thus reason to purport the existence of a Ø D head to which the clause itself is adjoined (see Vries 2002: 44).

Relative clauses constitute one major type of subordinate clauses; the element combined with prepositions in Italian is either a Ø D, to which a clause beginning with quanto (‘what’) is adjoined, as in (10), or quello (‘that’ demonstrative; this may appear in the form quel). The element quello is readily combined with che both in comparatives, as in (12a) and in ordinary relative clauses taken by prepositions, as in (12b):

(12a) Roma è più bella di quello che pensassimo.
Rome be-3rd Sg. Pres. Ind. more beautiful-Fem. Sg. of that-Dem. that think-1st Pl. Past Subj.
‘Rome is more beautiful than we thought.’

(12b) Sono d’accordo su quello che dici.
be-1st Sg. Pres. Ind. agreed on that-Dem. that say-2nd Sg. Pres. Ind.
‘I agree with what you say.’

On the other hand, quanto is said to stand for quello che in itself (see Benincà–Cinque in press: 23); the combination quanto che is only marginally acceptable, in comparatives as well as in other relative clauses with prepositions:
The syntactic behaviour of *di* in Italian comparatives is thus in parallel with that of any preposition. The structure of the relative clause and the difference between *quanto* and *quello* can be illustrated in the following way:

The distribution of *quanto*/*quello* and the presence of the C head *che* are not independent; and this is due to their different syntactic status: whilst *quello* belongs essentially to the matrix clause, *quanto* is base-generated in the subclause and moves up to the Specifier position of the highest CP. If it co-occurs with *che*, however, we have a violation of the Doubly Filled Complementizer Filter, according to which the relative operator in [Spec; CP] and the C head cannot co-occur both overtly (Chomsky–Lasnik 1977: 446; Haegeman–Guéron 1999: 448). The reason why *quello che* is perfectly grammatical is that *quello* is not a
wh-operator: it heads the DP to which the comparative subclause is adjoined, whilst this DP is headed by a Ø head in the case of simple free/headless relatives.

The difference between *quello che* and *quanto*-relatives can be observed even if there is no PP projection:

(15a) Faccio quanto mi piace.
    do-1\textsuperscript{st} Sg. Pres. Ind. what I-Dat. appeal-3\textsuperscript{rd} Sg. Pres. Ind.
    ‘I do what I like.’ (*headless/free relative*)

(15b) Faccio quello che mi piace.
    do-1\textsuperscript{st} Sg. Pres. Ind. that-Dem. that I-Dat. appeal-3\textsuperscript{rd} Sg. Pres. Ind.
    ‘I do what I like.’ (*ordinary relative*)

As I have mentioned, *quello* clearly belongs to the matrix clause, which is also shown by the fact that it can appear without the CP headed by *che* in certain cases:

(16a) A: Pietro è alto 150 cm.
    Peter be-3\textsuperscript{rd} Sg. Pres. Ind. tall-Masc. 150 cm
    ‘Peter is 150 cm tall.’

    B: No, è più alto di quello/*quanto.
    no be-3\textsuperscript{rd} Sg. Pres. Ind. more tall-Masc. of that-Dem./*what
    ‘No, he is taller than that.’

(16b) A: Pietro è cambiato.
    Peter be-3\textsuperscript{rd} Sg. Pres. Ind. change-Past Part.
    ‘Peter has changed.’

    B: Sono d’accordo su quello/*quanto.
    be-1\textsuperscript{st} Sg. Pres. Ind. agreed on that-Dem./*what
    ‘I agree with that.’

As can be seen, *quello* may be a complement of the preposition *di* on its own, to which the relative clause is adjoined, as shown in (14): this relative clause carries the information about the standard value of comparison. In (16), however, *quello* points back to a degree of tallness previously mentioned in the context and hence does not require a CP adjunct. If *quello* were an operator moved to a Specifier position in the Left Periphery, this construction would not be possible, as shown by the ungrammaticality of *quanto* here.

Comparative subclauses may be realized as relative clauses in other languages as well. This is exactly the case in Hungarian (see also Kenesei 1992b: 43):
(17a) Szebb annál, mint amilyen szép az anyja
more.beautiful.that-Dem. Ade. than d-much beautiful the her.mother
volt.
be-3rd Sg. Past Ind.
‘She is more beautiful than her mother was.’

(17b) Nem értem azt, amit mondasz.
‘I do not understand what you say.’

