Comparison of Degrees or Individuals? Focus Effects in Superlatives in Polish.

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① *Degree semantics*

Gradable predicates, such as *tall* (1)a, can occur in the comparative (1)b and superlative (1)c constructions, which express **comparison**:

(1) a. John is tall.
b. John is taller than Bill.
c. John is the tallest.

Comparative is agreed to involve **comparison of degrees**[1], its two arguments are of the ⟨d,t⟩ type, e.g. (2)b (Seuren 1973, 1984):

(2) a. ⟦tall⟧ = λd: d∈D_d. λx: x∈D_e. tall(d)(x)
b. ⟦*-er*⟧ = λ*P*. λ*Q*. ∃*d* [¬P(*d*) ∧ *Q*(*d*)]
c. ⟦John is taller than Bill⟧ = 1 iff ∃d [tall(j,d) & ¬tall(b,d)]

Superlative has been analyzed as **comparison** either between **sets of degrees** (3) or between **sets of individuals** (4). Heim (1999) introduced the two lexical entries for the *-est* superlative morpheme with truth-conditionally equivalent meaning:

(3) ⟦*-est*$_{2-place}$⟧ = λ**C**$_{<dt,t>}$. λ$P_{<d,t>}$. ∃d[P(d) & ∀Q∈C [Q≠P→ ¬(Q(d))]]
Presuppositions:
a. P∈C
b. ∃Q∈C: Q≠P

(4) ⟦*-est*$_{3-place}$⟧ = λ**C**$_{<e,t>}$. λ$P_{<d,et>}$. λx_e. ∃d[P(d)(x) & ∀y∈C [y≠x→ ¬(P(d)(y))]]
Presuppositions:
a. x∈C
b. C⊆{z:∃d P(d)(z)}

➔ Question 1: Do we need **two** lexical entries (3)-(4) for *–est*?

② *Comparison Class and Focus*

Differences in the comparison class (the restrictor **variable C**) give rise to the **absolute/relative ambiguity** with either (3) and (4):

(5) John gave Mary the most expensive gift.
Absolute reading: "John gave Mary a gift more expensive than all other gifts."

[1] There is at least agreement about clausal comparative. Phrasal comparatives are debated, e.g. Bhatt and Takahashi (2007) argue that

The comparison class is determined solely on the basis of the DP '*the most expensive gift*', i.e. gifts in absolute terms (in a given context) without consideration of who buys/gets them.

Relative reading: "John gave Mary a gift more expensive than he gave anybody else."

Relative reading: "John gave Mary a gift more expensive than anybody else gave her."
The comparison class is determined on the basis of other constituents in the sentence (*John* or *Mary*).

- *Pragmatic/DP-internal theory*: context plays a role in restricting the possible absolute reading (we compare contextually relevant gifts), so it can also play a role in determining the relative readings (e.g. there is a unique gift more expensive than all contextually relevant gifts that John gave Mary).
- *Scope theory*: *-est* scopes inside the superlative DP on the absolute reading, *-est* scopes outside of the superlative DP
- Neither theory requires focus to play a role in determining the comparison class.

The placement of **focus** clearly facilitates **relative** readings:

(6) a. John gave $[\text{MAry}]_F$ the most expensive gift.
b. $[\text{JOHN}]_F$ gave Mary the most expensive gift.

-Est can be said to **associate with focus** similarly to focus sensitive particles:

(7) a. John *only* gave $[\text{MAry}]_F$ a small gift.
b. John *only* gave Mary $[\text{a SMALL gift}]_F$.

But the link between focus and relative readings is unclear:
– The absolute reading is still available (6)a-b. Focus is **not sufficient** for relative readings.
– In **Hungarian**, relative readings with full DPs only obtain in the presence of **syntactically-marked focus**, suggesting that focus is necessary (Szabolcsi 1986, Farkas & Kiss 2000).
– Elements that are **not prosodically prominent** can determine the comparison class. In (8) *who* (or its trace) and PRO not prosodically prominent; another element in the sentence is the phonological focus. Szabolcsi (1986): "WH/FOCUS license" the relative reading by creating an open formula.

