Towards a Cross-Linguistic Typology of Marking Polarity in Embedded Degree Clauses

0. Introduction

embedded degree clauses: AS-clauses and THAN-clauses

(1)  a. Ralph is as tall as Mary is.
     b. Ralph is taller than Mary is.

THAN-clauses: negative polarity environment (Seuren 1973)

negative polarity items, any licensed

(2)  a. He would rather continue complaining than lift a finger to improve his life.
     b. Ralph has spent more time travelling than any other professor (has).

note: subclause often reduced to a single focussed remnant – reduced clauses


reason follows from comparative semantics

AS-clauses: degree equality (d=d')

THAN-clauses: degree inequality (d≠d')

(3)  a. x is as tall as y:  \( \exists d \exists d'[\text{TALL}(x,d) & \text{TALL}(y,d') & (d=d')] \)
     b. x is taller than y:  \( \exists d \exists d'[\text{TALL}(x,d) & \text{TALL}(y,d') & (d>d')] \)
     c. x is less tall than y:  \( \exists d \exists d'[\text{TALL}(x,d) & \text{TALL}(y,d') & (d<d')] \)

but: negative polarity does not imply clausal negation

degree negated, not the lexical predicate

→ no negative operator, hence negative polarity has to be marked on a functional head

negation, negative polarity always marked morphologically (see Dryer 2013)

question: which head can be responsible for marking negative polarity
proposal: either a separate Pol head or a comparative C head (various subtypes)

even overt comparative operators cannot take overt this function

→ operators first have to acquire head status – doubling or radical replacement

1. Negative polarity heads

Italian (Seuren 1973: 535, exx. 45 and 46):

(4) a. Giovanni è più alto che non pensassi.
   John is more tall.M that not thought.SBJV.1SG
   ‘John is older than I thought.’

   b. Giovanni è più alto che pensavo.
   John is more tall.M that thought.1SG
   ‘John is older than I thought.’

French: *ne* appears with finite verbs (Seuren 1973: 535, ex. 44):

(5) Jean est plus grand que je ne pensais.
   John is more tall.M that I not thought.1SG
   ‘John is taller than I thought.’

negative polarity not the same as clausal negation

   French: polarity marker is *ne*, but negation carried rather by *pas* otherwise

also in Old Hungarian: C head *hogy* ‘that’ + polarity marker *nem* ‘not’

see Bacskaï-Atkari (2014a, 2014c)

(6) Zőnëkĩ günd te meltatlâkodatod m̀v ̀ellènûc mèt iob cease.SBJV.3SG.PRT you indignance.POSS.2SG we against.1PL because better hog ̀eluûnû ̀olgallunc Nabuhodonozor nag kiralnc &
   that alive serve.SBJV.1PL Nebuchadnezzar great king.DAT and
   alazkoggonc te nêkêd hog nê meghaluãc m̀v cringe.SBJV.1PL you you.DAT that not PRT.dying.1PL we
   vèzedelmõcîn mûnmagonc m̀v zolgatõknac
   perish.POSS.1PL.INE ourselves we service.POSS.1PL.DAT
   karat zënuèggûc damage.POSS.ACC suffer.SBJV.1PL
   ‘cease to be indignant towards us because it is better for us to serve the great king
   Nebuchadnezzar alive and to cringe before you that not (=than) to suffer the damages
   of our service dying’ (Vienna Codex 14, after 1416)
later configuration: *mint* `as' also appears as an overt operator (later lower C head):

(7) Te igyekevzeted az isteny zolgalatban jnkab légen arra you diligence.POSS.2SG the divine service.INE rather be.SBJV.3SG that.SUB hog az zent irasnak igy ebevl lelky ertelmet that the sacred writing.DAT thus this.ELA spiritual sense.ACC vegy es aytatossagnak keuansagat **hog nem mynt** take.SBJV.2SG and prayer.DAT desire.POSS.ACC that not than vduarlokeppen eneklesnek mogyat tegyed courting singing.DAT mode.POSS.ACC do.SBJV.2SG ‘your diligence in serving God should be directed at gaining a spiritual understanding of the Scripture and a desire for prayer, rather than at taking the opportunity to sing for courting’ (Horvát Codex 138v–139r, 1522)

structure:

```
(8)  CP
    |   
    |   C'
  C[subj],[compr]
  |  PolP
  |  hogy
  Pol'[pol:neg]
  | nem
  C[compr],[rel]
  mint
```

features marked on separate heads

[sub]: marking finite subordination; does not have to be overt; encoded by a functional C head

[compr]: marking the comparative nature of the clause; has to be overt; encoded either by a functional C head or by an operator (operator movement to the specifier of the lower CP)

[rel]: marking the relative nature of the clause; does not have to be overt (language-specific); encoded either by a functional head or an operator; ensures that the comparative operator moves to the left periphery (cf. Chomsky 1977, Kennedy 2002 on comparative operators being relative operators)