In (17b), the matrix pronominal element is the DP azt, to which the CP amit mondasz is
adjoined; the CP adjunct is actually required by azt, in order to specify the standard value of
comparison – except when it can be derived from the previous context or when it has a deictic
function. Within this CP, the initial element amit is a relative operator, which is base-
generated as the complement of the verb mondasz. In (17a), the matrix pronominal element is
annál, which expresses the standard value. Accordingly, its relative clausal adjunct will also
be comparative in nature; this is why this CP is headed by mint, the Hungarian counterpart of
English than, which is likewise a C head (see Kenesei 1992a: 587, 1992b: 43). As a C head,
mint ‘expresses the comparative illocutionary force of the subordinate clause’ (Kántor 2006:
584; see also Rizzi 1999: 1) and requires the presence of a DegP expressing the standard
value of comparison, which is in this case amilyen szép.

What is more, the behaviour of the matrix pronominal element annál patterns with that
of quello, both being able to stand without the CP complement:

(18) A: Péter 150 cm magas.
Peter 150 cm tall
‘Peter is 150 cm tall.’
B: Nem, magasabb annál.
no taller that-Dem.Ade.
‘No, he is taller than that.’

Italian and Hungarian are not unique in having a relative clausal comparative; this is
also possible in certain dialects of English and in Slavic languages, such as Serbo-Croatian:

9 The exact position of the relative operator is unknown. See Kenesei (1992a: 586–590).
(19a) % John is taller than what Mary is.  
(Chomsky 1977: 87, ex. 51a)

(19b) Marija je viša nego što je Petar.  
   Maria is taller than what is Peter-Nom.  
   ‘Mary is taller than Peter is.’  
(Pancheva 2006: 10, ex. 23a)

As can be seen above, the comparative operator is a *wh*-operator in English (Chomsky 1977: 87) and Serbo-Croatian. Operators may be overt in Italian, as shown by headless free relatives introduced by *quanto* but they are in most cases covert; Italian in fact lacks ordinary *wh*-relatives altogether (Bianchi 2000: 57; based on Kayne 1976 and Cinque 1982).

That there is operator movement both in the case of *quanto* and *quello che* is shown by island violations. Island violations work differently in English and Italian: the two languages are distinguished by the Subjacency Parameter: whereas in English movement may maximally cross one IP, in Italian movement may maximally cross one CP (Haegeman–Guéron 1999: 631, based on Rizzi 1982: 54, 58–59), i.e. whilst in Italian it is grammatical to cross a CP, the crossing of two CP nodes will count as a violation.\(^\text{10}\) This phenomenon can be observed in comparatives as well:

\(^{10}\) Consider the following examples:

(i) tuo fratello \(_{[\text{CP} \ a \ cuì \ [\text{IP} \ mi \ domando \ [\text{CP} \ che \ storiej \ [\text{IP} \ abbiano \ raccontato \ ti, tj]]]]}\)  
   your brother to whom myself ask-1sg which stories they have told  
   (*) ‘your brother to whom I wonder which stories they have told’

(ii) *tuo fratello \(_{[\text{CP} \ a \ cuì \ [\text{IP} \ mi \ domando \ [\text{CP} \ che \ storiej \ [\text{IP} \ crede \ [\text{CP} \ t; \ che \ [Giorgio \ abbia \ raccontato \ tj, tj]]]]]}\)  
   your brother to whom myself ask-1sg which stories Paola thinks that  
   [Giorgio abbia raccontato tj, tj]]]]]  
   George have-subj-3sg told  
   (*) ‘your brother to whom I wonder which stories Paola thinks that Giorgio has told’  
(Haegeman–Guéron 1999: 631, ex. 160a&c)

As we can see, the *wh*-movement of *a cuì* in (i) crosses the *wh*-phrase *che storie* in the lower [Spec; CP], which leads to a grammatical construction in Italian, as opposed to English, where grammaticality is reduced (Haegeman–Guéron 1999: 631). In (ii), however, the movement of *a cuì* crosses both *che storie* and *che*, i.e. two CPs and the structure is therefore ruled out.
In (20a), the operator crosses only one CP node (headed by che) and the structure is therefore grammatical. In (20b), however, the operator crosses two CP nodes (the first has quando in its Specifier, the second is headed by che), which leads to ungrammaticality. The structure of (20b) is as follows:
As can be seen, there are two CPs in (20b) and the result is ungrammatical. The reason is that if quando ‘when’ moves up to the Specifier of the second CP, its movement leaves a trace in the lowest [Spec; CP] as well: thus neither the lowest nor the second [Spec; CP] is available for quanto ‘what’ as a landing site. This means that quanto should move directly to the topmost CP, which involves crossing two CPs and hence the structure is ungrammatical. The same holds for comparatives with quello che: as there is no overt operator moving here, it has to be assumed that there is a covert operator.