(8) a. We should console the girl who got the fewest $[\text{CAkes}]_F$. (Szabolcsi 1986)
b. One can win this contest by PRO buying the largest $[\text{CAke}]_F$ for Mary. (Heim 1999)

– Sharvit and Stateva (2000), Szabolcsi (2012): default focus on *-est* itself, can be overridden by a wh-word or contrastive focus; when *-est* is not focused, it functions like a focus sensitive operator.

- Both Scope and Pragmatic Theories can accommodate focus in relative readings but do not require it.

Scope Theory: A DP can QR without focus and becomes an argument of *-est* determining the comparison class.
Pragmatic Theory: focused *-est* invokes contextually relevant alternatives.

➔ Question 2: Is **focus association** necessary for **relative** readings?

On both (3) and (4) the **scope of *–est*** accounts for the *absolute-relative* ambiguity, as well as partially (by the presuppositions in (3)-(4)) determines the **restrictor C**, a contextual variable specifying the comparison class. (Additional assumption for relative readings: *-est* is focus sensitive.)

(9) John gave Mary the most expensive gift.

a. *Absolute Superlative*
LF: John gave Mary [$_{DP}$ the [$_{NP}$ [*-est C*] λd [$_{NP}$ *d*-expensive gift]]]
C1$_{\langle e,t\rangle}$={x: ∃d. x is a d-expensive gift}
C2$_{\langle dt,t\rangle}$={D: ∃ x [D = λd. x is a d-expensive gift] }

b. *Relative Superlative*
LF1: [$_{TP1}$ Mary [$_{TP2}$ [*-est C*] [$_{TP3}$ [~ S] λd λx [$_{TP4}$ John bought *x* [$_{DP}$ a [$_{NP}$ *d*-expensive gift]]]]]]
focus movement
C1$_{\langle e,t\rangle}$={x: ∃d. John gave x a d-expensive gift]
C1 = ∪S, S⊆⟦TP$_4$⟧^{f} (**focus association**)

LF2: [*-est C*] [[~ S] λd [$_{TP}$ John bought **[Mary]$_F$** [$_{DP}$ a [$_{NP}$ *d*-expensive gift]]]]]
C2$_{\langle dt,t\rangle}$⊆ {D: ∃ x [D = λd. John gave x a d-expensive gift] }
C2 ⊆ S ⊆ ⟦TP⟧^{f} (**focus association**)

The **semantic type of C** is different in (3)-(4), therefore, although the truth conditions are the same, different comparisons are done: of **individuals** or of **degrees**. Romero (2011) points out that (3) and (4) are "theoretical alternatives to each other" (similarly Szabolcsi 2012).

The possibility of **overt specification of C** as in (10)-(12) can be taken as evidence that both modes of comparison are available in a single language.

(10) John is the tallest among the candidates. → explicit argument of type ⟨e,t⟩
C$_{\langle e,t\rangle}$={x: ∃d. x is a d-tall candidate]

(11) John read the most books anyone ever read. → degree relative clause of type ⟨d,t⟩
C$_{\langle dt,t\rangle}$⊆{D: ∃ x [D = λd. x read d-many books]} (Howard 2012)

(12) John bought the largest possible gift. (Romero 2011)
a. 'John bought as large a present as it was possible for him to buy.'
modal superlative: *as X as possible* → reduced relative clause of type ⟨d,t⟩
LF: [[*-est*] [1 possible <John bought A t_1-large gift>]] [2 John bought A t_2-large gift]
C$_{\langle dt,t\rangle}$ = ⟦1 possible <I bought A t_1-large gift>⟧ = λd. ◊∃x [gift(x) & bought(j,x) & large(x,d)]
b. 'Out of objects that were possible presents, John bought the largest one.'
regular noun modifier

2.1 What can determine the Comparison Class?

Pancheva and Tomaszewicz (2012)

English:
(13) John met [$_{DP}$ the youngest [$_{NP}$ students <u>from</u> [London]$_F$]].
a. YES: 'John met younger students from London than anyone else did.'
b. **NO**: 'John met younger students from London than he did from another city.'
(14) John met [$_{DP}$ the most [$_{NP}$ students <u>from</u> [London]$_F$]].
a. YES: 'John met more students from London than anyone else did.'
b. **NO**: 'John met more students from London than he did from another city.'
(15) John [$_{VP}$ met the youngest students] <u>in</u> [London]$_F$.

a. YES: 'John met younger students in London than anyone else did.'
b. YES: 'John met younger students in London than he did in another city.'