[pol:neg]: marking the negative polarity of the clause in the absence of clausal negation; has to be overt; encoded by a functional head

cases above: separate Pol head

but: Pol head not universally attested

also: Pol head not always overt in Italian, French

Hungarian: Pol head gradually disappeared (cf. Bacskaí-Atkari 2014a, 2014c)

2. The overtness of comparative C heads

encoding of [compr]: can be carried out either by a C head or an operator

possible patterns in Modern Hungarian AS-clauses:

(9)  a. Mari olyan magas, mint amilyen (magas) Péter. Mary so tall as how.REL tall Peter
    ‘Mary is as tall as Peter.’

    b. Mari olyan magas, mint Péter. Mary so tall as Peter
    ‘Mary is as tall as Peter.’

    c. Mari olyan magas, amilyen (magas) Péter. Mary so tall how.REL tall Peter
    ‘Mary is as tall as Peter.’
but: *mint* cannot be absent in THAN-clauses:

(10) a. Mari magasabb, **mint amilyen (magas)** Péter.
Mary taller as how.REL tall Peter
‘Mary is as tall as Peter.’

b. Mari magasabb, **mint** Péter.
Mary taller as Péter
‘Mary is as tall as Péter.’

c. *Mari magasabb, **amilyen (magas)** Péter.
Mary taller how.REL tall Péter
‘Mary is as tall as Péter.’

structure for comparatives like (10a):

\[(11)\]

```
CP
  \[\text{C'}\]
  \[\text{CP} \]
  \[\text{C}_{\text{[sub],[compr],[pol:neg]}} \]
  mint \[\text{[sub],[compr],[pol:neg]} \]
  amilyen \[\text{[rel],[compr]} \]
  \[\text{C'} \]
  C_{rel,[sub]}...
```

elliptical structure like (10b): lower CP absent

→ no operator movement to the left periphery, but the [rel] element is not licensed in situ, hence ellipsis has to occur (see Bacskai-Atkari 2014a; Bacskai-Atkari and Kántor 2011, 2012)

structure in (10c): higher CP absent → [pol:neg] fails to be encoded, but would be required by the matrix clausal degree head ("-bb ‘-er’")

leftrightarrow equatives like (9c): no [pol:neg] required anyway

→ evidence that [pol:neg] has to be marked by an overt functional head, which can also be C
similar patterns is Czech:¹ behaviour of operator *jak* ‘how’

**AS-clauses in Czech with the operator *jak*:**

(12) a. Ten stůl je stejně dlouhý, **jak** siroká je ta kancelář.
the table is same long as wide is the office
‘The table is longer than the office is wide.’

b. Ten stůl je stejně dlouhý, **jak** je ta kancelář **siroká**.
the table is same long how is the office wide
‘The table is longer than the office is wide.’

operator *jak* can move together with AP, AP may be stranded

similar pattern in Polish² (see Borsley and Jaworska 1981)

**THAN-clauses also allow the operator *jak***:

(13) a. ”Ten stůl je delší, **než jak** siroká 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 **siroká**.
the table is longer than how is the office wide
‘The table is longer than the office is wide.’

c. *”Ten stůl je delší, **jak** siroká je ta kancelář.
the table is longer how wide is the office
‘The table is longer than the office is wide.’

d. *”Ten stůl je delší, **jak** je ta kancelář **siroká**.
the table is longer wide is the office wide
‘The table is longer than the office is wide.’

**C head **než** ‘than’: incorporated negative element**

similar: Polish *niz*, Serbo-Croatian *negolno*

overtness of comparative C heads follows from marking [pol:neg]

but the C head does not have to be negative-like, though it can be

negative C heads differ from Pol heads: Pol heads co-occur with a real C head

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¹ Many thanks to Radek Šimík for his indispensable help with the Czech data.
² Many thanks go to Łukasz Jędrzejowski for discussing the Polish data.
3. Multiple C heads

double CPs attested in Hungarian comparatives historically – *hogy ‘that’ + *mint ‘as’

lower C head taking over: passing on features, including [pol:neg]


- Standard German/northern dialects: *als ‘than’
- certain dialects (e.g. Alemannic, Hessian): *als wie ‘than as’
- southern dialects (e.g. Bavarian): *wie ‘as’

(14) a. Ralf ist größer *als Peter.
Ralph is taller than Peter
‘Ralph is taller than Peter.’

b. % Ralf ist größer *als wie Peter.
Ralph is taller than *as Peter
‘Ralph is taller than Peter.’

c. % Ralf ist größer *wie Peter.
Ralph is taller than Peter
‘Ralph is taller than Peter.’