It can be concluded, then, that in Italian clausal comparatives the subclause expressing the standard value is a relative clause. This is already problematic for a coordination analysis since the comparative subclause then shows a phenomenon restricted to subordinate clauses.
Relative clauses are not considered as hybrid constructions, yet their structure is actually the same as that of comparative subclauses.

However, there is an even more serious problem for coordination. As shown in (14), clausal comparatives introduced by *di* do not really differ from phrasal comparatives: the difference is only within the DP taken by PP, namely that there is a CP adjoined to this DP.

The CP adjunct may have a structure parallel with that of the matrix clause; the position of *più* *di* *quello che* is nevertheless problematic. Following Lechner’s proposal, *più* should be located in the first clause and the coordinator should be *di*: in this case, however, *quello* – which obviously cannot form part of the conjunction – should be located in the second clause, together with *che*, which would result in an asymmetric structure (besides the fact that one should actually coordinate an IP and a DP with different functions, i.e. only the latter is [+COMP]; note that the coordination of a DP and CP is rejected by Lechner 2004: 44; see also Bánréti 1992: 720–721, 2007: 13):

![Syntax tree diagram](image)

Isomorphism would require that the two conjuncts have the same structure, which is obviously not satisfied in (22). An element like *d-many* (what I claim to be the comparative operator) should be in the same depth as *più* in order to be deleted, which is impossible as the VP is much lower in the second clause. One might suppose that the situation can be resolved if one does not coordinate IPs but CPs, by projecting an extra CP layer on top of the first clause as well. This, however, still does not address the issue of isomorphism:
It can be concluded that the comparative subclause is quite often realized as a relative clause in various languages, which demonstrates that the subclause has a subordinate nature lacking any properties necessary for postulating a coordinate or even a hybrid nature. Besides the fact that relative clauses are otherwise always subordinate, the presence of the matrix pronominal element also means a problem for coordination, since it cannot be placed in without violating Isomorphism.
6. SUBJUNCTIVE MOOD IN COMPARATIVES

Some comparative subclauses may be in the subjunctive mood, which is typical of subordinate clauses and therefore refutes the idea that such comparative clauses would have a hybrid nature allowing for coordination.

Consider the Italian example in (9), repeated here as (24):

(24) Maria ama Giorgio più di quanto Susanna
    Mary love-3rd Sg. Pres. Ind. George more of what Susan
    amici ama te.
    love-3rd Sg. Pres. Subj./Ind. you-Acc.

‘Mary loves George more than Susan loves you.’

As can be seen, the verb in the clause expressing the standard value is in the subjunctive mood. The subjunctive in Italian appears in subordinate clauses with only two exceptions: formal imperative clauses as in (25a) and clauses expressing wonder or uncertainty, as in (25b), see Alberti 2000: 90–91, Herczeg 1985: 309–311; the latter, though standing on its own, is introduced by the subordinating conjunction che and can thus – formally – be considered as a special instance of subordination where the matrix clause is missing:

(25a) Finisca quella lettera!
    finish-2nd Sg. Pres. Subj. that-Dem.-Fem. Sg. letter
    ‘Finish that letter!’

(25b) Che siano già partiti?
    ‘Have they already left?’

It is clear that (24) is neither imperative nor a clause expressing wonder or uncertainty. As there exists comparative illocutionary force (Rizzi 1999: 1), the subjunctive mood is most probably required by this in Italian. This is not an absolute requirement: sentences like (26b) are possible in colloquial speech; although they are marked, for some speakers they are the informal counterparts of sentences like (26a):
In Italian, there is a restriction on the appearance of the subjunctive: the subject of the matrix clause and the subject of the embedded clause have disjoint reference so that the subjunctive may appear in the embedded clause. This is exemplified in (24) and (26).

