

Equatives, comparatives, and polarity in Slavic

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1 Introduction

embedded degree clauses: AS-clauses (equatives) and THAN-clauses (comparatives)

- (1) a. Anthony is as tall **as** Mary is.
- b. Anthony is taller **than** Mary is.
- c. Anthony is less tall **than** Mary is.

degree semantics:

- AS-clauses: degree equality ($d=d'$)
- THAN-clauses: degree inequality ($d\neq d'$)

semantics of (1):

- (2) a. $\exists d\exists d'[\text{TALL}(a,d) \ \& \ \text{TALL}(m,d') \ \& \ (d=d')]$
- b. $\exists d\exists d'[\text{TALL}(a,d) \ \& \ \text{TALL}(m,d') \ \& \ (d>d')]$
- c. $\exists d\exists d'[\text{TALL}(a,d) \ \& \ \text{TALL}(m,d') \ \& \ (d<d')]$

relation between the degrees encoded by the matrix Deg and partially by the subclause:

- AS-clauses: both encode degree equality
- THAN-clauses: Deg encodes superiority or inferiority, subclause encodes merely degree inequality – “degree negation”

evidence: matrix degree determines choice between AS and THAN, but no subtype according to superiority/inferiority

degree negation in THAN-clauses: can also be reflected lower in the subclause comparative subclause a negative polarity environment (Seuren 1973)

- (3) She would rather die than **lift a finger** to help.

questions:

- whether degree negation has a reflex in the CP-domain
- whether and how C heads in AS-clauses and THAN-clauses differ
- whether comparative operators suffice as overt markers instead of complementisers

proposal: Slavic languages provide explicit answers to these questions

languages under scrutiny: Czech, Polish, Serbo-Croatian, Russian

2 Degree operators

equative/comparative subclauses contain relative operators as degree operators
(overt or covert; cf. Bacskai-Atkari 2014b)

these often have their interrogative counterparts – non-standard English *how*

- (4)
- How tall** is Mary?
 - %Anthony is as tall as **how tall** Mary is.
 - %Anthony is taller than **how tall** Mary is.

interrogatives: degree operator must be overt; movement to [Spec,CP]

theoretically possible configurations (cf. Bacskai-Atkari 2014a;b):

- (5)
- OP AP ...
 - OP ...AP (...)
 - OP ...

similar variation with lexical NPs

a single operator may allow more than one configuration

Slavic languages demonstrate all the following types:

- operators that always take an AP(/NP) to the [Spec,CP] – (5a)
- operators that may also strand the AP – (5a) and (5b)
- proform operators – (5c)

no stranding with Polish *jak*, cf. Borsley & Jaworska (1981: 81):

- (6)
- Jak wysoki** jest Karol?
how tall is Charles
'How tall is Charles?'
 - ***Jak** jest Karol **wysoki**?
how is Charles tall
'How tall is Charles?'

stranding allowed with Czech *jak*, Polish *jako*, Serbo-Croatian *koliko*, probably Russian *naskol'ko*

Czech:

- (7) a. **Jak vysoký** je Karel?
how tall is Charles
'How tall is Charles?'
- b. **Jak** je Karel **vysoký**?
how is Charles tall
'How tall is Charles?'

Polish (cf. Borsley & Jaworska 1981: 81):

- (8) a. **Jaki wysoki** jest Karol?
how tall is Charles
'How tall is Charles?'
- b. **Jaki** jest Karol **wysoki**?
how is Charles tall
'How tall is Charles?'

Serbo-Croatian:

- (9) a. **Koliko visok** je Petar?
how tall is Peter
'How tall is Peter?'
- b. **Koliko** je Petar **visok**?
how is Peter tall
'How tall is Peter?'

Russian:

- (10) a. ?**Naskol'ko vysok** Piter?
how tall Peter?
'How tall is Peter?'
- b. **Naskol'ko** Piter **vysok**?
how Peter tall
'How tall is Peter?'

proforms: Czech *jaký*, optionally Polish *jako*

Czech:

- (11) **Jaký** je Karel?
how is Charles
'What is Charles like?'

