Phrasal and clausal comparatives: the *di* vs. *che* puzzle in Italian

Brian Buccola
McGill University
brian.buccola@mail.mcgill.ca

TOM 4, Toronto
April 9, 2011

1 Some preliminaries

1.1 Phrasal & clausal comparatives

Semanticists are divided over whether phrasal comparatives like (1) are base-generated (**Direct Analysis**), or whether they're derived from a clausal source like (2) via some deletion process (**Reduction Analysis**).

(1) Jupiter is larger than Pluto.

(2) Jupiter is larger than Pluto is ⟨large⟩.

Lechner (2001, 2004) has argued, based on English & German, that all phrasals are actually clausals reduced by Conjunction Reduction operations.

Bhatt & Takahashi (2007) (B&T) have presented evidence that Hindi-Urdu has *only* phrasals.

Merchant (2009) has proposed that Greek has both, distinguished by different standard markers.

There seems to be no consensus, or perhaps much variation. So what about Italian?

1.2 Italian comparative basics

The Italian comparative morpheme is *più*, and there are two standard markers. In general, *di* is used when the associate is a subject DP; *che* is used otherwise.

(3) **Marco** ha letto più <u>libri</u> {di **Luca** / che <u>giornali</u>}.
Marco has read more books {*di* Luca / *che* magazines}
'Marco has read more books {than Luca / than magazines}.'

Clausal comparatives are formed with *di quanto*. *Quanto* means 'how much' or 'how many', and I assume it's the overt realization of the comparative operator proposed in Chomsky (1977).[1]

(4) Marco ha letto più libri di quanti (non) ne abbia letti Luca.
Marco has read more books *di* how-many (not) of-them has.subj read.pl Luca
'Marco has read more books than Luca has.'

---

[1]Clausal comparatives standardly require the subjunctive, and optionally allow *non* 'not', which I won't discuss.

The problem: I provide evidence that *di* introduces true phrasals, whereas *che* introduces reduced clausals. Curiously, however, unreduced clausals always have *di quanto*, not **che quanto*.

Towards a solution: I conclude that *di* is a normal preposition introducing a true phrasal denoting either a definite entity (type e) or, in the case of *di quanto*, a definite degree (type d). Under this account, comparative *quanto* clauses are irreducible free relatives. Comparative *che* introduces a reduced clausal whose full clausal source is never pronounced.

1.3 Some standard assumptions

Adjectives relate individuals and degrees (type $\langle d, \langle e,t \rangle \rangle$) and *than*-clauses involve fronting of a wh-operator. Following B&T, the comparative morpheme *-er* (*più* in Italian) in reduced and unreduced clausals is a 2-place predicate, and in phrasals 3-place.

(5) *Reduced & unreduced clausals (Reduction Analysis)*
    a. $[\![\text{-er}_{\text{2-place}}]\!] = \lambda P_{\langle d,t \rangle}.\lambda Q_{\langle d,t \rangle}.\max(Q) > \max(P)$
    b. $[_{\text{DegP}}$ -er$_{\text{2-place}}$ [than OP [λd.Pluto is d-large]]] [λd.Jupiter is d-large]

(6) *Phrasals (Direct Analysis)*
    a. $[\![\text{-er}_{\text{3-place}}]\!] = \lambda x_e.\lambda P_{\langle d,et \rangle}.\lambda y_e.\exists d[P(y,d) \wedge \neg P(x,d)]$
    b. Jupiter$_1$ is [$_{\text{AP}}$ t$_1$ [[$_{\text{DegP}}$ -er$_{\text{3-place}}$ [than Pluto]] [$_{\text{A}^0}$ large]]]
    c. Jupiter$_1$ is [$_{\text{DegP}}$ -er$_{\text{3-place}}$ [than Pluto]$_2$ [$_{\text{AP}}$ t$_1$ [t$_2$ [$_{\text{A}^0}$ tall]]]]
    d. Jupiter is [$_{\text{DegP}}$ -er$_{\text{3-place}}$ [than Pluto] [$\lambda d.\lambda x.x$ is d-tall]]

2 Comparative *di*

2.1 Arguments for prepositionhood

Below I give arguments that comparative *di* is best analyzed as a simple preposition.[2]

· Italian already has a homophonous preposition *di* meaning 'of, from, about, by'.

· The types of phrases that comparative *di* introduces are exactly those that the preposition *di* introduces; namely, DPs, infinitives, deictic adverbs, and QPs.[3]

· Italian does not allow preposition stranding, nor does it allow comparative *di* to be stranded.

(7) a. *Chi è l'amico   di?
       who is the-friend of
       'Who is he the friend of? / Whose friend is he?'
    b. *Chi è più   bello   di?
       who is more beautiful *di*
       'Who is he more beautiful than?'