The appearance of the subjunctive in comparative subclauses is not unique to Italian. It could also appear in Old English: there was a tendency for the subclause to be in the subjunctive if the matrix clause was positive, whereas they were in the indicative if the matrix clause was negative (Traugott 1992: 264). An example for the first case is shown below:

(27) . . . for ðan þe he brycð sniðor on ðone suðdæl þonne he do for that part. it breaks-forth more on that south than it does-Subj.
on þone norðdæl on that north
‘because it (the Mediterranean [Sea]) washes more violently on the southern shore than it does on the northern’

(Or 1 1.24.24; ex. from Traugott 1992: 262, ex. 236)

This tendency changed during the Early Middle English period, when the indicative became the rule in the Midlands; in the south, however, it is found even in Chaucer’s time (Fischer 1992: 357):
(28) It is ful lasse harm to let hym pace / Than he *shende* all the
it is full less ill to let him go than he *should-Subj.* alle the
servantz in the place.
servants in the place
‘It is less ill to let him go, apace, / Than ruin all the others in the place.’

(CT I.4409–10 [1: 4401–2]; ex. from Fischer 1992: 357, ex. 428)

The use of the subjunctive in comparative subclauses shows that these clauses are
subordinate in their nature since they show a phenomenon characteristic of subordinate
clauses. A coordination analysis could scarcely account for the fact that the second – and only
the second – clause involved in coordination should be in the subjunctive.
7. WORD ORDER IN COMPARATIVE SUBCLAUSES

In some languages, such as English, the word order of comparative subclauses is not distinct from that of main clauses. Consider:

(29) I love you more than Peter loves you.

As can be seen, the word order in both clauses is SVO, which – besides the fact that there is no special subordinate word order – results in a structural parallelism ideal for coordination.

In German, however, this is not so, as the word order of the als-clause (the German equivalent of the English than-clause) is SOV:

(30a) Dieses Auto ist länger als die Parklücke
groß ist.
‘This car is longer than the parking spot is big.’

(30b) Ich esse das Brötchen schneller als
er die Fenster putzt.
‘I eat the bread faster than he cleans the windows.’

The underlying word order in German is in fact SOV: this is because the German VP (together with the IP) is always head-final (Haider 1993: 34) and in order to derive main clauses, the inflected verb moves up to the topmost C head (see Fanselow 2004a: 30, based on Den Besten 1989; Richter–Sailer 1998: 133–134). This movement is said to be blocked if the C head is filled by a complementizer – which is exactly what happens in the case of the als-comparative (Meinunger 2004: 63). Although there are instances when verb movement is permitted in subordinate clauses (Meinunger 2004: 61), this is not true the other way round: all clauses where the inflected verb is at the end of the clause are subordinate and so is the comparative subclause.
A distinctive word order in the subclause also violates Isomorphism and hence CD and CE would not be able to operate. However, they are present; given the word order shown in (30), a sentence with CD and CE has the following underlying structure:

\[(31) [\text{Ich habe} \quad \text{mehr Bücher} \quad \text{als} \quad [\text{Peter d-viel Bücher hat}].] \]
\[\text{I have-1st Sg. Pres. Ind. more books than Peter d-many books have-1st Sg. Pres. Ind.} \]

‘I have more books than Peter.’

The structure of (31) in coordination would be as follows:

As can be seen, the order of the verb (haben/hat) and the object (mehr Bücher/d-viel Bücher) is exactly the opposite in the subclause and in the matrix clause. This violates the criterion that deleted elements must be in the same depth as their antecedents in order to be deleted. Deletion and ellipsis, however, do operate and the structure does converge, which means that there is no reason for claiming that comparatives are subject to Isomorphism.

A further problem arises in connection with the above representation. As mentioned in section 3, Lechner (1999) relies on the coordination of IPs. However, given that there is V2 order in the first clause, V-to-C movement must have taken place and hence the first clause is
undoubtedly a CP. If, as shown above, one assumes the second clause (the original subclause) to be a CP as well, there will actually be an empty C head in the second conjunct to which the inflected verb hat could (and should) move. This, however, does not happen, as shown by the overt word order in (30) and thus the lack of V-to-C movement in the second conjunct is left unexplained by a coordination analysis.

The German word order found in comparative subclauses, then, would be a problem for a coordination analysis not only because it is an indication of the subordinate nature in itself, but also because the use of such word order in the second (and only in the second) clause of comparison would be unmotivated. Furthermore, the parallelism between the two clauses would also be lost, which is clearly a violation of Isomorphism that requires deleted elements to be in the same depth as their antecedents. Still, Comparative Deletion and Comparative Ellipsis do operate, which indicates that coordination – which is impossible in the case of (31) – is not a necessary step for deletion.
8. MOVEMENT (OUT) OF THE COMPARATIVE SUBCLAUSE

In some languages, either the movement of the entire comparative subclause or the extraction of some part of the subclause is permitted. This is contrary to the nature of coordination where none of the above operations is allowed as stated by Ross’s Coordinate Structure Constraint, according to which no conjunct may be moved out of a coordinate structure, nor may an element contained within a conjunct be extracted (Ross 1967: 89).

