

Comparative and Equative Correlatives as Anaphora to Differentials

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1. Introduction

Three contributions:

- i. there are comparative and equative correlatives that are not conditionals
(against McCawley 1988, Wold 1991, Beck 1997 among others)
- ii. their semantics crucially involves a relation – possibly the identity relation – between differentials
(against Beck 1997 among others)
- iii. a unified analysis should be (and is) given for such non-conditional, differential-based correlatives and the more familiar, conditional-like comparative correlatives
(e.g. The more aggressive a lawyer is, the more efficient s/he is)

1. Introduction

Correlatives: "biclausal topic-comment structures [in which] the dependent clause introduces one or more topical referents to be commented on by the matrix clause, where each topical referent must be picked up by – correlated with – an anaphoric proform."
(Bittner 2001)

Differentials: *2 inches*, for example, is a differential in the comparative *Gabby is 2 inches taller than Linus* because it specifies the difference between Gabby's and Linus' height.

2. Non-Conditional Comparative and Equative Correlatives

Points (i) and (ii) are established by the following Romanian comparative correlative:

(1) **Cu cât** e mai înalt fratele decât sora,
With how much is more tall brother.the than sister.the,

(tot) **cu atât** e mai înalt tatăl decât mama.
(also) with that much is more tall father.the than mother.the

‘The brother is taller than the sister by a certain amount and the father is taller than the mother by the same amount.’

2. Non-Conditional Comparative and Equative Correlatives

- (1) Cu cât e mai înalt fratele decât sora,
With how much is more tall brother.the than sister.the,
(tot) cu atât e mai înalt tatăl decât mama.
(also) with that much is more tall father.the than mother.the

(1) is true iff:

- the brother is taller than the sister and the father is taller than the mother – there is **no conditionality** (point (i)) (no "if the brother is taller than the sister, then ..." interpretation)
- the difference in height between the brother and the sister is the same as the difference in height between the father and the mother (particularly clear if the particle *tot* is present) – the correlative **equates the two differentials** (point (ii))

2. Non-Conditional Comparative and Equative Correlatives

Points (i) and (ii) are further supported by the following Romanian equative correlative:

(2) **Pe cât** e Irina **de frumoasă,**
PE how much is Irina DE beautiful,

(tot) pe atât e **de deșteaptă.**

(also) PE that much is DE smart

‘Irina is beautiful to a certain, significant extent and she is smart to the same, equally significant extent.’

2. Non-Conditional Comparative and Equative Correlatives

(2) Pe cât e Irina de frumoasă,
PE how much is Irina DE beautiful,
(tot) pe atât e de deșteaptă.
(also) PE that much is DE smart

On its most salient reading, (2) is true iff:

- Irina is (significantly) beautiful and (significantly) smart
(this is not a necessary part of the interpretation of equatives)
- the extent to which Irina is beautiful and the extent to which she is smart are in some sense equated / similar / comparable

3. Conditional Comparative and Equative Correlatives

Point (iii) (a unified analysis of non-conditional and conditional correlatives) is established by the conditional comparative correlatives in (3) and (4) below, which:

- have the same basic syntax
(modulo the overt vs. covert *than* phrases)

and

- have the same morphology
(a wh-indefinite in the topic clause and an anaphoric demonstrative in the comment clause)

as the non-conditional comparative correlative in (1).

3. Conditional Comparative and Equative Correlatives

(3) **Cu cât** e mai agresiv un avocat,

With how much is more aggressive a lawyer,

cu atât e mai eficient.

with that much is more efficient

‘The more aggressive a lawyer is, the more efficient s/he is.’

3. Conditional Comparative and Equative Correlatives

(4) **Cu** **cît** e un număr natural mai mare decât altul,
With how much is a number natural more great than another,

(#tot) **cu** **atît** e pătratul lui
(#also) **with that much** is square.the it.Gen

mai mare decât pătratul celuilalt.
more great than square.the the.other.one.Gen

‘The greater one natural number is (than another),
the greater its square is (than the square of the other one).’

3. Conditional Comparative and Equative Correlatives

- (3) Cu cât e mai agresiv un avocat,
With how much is more aggressive a lawyer,
cu atât e mai eficient.
with that much is more efficient

Moreover, the interpretations of (3) and (4) are very closely related to the interpretation of (1).