(16) John [$_{VP}$ met the most students] in [London]$_F$.
a. YES: 'John met more students in London than anyone else did.'
b. YES: 'John met more students in London than he did in another city.'

- **English**: no DP-internal comparison
- Even though *only* can associate DP-internally in English:
(17) John *only* bought [DP the best [NP albums of/by [U2]$_F$]]

- **Slavic**: DP-internal comparison freely available in the absence of a definite determiner (in the presence of 'the' Bulgarian is like English, '#' in (18)-(19) indicates that the definite can't be present on the relative reading). Pancheva & Tomaszewicz (2012)

- Quality superlative:

(18) a. Ivan se zapozna s *naj*-mladi(#-te) studenti ot London. (Bulgarian)
Ivan refl met with youngest (#the) students fromLondon
b. Iwan poznał *naj*-młodszych studentów z Londynu. (Polish)
Ivan met youngest$_{Acc}$ students$_{Acc}$ from London
YES: 'Ivan met younger students from London than anyone else did.'
YES: 'Ivan met younger students from London than from any other city.'

- Quantity superlative:

(19) a. Ivan se zapozna s *naj*-mnogo(#-to) studenti ot London. (Bulgarian)
Ivan refl met with most (#the) students fromLondon
b. Iwan poznał *naj*-więcej studentów z Londynu. (Polish)
Ivan met most$_{Acc}$ students$_{Gen}$ fromLondon
YES: 'Ivan met more students from London than anyone else did.'
YES: 'Ivan met more students from London than from any other city.'

- NP-focus [add Bulgarian examples]

(20) a. Marek kupił najwięcej [pomidorów]$_F$. (Polish)
Marek bought most tomatoes
'Marek bought more tomatoes than any other vegetable.'
b. Marek kupił najdroższe [pomidory]$_F$.
Marek bought most-expensive tomatoes
'Marek bought tomatoes more expensive than any other vegetable.'

➢ The fact that the DP internal reading is missing supports the conclusion that focus is involved. Focus association clashes with the requirements on C given by the LF syntax and the DP-internal position of *-est*.

2.2 Association with DP-internal focus

Pancheva & Tomaszewicz (2012): DP-internal focus relative in Slavic[2] is **always** available in the absence of a definite determiner.

Cross-categorial 3-place *-est* to include NP-focus:

[2] In indefinite superlatives in English only absolute reading is available: *This class has a best student; The dean praised some best student (or other).* (Herdan and Sharvit (2006)

(21) $[\![\text{-}est_{3-\text{place}}]\!] = \lambda \mathbf{C}_{<\delta,t>}.\lambda P_{<d,\,\delta t>}.\lambda x_{\delta}.\ \exists d[P(d)(x)\ \&\ \forall y \in C\ [y \neq x \rightarrow \neg(P(d)(y))]]$
Presuppositions:
a. $x \in C$
b. $C \subseteq \{z:\exists d\ P(d)(z)\}$

(22) a. Iwan ma najlepsze albumy $[U2]_F$. (Polish)
Ivan has best.Acc albums.Acc U2.Gen
'Ivan has better albums by U2 than by any other band.'

b. LF: $[_{TP1}$ U2$[_{TP2}$ [*-est C*]$[_{TP3}$ [~ *S*] $[_{TP4}$ Ivan has $[_{DP}$ *d*-good albums by/of x_F]]]]]
c. $S_{<e,t>} \subseteq [\![TP_4]\!]^f = \{P: \exists d\ [P = \lambda x\ [\text{John has } d\text{-good albums by } x]]\}$
d. $[\![TP_3]\!] = [\![TP_4]\!]^{o} = \lambda d\, \lambda x\ [\text{John has } d\text{-good albums by } x]$
e. $C_{<e,t,>} = \cup S = \{x: \exists d\ [\text{John has } d\text{-good albums by } x]\}$ (focus association)
f. U2 $\in C_{<e,t,>}$; $C_{<e,t,>} \subseteq \{z:\exists d\ [\text{John has } d\text{-good albums by } z]\}$ (presuppositions of *-est* (4)/(21)a-b))