The than-XP may most easily be moved to FocP if it is expressed not by a clause but by a DP or a PP, as shown by Hungarian and Italian respectively:

(33a) PÉTERNÉL vagyok magasabb.
    Peter-Adv. be-1st Sg. Pres. Ind. taller
    ‘I am taller than PETER.’

(33b) Di PIETRO sono più alto.
    of Peter be-1st Sg. Pres. Ind. more tall-Masc. Sg.
    ‘I am taller than PETER.’

In English, the than-XP may be fronted as a contrastive topic:

(34) Than Peter, I am much taller.

In German, when motivated by focalisation, an ordinary comparative such as (35a) may change to the structure shown in (35b):

(35a) Ich bin größer als Peter.
    I be-1st Sg. Pres. Ind. taller than Peter
    ‘I am taller than Peter.’

(35b) [Als PETER,] bin ich größer __.
    than Peter be-1st Sg. Pres. Ind. I taller
    ‘I am taller than PETER.’

The structure of (35b) in a subordination analysis is as follows:
As can be seen, in a subordination analysis the CP *als Peter* acts as one constituent and therefore can be moved out from within the QP without any structural violations.

This is, however, not so in a coordination analysis. The ordinary counterpart of (35b), as represented in (35a), would have the following structure in coordination:

\[(37) \text{[Ich bin größer]} \text{ als } \text{[Peter d-größer ist].}\]

If one assumes, for the time being, that comparatives are given a coordination analysis, the following problems arise. In order to derive the structure in (35b), the second clause of coordination and the coordinator should be moved out, which is highly problematic for a number of reasons. First, since the clauses involved in comparison are supposed to form one single constituent, extracting either of them is prohibited, as stated by the Coordinate Structure Constraint. Secondly, the coordinate conjunction – which in this case should be *als* – cannot act as a coordinator if it is moved to the front of the clause. Thirdly, the extraction of [*als Peter*] triggers inversion in the first clause: the verb precedes the subject and as German is a V2 language, this means that there is one (and only one) constituent preceding it in the same clause. The elements *als* and *Peter* in a coordination analysis therefore should have their landing site in the first coordinated conjunct; moreover, they should actually be moved to the same position once there is only one constituent preceding the verb.
The above problems with focalization become even more evident in cases like (38a) and (38c) – their ordinary counterparts are shown in (38b) and (38d), respectively:

(38a) [Hübscher als sie] bin ich nicht __.
prettier than she be-1st Sg. Pres. Ind. I not
‘I am not prettier than her.’

(38b) [Ich bin nicht hübscher] als [sie d-hübsch-ist].

(38c) [Schneller als er die Fenster putzt], esse
faster than he the-Pl. windows clean-3rd Sg. Pres. Ind. eat-1st Sg. Pres. Ind.
ich nicht __.
I not
‘I do not eat faster than he cleans the windows.’

(38d) [Ich esse nicht schneller] als [er die Fenster d-schnell putzt].

Assuming that there is coordination in comparatives, in (38) an element from the first clause (hübscher or schneller), the purported coordinating conjunction (als) and the second clause would have to be fronted in a coordination analysis. As in (37), als is moved out but elements are extracted not only from the second but also from the first conjunct. This is problematic especially because – as there is again inversion in the first clause – the extracted elements are supposed to act as one single constituent preceding the verb (bin or esse). In order to do so, they should occupy the same position, which is impossible if they are not base-generated as one possible constituent, which is clearly not the case in coordination, where we would actually have movement of non-constituents (see Izvorski 1995: 2). As shown by (38c), extraction does involve the entire QP since als is followed by a CP-sized constituent (er die Fenster putzt).

In a subordination analysis, however, these elements form one XP: thus either a QP (hübscher als sie and schneller als er) or a CP (als Peter) is preposed, as in (38a), (38c) and (35b) respectively. German is relatively free in focalization: not only arguments or adjuncts but also parts of the predicate may be fronted (see Fanselow 2004b: 10):
In fact, extraposition phenomena in German prove that comparatives are subordinate rather than coordinate structures as movement in coordination would be impossible, whereas extraposition of either the *als*-clause or the QP is similar to ordinary cases of German fronting.