*wie in embedded degree clauses: a C head


structure:
feature specification of lower C head:

zero heads: [rel] and [sub], see (11) – uninterpretable [rel] feature on the C head triggers
the movement of the operator

reanalysis of an operator into a C head: accompanied by the loss of [rel]

→ [rel] encoded by a zero operator (↔ Hungarian has no zero operator)

→ feature specification of the lower C element wie more similar to the higher C head, except
for [pol:neg] in comparatives (but not in equatives)

→ further step: higher C head filled either by als or wie moves up

als interpreted as a mere functional head (subordinator), wie as a polarity marker

note: als contains no incorporated negative element (↔ Czech, Polish, Slavic)

multiple C heads also in Serbo-Croatian

equative complementiser or wh-like relative complementiser co-occurring

basic pattern with nego ‘than’ or no ‘than’:

(16) a. Pavao je viši nego Petar.
Paul is taller than Peter
‘Paul is taller than Peter.’

b. Pavao je viši no Petar.
Paul is taller than Peter
‘Paul is taller than Peter.’

nego and no behave in the same way (examples below with nego)

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3 I owe many thanks to Boban Arsenijević for the Serbo-Croatian data.
lower C heads:

(17) a. Pavao je viši nego što je Petar.
Paul is taller than what is Peter
‘Paul is taller than Peter.’

b. Pavao je viši nego koliko je Petar.
Paul is taller than as is Peter
‘Paul is taller than Peter.’

lower C head što: merely a relative head – no real doubling since [re] not marked on the higher C head anyway

lower C head koliko: specified for [compr] – doubling → markedness

markedness would disappear if the higher C head lost [compr] specification

[pol:neg] cannot be interpreted as present on lower C with nego/no in the higher C

nego/no contain incorporated negative element morphologically

→ feature reinterpretation hindered

4. Radical replacement and Chain Uniformity

recall: Czech jak ‘how’ cannot replace než ‘than’ as an operator:

(18) 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.’

but: jak is possible in THAN-clauses as a C head iff the clause is elliptical:

Mary is taller how is Charles
‘Mary is taller than Charles.’

b. Renault stojí víc jak (*stosi) Dacia.
Renault costs more how costs Dacia
‘A Renault costs more than a Dacia.’
hence: *jak* seems to occupy a higher C position, fulfilling the marking of [pol:neg]

proposal: *jak* base-generated as an operator but moves to a C head position

similar phenomena in Alemannic and Bavarian relative clauses with head-sized *wh*-phrases, see Bayer and Brandner (2008)

regular pattern in Alemannic/Bavarian: *wh*-phrase + *dass* ‘that’ in the C head position

   Doubly Filled COMP effect

   but: not with head-sized *wh*-element – complementary distribution with *dass*

Bayer and Brandner (2008: 88, ex. 5a):

(20) I woass aa ned, **wer (**dass**) allas am Sunndoch in da Kiach gwen is.
   I know too not who that all at Sunday in the church been is
   ‘I don’t know either who all has been to church on Sunday.’

question of Chain Uniformity (cf. Chomsky 1995)

   phrase moving to a head position

Bayer and Brandner (2008): dual status of head-sized phrases

but: in embedded questions the operator moves to a head position of the same CP that hosts operators otherwise

↔ comparatives: *jak* has to move to a C head responsible for [pol:neg] not for [rel]

   otherwise *jak* would be preceded by a separate head (*než*)

   reason: lower CP not generated (similar to Hungarian elliptical comparatives)

   but: the [pol:neg] CP not filled by merging *než* but by moving *jak*

ellipsis: the visible base-generation site of *jak* would cause an operator interpretation mismatch, [rel] not available in situ (↔ *wh*)

radical replacement of complementiser by operator: dual status, not grammaticalisation
Conclusion

marking of polarity in embedded degree clauses

THAN-clauses negative polarity environments (↔ AS-clauses)

cross-linguistic typology of polarity marking:

<table>
<thead>
<tr>
<th>Types</th>
<th>Examples</th>
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<tbody>
<tr>
<td>(I) separate Pol head</td>
<td>● Old Hungarian nem/sem</td>
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<tr>
<td></td>
<td>● Italian non</td>
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<tr>
<td></td>
<td>● French ne</td>
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<tr>
<td>(II) incorporated negative C head</td>
<td>● English dialectal nor</td>
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<td>● Old/Middle High German wan</td>
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<td>● Swiss German dialectal wan/weder</td>
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<td>● Czech než</td>
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<td>● Polish niz</td>
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<td>● Serbo-Croatian neg/njo</td>
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<td>(III) THAN-C head</td>
<td>● English than</td>
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<td>● German als</td>
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<td>● Old High German denn</td>
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<td>● Dutch dan</td>
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<td>● Russian chem</td>
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<tr>
<td>(IV) comparative C head</td>
<td>● German dialectal wie</td>
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<td>● Hungarian mint</td>
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<tr>
<td>(V) more general C head</td>
<td>● Italian che</td>
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<td></td>
<td>● French que</td>
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</tbody>
</table>

double CP layer – [rel] and [pol:neg] marked separately

operators are not licensed to mark [pol:neg] in an operator position

   reanalysis, double complementiser and overtaking – e.g. German

   dual status and replacement – Czech
References


Bacskai-Atkari, Julia (2014b) Structural Case and Ambiguity in Reduced Comparative Subclauses in English and German. Acta Linguistica Hungarica 61.4. 363–378.