(23) a. Iwan ma najlepszy $[album]_F$.
Ivan has best.Acc album.Acc
'Ivan a better album than other (relevant) thing he has.'

b. LF: $[_{TP1}$ album$[_{TP2}$ [*-est C*]$[_{TP3}$ [~ *S*] $[_{TP4}$ Ivan has $[_{DP}$ *d*-good $[[\![t_{<e,t>}]\!]_F$]]]]]
c. $S_{<et,t>} \subseteq [\![TP_4]\!]^f = \{\boldsymbol{P}_{<et,t>}: \exists d\ [P = \lambda f\, \exists x[f(x)\ \&\ \text{John has } d\text{-good } x]]\}$
d. $[\![TP_3]\!] = [\![TP_4]\!]^{o} = \lambda d\, \lambda f\, \exists x[f(x)\ \&\ \text{John has } d\text{-good } x]$
e. $C_{<et,t>} = \cup S = \{f: \exists d\ \exists x[f(x)\ \&\ \text{John has } d\text{-good } x]\}$ (focus association)
f. $[\![\text{album}]\!] \in C_{<et,t>}$;
$C_{<et,t>} \subseteq \{h: \exists d\ \exists x[h(x)\ \&\ \text{John has } d\text{-good } x]\}$ (presuppositions of *-est* (4)/(21)a-b))

2.3 Relative readings with DP-external focus in the presence of the definite article

(24) a. $[\text{Ivan}]_F$ ima *naj*-dobri-***te*** albumi na/ot U2. (Bulgarian)
Ivan has *naj*-good-**the** albums of/by U2
'Ivan has better albums by U2 than anyone else does.'
b. $[_{TP1}$ $[_{DP}$ the [*-est/naj- C*] $[_{NP}$ *d*-good albums by/of U2]] $[_{TP2}$ [~ *S*] $[_{TP3}$ John $_F$ has *x*]]]
c. $S \subseteq [[\ TP_3]]^f = \{P: \exists y\ [P = \lambda x\ [y \text{ has } x]]\}$
d. $C = \cup S = \{P: \exists y\ [P = \lambda x\ [y \text{ has } x]]\}$ (focus association)
e. $C = \{x: \exists d\ [x \text{ is a } d\text{-good album by U2}]\}$ (presupposition of *-est* (4)a-b))

③ *Degrees vs. individuals*

Observation: when a **relative clause overtly specifies the comparison class**, relative readings are blocked (Bhatt 2006):

(25) John gave Mary the most expensive telescope.
a. Absolute: 'John gave Mary the telescope that is more expensive than any other contextually relevant telescope.'

b. Relative: 'John gave Mary a more expensive telescope than he gave anybody else.'
c. Relative: 'John gave Mary a more expensive telescope than anybody else gave her.'

(26) John gave Mary the most expensive telescope to be built in the 19th century.
→ Absolute reading ONLY:
'John gave Mary the telescope that is more expensive than any other contextually relevant telescope.'

Not surprising if the relative clause sets the comparison class to other telescopes.
Surprising when a relative clause explicitly mentions a comparison with other people…

- English:

(27) John read the most books anyone ever read. (**degree relative clause** of type ⟨d,t⟩, Howard 2012)
$C_{<dt,t>} \subseteq$ {D: $\exists$ x [D = {λd. x read d-many books]}

- Polish:

(28) Jan przeczytał najwięcej książek, ***ile** ktokolwiek kiedykolwiek przeczytał.
Jan read most books **how-much** whoever whenever read
'Jan read the most books that anybody ever read.'

Polish degree relative clauses are marked by dedicated relativizers. The superlative '*the most NP'* lacks an absolute reading (29) (Hackl 2009). → **In Polish, degree relative clauses are ungrammatical with relative readings on which individuals are compared**.