Sentence (3) has two salient readings (as Beck 1997 points out with respect to similar examples in German):

- (a) if a lawyer x is more aggressive than a lawyer y by a certain amount, then x is more efficient than y by a corresponding amount
- (b) if a lawyer x is more aggressive at time t than at time t' by a certain amount, then x is more efficient at t than at t' by a corresponding amount.

3. Conditional Comparative and Equative Correlatives

- (3) Cu cât e mai agresiv un avocat,
With how much is more aggressive a lawyer,
cu atât e mai eficient.
with that much is more efficient

Conditional comparative correlatives crucially involve a relation between differentials, just as their non-conditional counterparts, e.g. (1), do.

This is suggested by (3) and clearly shown by (4) when the particle *tot* (also) is present ...

3. Conditional Comparative and Equative Correlatives

(4) Cu cât e un număr natural mai mare decât altul,

With how much is a number natural more great than another,

(#tot) cu atât e pătratul lui

(#also) with that much is square.the it.Gen

mai mare decât pătratul celui alt.

more great than square.the the.other.one.Gen

(4) with the particle *tot* present is true iff

$$\forall m, n \in \mathbb{N} (m > n \rightarrow m - n = m^2 - n^2)$$

This is why (4) with *tot* is false and intuitively unacceptable.

3. Conditional Comparative and Equative Correlatives

- (4) Cu cât e un număr natural mai mare decât altul,
With how much is a number natural more great than another,
(#tot) cu atât e pătratul lui
(#also) with that much is square.the it.Gen
mai mare decât pătratul celui alt.
more great than square.the the.other.one.Gen

This intuitive unacceptability cannot be derived if (4) does not involve a relation between differentials.

This relation is forced by the particle *tot* to be the identity relation.

3. Conditional Comparative and Equative Correlatives

- (4) Cu cât e un număr natural mai mare decât altul,
With how much is a number natural more great than another,
(#tot) cu atât e pătratul lui
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mai mare decât pătratul celui alt.
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In contrast, (4) without the particle *tot* is intuitively true because it simply requires that:

for any two natural numbers m and n such that $m > n$, the positive difference $m - n$ corresponds to a positive difference between their squares $m^2 - n^2$.

4. Degree Correlatives as Anaphora to Differentials

The main proposal:

- i. the demonstrative differential *atît* (that much) is anaphoric to intervals, i.e. *atît* is a proform in the degree domain
- ii. the wh-differential *cît* (how much) is an indefinite introducing a non-empty interval, anaphorically retrieved by *atît*

4. Degree Correlatives as Anaphora to Differentials

The **non-conditional** comparative correlative in (1) relates **two cases / situations** (in the terminology of Lewis 1975 / Heim 1990):

- each case features two heights and their differential
- the two cases are related by means of the two differentials – and the differentials are equated

4. Degree Correlatives as Anaphora to Differentials

The interpretation of the conditional comparative correlatives in (3) and (4) is just a generalization of this basic pattern:

they do not involve a single pair of cases related by means of their respective differentials, but involve multiple pairs of such cases.

What is characterized in the literature as the **conditionality** of comparative correlatives is just the fact that they correlate **sets of pairs of cases** and not a single pair of cases.

4. Degree Correlatives as Anaphora to Differentials

Given a suitable framework, even run-of-the-mill conditionals like (5) below can be analyzed as correlative structures involving sets of cases (Brasoveanu 2007, building on Stone 1999 and Bittner 2001).

(5) If a wolf came in, it would / might eat you first.

The only difference: comparative correlatives correlate cases by means of differentials, while ordinary conditionals correlate cases by means of the possible scenarios they evoke, hence the conditionality / hypothetical reasoning present in the latter, but not (necessarily) in the former.

5. The poster and the handout

The poster and the handout provide more information about:

- conditional and non-conditional equative correlatives
- anaphoric parallels across domains – not only between the degree domain and the modal domain, but also between the degree domain and the individual domain, e.g. donkey anaphora and quantificational / modal subordination in the degree domain
- the formal analysis