Polish (cf. Borsley & Jaworska 1981: 92):

- (12) **Jaki** jest Karol?
how is Charles
'What is Charles like?'

fronted *wh*-element in main clause interrogatives can only be interpreted as an operator

question: potential ambiguity of head-sized relative operators in equative/comparative subclauses between operator and C head

cf. Jäger (2010), Bacskai-Atkari (2014a) for German *wie*

expectation: ambiguity and reanalysis possible if the operator takes no AP stranding or proform patterns

3 Equatives

AS-clauses may be introduced by operators (\leftrightarrow English)
evidence for operator-status: co-occurring AP(/NP)

Czech *jak* and *jako*:

- (13) a. Ten stůl je stejně dlouhý, **jak široká** je ta kancelář.
the table is same long how wide is the office
'The table is longer than the office is wide.'
- b. Ten stůl je stejně dlouhý, **jak** je ta kancelář **široká**.
the table is same long how is the office wide
'The table is longer than the office is wide.'
- c. *Ten stůl je stejně dlouhý, **jako široká** je ta kancelář.
the table is same long as wide is the office
'The table is longer than the office is wide.'
- d. Ten stůl je stejně dlouhý, **jako** je ta kancelář **široká**.
the table is same long as is the office wide
'The table is longer than the office is wide.'

→ *jak* is an operator, *jako* is a C head

further evidence: co-occurrence with other operators:

- (14) a. *Renault stojí stejně **jak (kolik)** stojí Dacia.
Renault costs same how how.much costs Dacia
'Renault costs as much as Dacia.'
- b. ?Renault stojí stejně **jako (kolik)** stojí Dacia.
Renault costs same as how.much costs Dacia
'Renault costs as much as Dacia.'

ungrammaticality of (14a): only one degree operator allowed

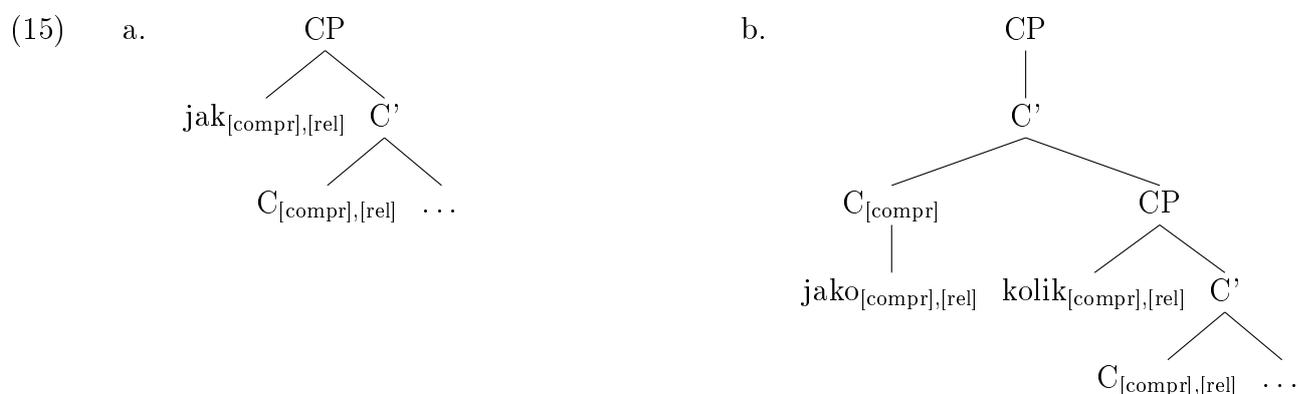
question: doubling in (14b)

proposal: split in the overt marking of semantic/syntactic properties

relevant properties in equatives: [rel] and [compr]

- [rel]: encoding the relative nature of the clause
(cf. Chomsky 1977 on comparative clauses being relative clauses)
- [compr]: encoding the equative/comparative nature of the clause

structures for *jak* and *jako*:

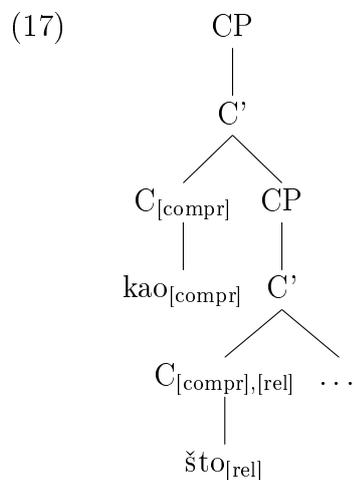


doubling: markedness due to redundancy, but a higher CP may still be generated
selection by matrix degree element

evidence for the lower CP marking [rel]: Serbo-Croatian *što*

- (16) Pavao je visok **kao što** je visok Petar.
Paul is tall as what is tall Peter
'Paul is as tall as Peter is.'

structure:



overt encoding:

- C heads:
 - both [rel] and [compr] – e.g. Czech *jak*
 - only [rel]: lower C – e.g. Serbo-Croatian *što*
 - only [compr]: higher C, always followed by another overt element in lower CP (e.g. German *als* ‘as’ historically, cf. Jäger 2010)
- operators: both [rel] and [compr]

grammaticalisation of operators: possible because they encode the relevant properties overtly, may stand alone

equatives in Polish (cf. Borsley & Jaworska 1981):

- (18)
- a. Maria jest tak wysoka **jak** **wysoki** był Karol.
Mary is as tall how tall was Charles
‘Mary is as tall as Charles was.’
 - b. Maria jest tak wysoka **jak** Karol był **wysoki**.
Mary is as tall how Charles was tall
‘Mary is as tall as Charles was.’
 - c. Maria jest taka wysoka **jaki** **wysoki** był Karol.
Mary is as tall how tall was Charles
‘Mary is as tall as Charles was.’
 - d. Maria jest taka wysoka **jaki** Karol był **wysoki**.
Mary is as tall how Charles was tall
‘Mary is as tall as Charles was.’

the behaviour of *jako* is expected on the basis of its behaviour as an interrogative operator, see (8) – similar to Czech *jak*

behaviour of *jak* in (18b) unexpected: stranding possible ↔ interrogatives

also: *jak* appears on its own in elliptical clauses:

- (19)
- Maria jest tak wysoka **jak** Karol.
Mary is as tall how Charles
‘Mary is as tall as Charles.’

↔ *jak* demonstrates a first step towards reanalysis, but reanalysis is not complete

complete reanalysis: Czech *jako*, Serbo-Croatian *kao* and *koliko*, possibly Russian *kak*

Serbo-Croatian *koliko* in AS-clauses different from interrogative operator:

- (20) a. Pavao je visok **koliko** je Petar **visok**.
Paul is tall as is Peter tall
'Paul is as tall as Peter.'
- b. *Pavao je visok **koliko visok** je Petar.
Paul is tall as tall is Peter
'Paul is as tall as Peter.'

hence: operators show various stages with respect to reanalysis in Slavic

4 Comparatives

THAN-clauses have to express degree negation in addition to [rel] and [compr] – [d-neg]

comparative operator cannot encode this property: not a negative operator

- cross-linguistic evidence: [d-neg] marked by the C head above operator – double CPs
- C head encoding [d-neg] has to be overt – negative polarity/negation marked morphologically (Dryer 2013)

comparative complementiser: often morphologically transparently negative

Czech *než*, Polish *niż*, Serbo-Croatian *nego* and *no*

overt operator not always allowed – Polish (cf. Bacskai-Atkari 2015)

recall: no doubling in equatives either):

- (21) a. Maria jest wyższa **niż** Karol.
Mary is taller than Charles
'Mary is taller than Charles.'
- b. *Maria jest wyższa **niż jak wysoki** był Karol.
Mary is taller than how tall was Charles
'Mary is taller than Charles was.'