(29) John read the most books.
a. Relative: "John read a plurality of books whose cardinality exceeds that of any plurality of books read by any salient alternative to John".
b. #Absolute: "John read the unique plurality of books whose cardinality exceeds that of any other plurality of books" (cf. 'John read most of the books.')

Howard (2012) observed that the ⟨dt,t⟩ relative clauses are compatible with a 2-place *–est*:

(30) LF for (27): [*-est C*] λd [$_{TP}$ [John]$_F$ read [$_{DP}$ A [$_{NP}$ *d*-many books]]]]]
$\mathbf{C_{<dt,t>}} \subseteq$ {D: $\exists$ x [D = {λd. x read d-many books]}
C ⊆ S ⊆ $[\![TP]\!]^f$ *(focus association)*

The ungrammaticality of the degree relative in (28) can be explained if the relative reading is obtained by focus, and only 3-place -est can associate with focus.
→ **2-place –est cannot associate with focus (why?)**.

④ *Polish Degree Relative Clauses*

4.1 Relative pronouns in Polish

There are two types of **relative pronouns** in Polish. The relativizer based on the *wh*-element ***jak*** ('how') allows kind (31)a and degree (quality) modification (31)b (Anderson & Morzycki 2012). The relativizer ***który*** ('which', (31)c) does not allow either. For quantities ***ile***, *wh*-many/much, is used (32).

(31) (a) **Jaki** / (b) **Jak drogi** / (c) **Który** prezent jest odpowiedni dla małego dziecka?
how how expensive which gift is suitable for small child

(a)'What kind of a gift is suitable for a small child?'
(b) 'How expensive a gift is suitable for a small child?'
(c) 'Which gift is suitable for a small child?'

(32) **Ile** prezentów jest odpowiednie dla małego dziecka?
how-many gifts are suitable for small child
'How many gifts are suitable for a small child?'

→ Correlativization shows that *jak* and *ile* are **degree** relativizers.

4.2 Degree Correlatives

Polish has demonstrative elements referring to a **degree of quality** (*tak*) (Landman & Morzycki 2002), or **quantity** (*tyle*) which can participate in correlative structures only with *jak*- and *ile*-clauses (33)-(34).
→ *Który*-relatives are not degree relatives.

(33) Jan kupił Marii tak drogi prezent, **jaki**/*który *pro* mógł kupić.
Jan bought for-Maria DEM expensive gift **how**/which could buy
'Jan bought Maria as expensive a gift as he could buy.'

(34) Jan kupił Marii tyle prezentów, **ile**/*które *pro* mógł kupić.
Jan bought for-Maria DEM gifts **how-many**/which could buy
'Jan bought Maria as many gifts as he could buy.'

→ **Relativization** in *jak/ile*-clauses produces a **predicate of degrees ⟨d,t⟩**.

Carlson (1977): amount relatives are degree descriptions

(35) a. Marv put everything that he could in his pockets.
b. ⟦he could _ put in his pocket⟧ = max([λd. he could put d-many things in his pocket])
'as many/much as' interpretation → maximal cardinality

Heim (1987):

(36) a. It will takes us the rest of our lives to drink the champagne that they spilled that evening.
b. LF1: champagne λd [they spilled d-much champagne that evening] (*identity of amounts*)
c. LF2: champagne λx [they spilled x that evening] (*identity of substances*)

(37) a. Jan wypił tyle szampana **ile** wylano na podłogę tego wieczoru.[3]
Jan drank DEM champagne **how-much** spilled.Imprs on floor that evening.
'Jan drank **as much** champagne as they spilled on the floor that evening.'
b. Jan wypił tego szampana którego wylano na podłogę tego wieczoru.
Jan drank that champagne which spilled.Imprs on floor that evening.
'Jan drank that champagne that they spilled on the floor that evening.'

4.3 Degree Relatives in Superlatives

The same degree relative clauses are found with superlatives = they can function as an **overt specification of the comparison set argument $C_{<dt,t>}$** of the 2-place *–est*

Romero (2011): set of degrees can be freely shifted to a set of sets of lower-or-equal degrees

(38) $SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>} = \lambda D_{<d,t>}.\lambda D'_{<dt,t>}.\ \exists d'\ [D(d') \ \&\ D'=\lambda d''.d'' \leq d']$

[3] In Polish, as opposed to English, no modal is needed in the relative clause.