Extraposition thus shows that comparatives are subordinate structures: this is a phenomenon restricted to subordinate clauses and not explainable in terms of coordination as there is no appropriate landing site for the moved elements and the position of the coordinator is not retained.
9. INTERVENING CLAUSES

As I have already stated, Lechner’s coordination analysis is based on the assumption that the deleted elements in one – in this case the second – clause must be in the same depth as their antecedents in the other (the first) clause. In most cases, the comparative clauses show a parallel structure allowing this. However, the subclause may also contain a clause that has no counterpart in the matrix clause:

(40a) I love you more than you think.
(40b) Ich liebe dich mehr als du denkst.
      I love-1st Sg. Pres. Ind. you-Acc. more than you think-2nd Sg. Pres. Ind.
      ‘I love you more than you think.’
(40c) Jobban szeretlek, mint gondolnád.
      ‘I love you more than you think.’
(40d) Ti amo più di quanto pensi.
      ‘I love you more than you think.’

The underlying structure of (40a) is as follows:

(41) [I love you more] than you think that [I love you d-much].

Clearly, this would result in an asymmetric structure:
Since the two bracketed IPs in (41) are not in the same depth, it is not possible to account for the fact that the CP taken by the verb think is entirely deleted. There is a reason to claim that this clause exists; the verb think subcategorizes for a complement, which is in most cases a CP. Since the complement is not overt in PF, it must be recoverable from the previous clause, which in this case means that it is the IP I love you, as it is suggested by the meaning of the sentences as well.

Hungarian data show the existence of this CP more straightforwardly. The verb gondolkodni has objective conjugation, which indicates that it does take a definite XP, in this case an object clause (see É. Kiss 2003: 49, 52). Furthermore, the comparative operator may be overt in Hungarian:
(43) Jobban szeretlek, mint amennyire gondolnád.
more love-1sg.pres.ind. you than much think-2nd sg.pres.cond.def.
‘I love you more than you think.’

The operator *amennyire* must be base-generated in the CP selected by *gondolnád*, since the degree of loving (reference value) is not compared to the degree of thinking but to the degree of love the addressee presupposes on the speaker’s part. The operator is thus base-generated as an adjunct of the verb in the lowest CP and then regularly moves up to the highest [Spec; CP] following the complementizer *mint*.

It may be concluded that in some comparative constructions the subclause contains a clause that would act as an intervening string of elements in a coordination analysis: the elements to be deleted would not have their antecedents in the same depth and therefore deletion could not take place. This is on the other hand not problematic in a subordination analysis, which again proves that comparative structures are always subordinate.
10. DELETION WITHOUT COORDINATION

In the previous sections I showed Lechner’s analysis to be inadequate to account for the structure of comparatives in various languages, from which it follows that comparatives should be analyzed as subordinate and not as hybrid structures. The main argument for coordination and TR (than-XP Raising) would be the possibility of accounting for Comparative Deletion and Comparative Ellipsis. As has been seen, in a number of cases this possibility is already lost. The question arises whether we have deletion in subordinate structures besides comparatives.

Consider the following:

(44) She thought that he would go abroad [PP before being asked to go abroad].

In the example above, deletion takes place within the PP headed by before, which is adjoined to the VP. The structure can be represented in the following way:
As can be seen, the VP go abroad is deleted within the clause taken by the P head before; this PP is, however, an adjunct of the VP in the matrix clause, which means that there would be no reason to suppose that there is a coordinate structure responsible for deletion. Similarly, in comparatives we have a QP adjunct in the matrix clause, within which CD and CE may take place. If deletion is possible in non-coordinate structures as well, TR is actually unnecessary to account for CD and CE. Therefore, I claim that there is no need to analyse comparatives as hybrid structures but they should be treated purely as subordinate structures.
11. CONCLUSION

The aim of this essay was to prove that comparatives are always subordinate structures and that the proposal made by Lechner (1999) for a coordination analysis cannot be maintained in the light of various cross-linguistic data. It was shown that the major assumptions on which Lechner’s theory is based are in fact all violated and therefore it would be highly problematic to consider comparatives as coordinate, not even as hybrid constructions. On the other hand, there is ample evidence that comparatives resemble typical subordinate structures and the problematic points for coordination can easily be accommodated into the framework of a subordination analysis. Moreover, the main argument in favour of coordination is also lost as deletion in obviously non-coordinate constructions happens similarly to comparatives, which means that the necessity for coordination is removed. To conclude, comparatives should universally be analysed as subordinate structures.
REFERENCES