---

[2]The idea goes back to at least Napoli & Nespor (1986). See also Merchant's (2009) proposal regarding Greek *apo*.
[3]Recall, however, that for comparative *di* to be used, these phrases must be compared to an associate that is the subject of the sentence, as in *Oggi è più caldo di ieri*, '**Today** is hotter than yesterday' (deictic adverb).

· The clitic *ne*, which refers to a phrase introduced by the preposition *di* (cf. French *en*), can also refer to a phrase introduced by comparative *di*.

(8) a. Sono molto fiera   di lui. / Ne   sono molto fiera.
       be.1s much proud of him / of-him be.1s much proud
       'I am very proud of him.'
    b. È   migliore di lui. / Ne   è   migliore.
       be.3s better   *di* him / of-him be.3s better
       'She's better than him.'

2.2 *Arguments for a Direct Analysis*

Having established that comparative *di* is a preposition, I show how the Direct Analysis best captures the data.

· Comparative *di*, just like the preposition, always assigns accusative case.[4]

(9) Marco ha letto più   libri   di {te   / *tu}.
     Marco has read more books *di* {2s.ACC / 2s.NOM}
     'Marco has read more books than you.'

If *di* introduced a reduced clause, we'd predict **di tu* in cases where *tu* is the subject.

· When the standard and associate are coindexed, a reflexive pronoun must be used after *di*.

(10) Marco$_1$ non ha letto più   libri   di {se stesso$_1$ / *lui$_1$}.
      Marco not has read more books *di* {3s REFL   / 3s}
      'Marco has not read more books than himself.'

If *di* introduced a separate clause, the reflexive pronoun here would be unexpected.[5]

· Finally, comparative *di* can introduce only one standard. This is expected if *di* is a preposition with just one argument spot, but unexpected if *di* introduces reduced clausals: since reduction operations exist in Italian (see below), we'd expect to see multiple standards after *di*. This is not the case with *di*, but it actually is with *che*.

3 Comparative *che*

3.1 *Some arguments for coordinate conjunctionhood*

Standard markers like *than* have been shown to have properties similar to coordinate conjunctions. Following Napoli & Nespor (N&N) (1986), I give arguments that Italian *che* is best analyzed as a coordinate conjunction like *e* 'and', *o* 'or', and *ma* 'but'.

---

[4]Case marking is observable in the 1st and 2nd person singular tonic pronouns.
[5]We see the latter two phenomena in English, as well. See Lechner (2004) for ways to maintain a Reduction Analysis.

Other than comparative *che*, the following observations hold true only of coordinate conjunctions.

· Unlike *di*, comparative *che* can introduce the maximal projection of any major category, e.g. DP, AP, PP, VP, CP, QP, etc.

· The syntactic category of the standard introduced by *che* must be the same as that of the associate, and both must be phonologically present.[6]

· The standard introduced by *che* must bear the same case as the associate.

Other arguments that comparative *che* is a coordinate conjunction appeal to reduction operations, which I discuss next as part of a larger argument for a Reduction Analysis of comparative *che*.

3.2   *Arguments for a Reduction Analysis*

Lechner (2004) hypothesizes all comparative deletion processes are Conjunction Reduction operations like Gapping and Right-Node-Raising (RNR) (**CR-Hypothesis**). Following N&N, I show that *che* provides evidence for the CR-Hypothesis.

· Gapping occurs in Italian coordinate structures.

(11)   Gino ha portato i libri con la bicicletta e Luigi con la macchina.
       Gino has brought the books with the bike and Luigi with the car.
       'Gino brought the books with his bicycle and Luigi with his car.'

If comparative *che* were a coordinate, we'd expect to find gapping *che* comparatives, and we do.

(12)   Ha portato più libri Gino con la bicicletta che Luigi con la macchina.
       has.3s brought more books Gino with the bicycle *che* Luigi with the car.
       'Gino with his bicycle brought more books than Luigi with his car.'

· We find RNR in both coordinate structures and comparatives with *che*.

(13)   a.   Mi piacciono i quaderni con, e senza, le spirali.
            1s.DAT please.3PL the notebooks with and without the spirals
            'I like notebooks with and without the spirals.'
       b.   Considero interssante leggere, e scrivere, libri.
            consider.1s interesting read.INF and write.INF books
            'I consider it interesting to read and write books.'

(14)   a.   Mi piacciono i quaderni con, più che senza, le spirali.
            'I like notebooks better with than without spirals.'
       b.   Considero più interessante leggere che scrivere libri.
            'I consider it more interesting to read than to write books.'