(39) a. Jan kupił Marii najdroższy prezent, **jaki** *pro* mógł kupić.
Jan bought for-Maria most-expensive gift **how** could buy
'Jan bought Maria the most expensive gift he could buy.'

b. $C_{<dt,t>} = SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ ([[1 he could buy d-expensive gift]]) =
$SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ (max([λd. he could buy d-expensive gift]) =
$\lambda D'_{<d,t>}$. ∃d' [d' ∈ max([λd. he could buy d-expensive gift]) & D'= λd''.d''≤d'

→ 'Of all the gifts Jan could buy, he bought the most expensive one for Maria' = *absolute?*

(40) a. Jan kupił Marii najwięcej prezentów, **ile** *pro* mógł kupić.
Jan bought for-Maria most gifts **how-many** could buy
'Jan bought Maria the most gifts he could buy.'

b. $C_{<dt,t>} = SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ ([[1 he could buy d-many gifts]]) =
$SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ (max([λd. he could buy d-many gifts]) =
$\lambda D'_{<d,t>}$. ∃d' [|d'| = max([λd. he could buy d-many gifts]) & D'= λd''.d''≤d'

→ 'Of all the amounts of gifts Jan could buy, he bought the largest amount for Maria' = Herdan (2008): "*absolute numerical reading*", we are comparing amounts with *-est* scoping below Maria.

• We are comparing amounts in different worlds. Similarly, *ever* in the relative clause introduces comparison at different times. Either a modal or *ever* is required, (43)a is ungrammatical.

(41) a. Jan dziś kupił Marii najdroższy prezent, jaki kiedykolwiek jej kupił.
Jan today bought for-Maria most-expensive gift how ever her bought
'Today Jan bought Maria the most expensive gift he ever bought her.'

b. $C_{<dt,t>} = SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ ([[1 he ever bought her a d-expensive gift]]) =
$SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ (max([λd. ∃t he bought her a d-expensive gift at t]) =
$\lambda D'_{<d,t>}$. ∃d' [d' ∈ max([λd. ∃t he bought her a d-expensive gift at t]) & D'= λd''.d''≤d'

→ 'Of all the gifts Jan bought for Maria at some time t, he bought her the most expensive one today.'

(42) a. Jan dziś kupił Marii najwięcej prezentów, ile kiedykolwiek jej kupił.
Jan todaybought for-Maria most gifts how ever herbought
'Today Jan bought Maria the most gifts he ever bought her.'

b. $C_{<dt,t>} = SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ ([[1 he ever bought her d-many gifts]]) =
$SHIFT^{\leq}_{<d,t>\rightarrow<dt,t>}$ (max([λd. ∃t he bought her d-many gifts at t]) =
$\lambda D'_{<d,t>}$. ∃d' [|d'| = max([λd. ∃t he bought her d- many gifts at t]) & D'= λd''.d''≤d'

→ 'Of all the amounts gifts Jan bought for Maria at some time t, he bought her the largest one today.'

(43) a. *Jan wypił najwięcej szampana **ile** wylano na podłogę.
Jan drank most champagne **how-many** spilled.Imprs on floor
'Jan drank **the most** champagne they spilled on the floor.'

b. ?Jan wypił najwięcej szampana **ile** **kiedykolwiek** wylano na podłogę.
Jan drank most champagne **how-many** **ever** spilled.Imprs on floor
'Jan drank **the most** champagne they ever spilled on the floor.'

(43)a shows that shifting <d,t> to <dt,t> is not enough. We need an item introducing alternatives. The sets of degrees are individuated by worlds or times.

4.4 Focus Effects

Treating 2-place –est as a focus associating item, requires C to be the subset of the focal presupposition.