C head + operator combination possible in Czech (cf. Bacskai-Atkari 2015):

- (22) a. ?Ten stůl je delší, **než jak široká** je ta kancelář.
the table is longer than how wide is the office
'The table is longer than the office is wide.'
- b. Ten stůl je delší, **než jak** je ta kancelář **široká**.
the table is longer than how is the office wide
'The table is longer than the office is wide.'

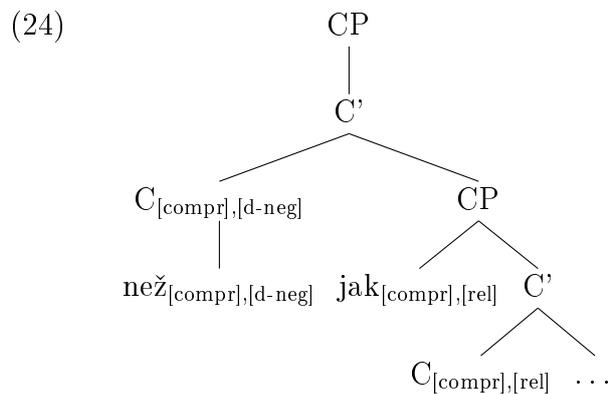
presence of *než* obligatory:

- (23) a. *Ten stůl je delší, **jak široká** je ta kancelář.
 the table is longer how wide is the office
 ‘The table is longer than the office is wide.’
- b. *Ten stůl je delší, **jak** je ta kancelář **široká**.
 the table is longer how is the office wide
 ‘The table is longer than the office is wide.’

Czech pattern expected:

- behaviour of *jak* expected on the basis of its behaviour in interrogatives and in AS-clauses
- behaviour of *než* expected cross-linguistically: encoding of [d-neg] has to be on the head, and overt marker has to be overt

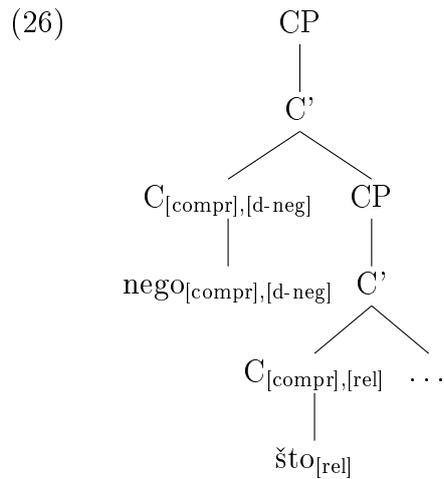
structure:



lower C head again can be merely [rel] – evidence from Serbo-Croatian:

- (25) a. Pavao je viši **nego što** je Petar.
 Paul is taller than what is Peter
 ‘Paul is taller than Peter.’
- b. Pavao je viši **no što** je Petar.
 Paul is taller than what is Peter
 ‘Paul is taller than Peter.’

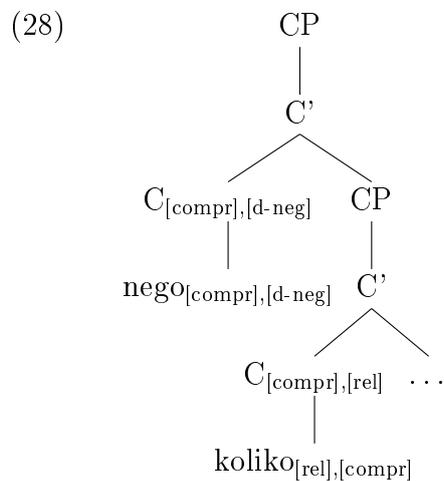
structure:



two comparative C heads also possible – Serbo-Croatian *koliko* as a lower C:

- (27)
- a. ?Pavao je viši **nego koliko** je Petar.
 Paul is taller than as is Peter
 ‘Paul is taller than Peter.’
- b. *Pavao je viši **nego koliko visok** je Petar.
 Paul is taller than as tall is Peter
 ‘Paul is taller than Peter.’

structure:



complementiser *nego* or *no* obligatory

Serbo-Croatian pattern expected:

- behaviour of *koliko* expected on the basis of its behaviour in AS-clauses, as opposed to interrogatives: already a grammaticalised C head
- behaviour of *nego* and *no* expected cross-linguistically: encoding of [d-neg] has to be on the head, and overt marker has to be overt

overt marking (so far):

- comparative complementiser – Polish *níž*, Russian *chem*, Czech *než*, Serbo-Croatian *nego* and *no*
- operator in addition to comparative complementiser – Czech *jak*
- lower complementiser in addition to regular comparative complementiser – Serbo-Croatian *koliko* and *što*
- excluded pattern: comparative operator on its own

apparent counter-example: Czech *jak*

- (29) Marie je vyšší, **jak** Karel.
 Mary is taller how Charles
 ‘Mary is taller than Charles.’

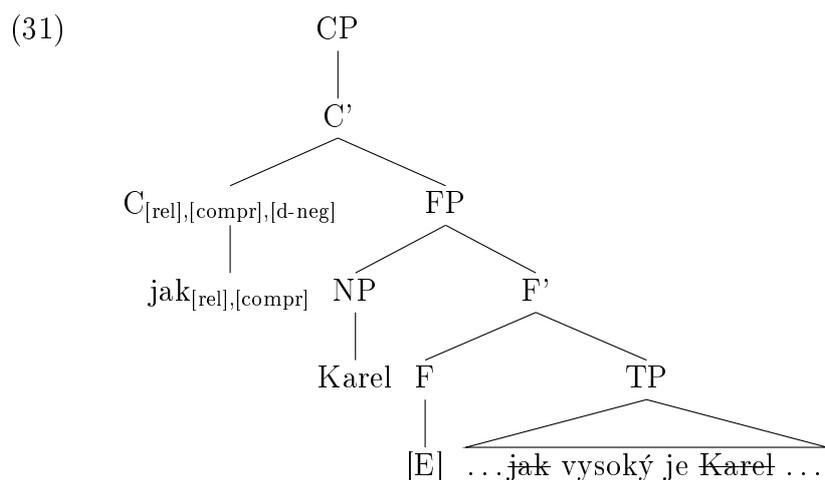
but: no AP with *jak*, see (23); clause always elliptical:

- (30) *Marie je vyšší, **jak** je Karel.
 Mary is taller how is Charles
 ‘Mary is taller than Charles.’

proposal:

- only one CP generated
- operator moves to the C head, not to [Spec,CP]
- ellipsis: eliminated mismatch between base-generation site and landing site

structure:



head-sized operators moving to C head:

- possible in certain German dialects (Alemannic, Bavarian) in relative clauses – Bayer & Brandner (2008)
- no violation of Chain Uniformity of Chomsky (1995), see Bayer & Brandner (2008) – head-sized operator has dual status (head vs. phrase), no feature mismatch
- comparative operator moving to C head encoding [d-neg]: feature mismatch because operator cannot be [d-neg] → ellipsis saves the construction (cf. Merchant 2001 on sluicing repairing island violation effects)

comparative operator taking over complementiser function in THAN-clauses not as straightforward as in AS-clauses

behaviour of Czech *jak*: still consistent with the general theory
property of [d-neg] marked on C head

overt marking in comparatives:

- comparative complementiser – Polish *niż*, Russian *чем*, Czech *než*, Serbo-Croatian *nego* and *no*
- operator in addition to comparative complementiser – Czech *jak*
- lower complementiser in addition to regular comparative complementiser – Serbo-Croatian *koliko* and *što*
- comparative operator on its own, if it moves to the C head (language-specific, with ellipsis) – Czech *jak*

5 Conclusion

degree operators and embedded degree clauses in Slavic

- degree operators: with or without lexical XPs (latter: stranding or proforms)
- AS-clauses: marked overtly either by complementisers or by operators, or combinations (C+C, C+OP)
- THAN-clauses: marked overtly by a C head (complementiser, moved operator), or combinations (C+C, C+OP)

difference between AS-clauses and THAN-clauses: due to demands on overt marking of [d-neg] in THAN-clauses

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