Interim conclusion: We have good evidence that comparatives with *che* are reduced clausals requiring a Reduction Analysis, while those with *di* are true phrasals requiring a Direct Analysis.

---

[6]This is why we always see *di quanto* in full clausals, not *che quanto*: because the associate is usually (always?) something other than a *quanto*-clause.

4 Comparative *di quanto*

4.1 The problem

I've argued that *che* introduces reduced clausals, while *di* introduces true phrasals, except in the case of *di quanto*, which presumably is a full (unreduced) clausal.

But if unreduced clausals have *di quanto*, how do they get reduced to having *che*, and why can't they be reduced and keep *di*? More semantically speaking, why does the comparative morpheme combine with a degree predicate (set of degrees) in *che* and *di quanto* structures, on the one hand, but with an individual in phrasal *di* structures on the other hand?

Intuitively, it seems we should be grouping *di quanto* with *di*, not with *che*. It would be simpler if unreduced clausals had *che quanto*, and phrasals *di*. (This would somewhat mirror French & Spanish.) But that's not what we see.

4.2 Towards a solution

Following standard assumption, I said *quanto* moves to create a predicate of degrees which combines with the comparative morpheme *-er*, which then picks out the max. That is, maximization of the set comes from *-er*. However, there's evidence that *quanto*-clauses are free relatives.

(15) Mangerò quanto   vorrai.
      eat.1s.FUT how-much want.2s.FUT
      'I'll eat what(ever) / however much you want.'

Jacobson (1995) proposes that free relatives denote a definite entity, and not predicate of entities. Likewise, I propose that *quanto*-clauses in comparative structures denote definite degrees, i.e. the max of the set created by λ-abstraction, and not predicates of degrees.[7] So maximization of the set comes from the free relative structure, not from *-er*.

If this is right, then *di* introduces a definite degree, requiring that there be an *-er* that combines with a definite degree. That's exactly what we see in structures like the following.

(16) Marco è più alto di 1m.
      Marco is more tall *di* 1m.
      'Marco is taller than 1m.'

We thus have independent evidence for a degree morpheme that combines with a definite degree introduced by *di*.

If *quanto*-clauses in degree constructions denote definite degrees, then:

· Comparative *di* introduces a definite entity (type e) or definite degree (type d).

· Comparative *che* introduces a predicate of degrees.

---

[7]This idea goes back to von Stechow (1984a) and was defended in Rullmann (1995).

· Comparatives with *di* are not reduced from *di quanto*, nor are comparatives with *che*.[8]

· Comparatives with *che* are reduced clausals, but the unreduced versions are never realized.

5 Concluding remarks

I've shown that Italian comparative *di* is best treated as a preposition introducing a true phrasal comparative, and that *che* is a coordinate introducing a reduced clausal comparative. This result, however, is perplexing since unreduced clausals have *di quanto*.

I've proposed that *quanto* be treated as introducing a free relative which, in comparatives, denotes a definite degree. In this way, *di quanto* structures can be treated just like *di* with definite degrees, like *1m*.

If this is on the right track, then *di* phrasals are not derived from *di quanto*; it's just that *di* can take either a definite entity or a definite degree.

It's still puzzling how *che* can introduce reduced clausals if no unreduced versions with *che* are ever pronounced. It's also puzzling why *di quanto* clauses, even if they are free relatives, can't be reduced, since *quanto* clauses in equatives can.

6 References

Bhatt, Rajesh, and Shoichi Takahashi. To appear. Reduced and Unreduced Phrasal Comparatives. *Natural Language and Linguistic Theory*.

Chomsky, Noam. 1977. On wh-movement. In Culicover, Wasow, Akmajian (eds.) *Formal Syntax*. New York: Academic Press.

Jacobson, Pauline. 1995. On the Quantificational Force of English Free Relatives. *Quantification in Natural Languages* 2:451–486.

Lechner, Winfried. 2001. Reduced and Phrasal Comparatives. *Natural Language and Linguistic Theory* 19:683–735.

Lechner, Winfried. 2004. *Ellipsis in Comparatives*. Mouton de Gruyter.

Merchant, Jason. 2009. Phrasal and clausal comparatives in Greek and the abstractness of syntax. *Journal of Greek Linguistics* 9:134–164.

Napoli, Donna Jo, and Marina Nespor. Comparative Structures in Italian. *Language* 62.3:622–653.

Rullmann, Hotze. 1995. *Maximality in the Semantics of wh-Constructions*. Dissertation, University of Massachusetts Amherst.

Stechow, Arnim von. 1984a. Comparing Semantic Theories of Comparison. *Journal of Semantics* 3:1–77.

---

[8]Perhaps free relatives are irreducible in the ways discussed here.