(44) $C \subseteq S \subseteq [\![TP]\!]^f$

(45) a. Jan bought $[Maria]_F$ the most gifts.

b. LF: [[-est C] [1[John bought $[Maria]_F$ d-many gifts]] ~S]

c. $C_{<dt,t>} \subseteq [\![1[John\ bought\ [Maria]_F\ d\text{-}many\ gifts]]\ ]\!]^f$

$C_{<dt,t>} \subseteq \{D: \exists x\ [D = \{\lambda d'.\ John\ gave\ x\ d\text{-}many\ gifts]\}$

- Surprisingly, (45)c cannot be spelled out by an *ile*-clause!

(46) Jan (dziś) kupił [Marii]$_F$ najwięcej prezentów, *ile *pro* komukolwiek (kiedyś) kupił.
Jan (today) bought for-Maria most gifts how for-whoever ever bought
'(Today) Jan bought Maria the most gifts he ever bought anyone.'

Also incompatible with subject focus (even the presence of a modal doesn't help):

(47) $[JAN]_F$ kupił Marii najwięcej prezentów, *ile ktokolwiek (by) jej (kiedyś) kupił.
Jan bought for-Maria most gifts how whoever would her (ever) buy
'Jan bought Maria the most gifts anyone ever bought her/would buy her.'

It is not a restriction on superlative+*ile*+*ktokolwiek*:

(48) Jan kupił Marii najwięcej prezentów, ile ktokolwiek (kiedykolwiek) widział.
Jan bought for-Maria most gifts how whoever (ever) saw
'Jan bought Maria the most gifts anyone (ever) saw.'

On the **relative readings** induced by the (narrow non-contrastive) **focus** on Jan (or Maria) an *ile*-clause becomes ungrammatical (46)-(47) while a *jak*-clause looses its degree reading (49), and gets a kind reading only (cf.(31)a), which is made clear by the comparison with (50) as in both cases the relative clause denotes the set $\{x: \exists k.\ x$ bought k-kind of gift for Mary$\}$[4]. (The modal is obligatory, which indicates the structure like the one in (39)b, i.e. the set of degrees is not a subset of the focus value of the TP.)

(49) JAN_F kupił Marii najdroższy prezent, jaki ktokolwiek by jej kupił.
Jan bought for-Maria most-expensive gift how whoever would her buy
#'Jan bought Maria the most expensive gift anyone would buy her.'
'Jan bought Maria the most expensive gift of the kind that anyone would buy her.'

(50) JAN_F kupił Marii taki prezent, jaki ktokolwiek by jej kupił.
Jan bought for-Maria DEM gift how whoever would her buy
'Jan bought Maria such a kind of gift as anyone would buy her.'

Relative superlatives with DP-internal focus are incompatible with degree relatives. In (51) only different amounts of tomatoes can be compared. In (52) the topicalization of the PP favors a comparison between different vegetables added to the soup, but it is impossible to specify the comparison set using an *ile*-clause. (The same *ile*-clause is OK in a correlative.)

[4] Such shifts are predicted on Anderson & Morzycki's cross-categorial *tak*/*jak* as denoting properties of kinds.

(51) Maria dodała do zupy najwięcej pomidorów, ile *pro* mogła.
Maria added to soup most tomatoes how-much could
'Maria added to the soup the most tomatoes she could (add).'

(52) Do zupy Maria dodała najwięcej [pomidorów]$_F$, *ile czegokolwiek innego.
to soup Maria added most tomatoes how-much anything else
'Maria added to the soup the most tomatoes she could (add).'

(53) Do zupy Maria dodała tyle (samo) pomidorów, ile czegokolwiek innego.
to soup Maria added DEM (same) tomatoes how-much anything else
'Maria added to the soup the same amount of tomatoes as of anything else.'

Relative readings obtained by <u>focus</u> require **C to provide a <u>set of individuals/properties of individuals</u>** and are thus compatible only with the 3-place semantics for *-est*.[5]

⑤ *Conclusion*

Answer to Question 1: **Yes, we need the two lexical entries for –est.**
→ 3-place *–est* is required for focus association
→ 2-place *–est* is required for modification by ⟨dt,t⟩ relative clauses
→ This result supports the recent proposal of Szabolcsi (2012) that "probably, each way of building superlatives is "right" for some languages, and both may coexist in (varieties of) the same language."

Answer to Question 2: Yes, **focus association** is necessary for **relative** readings.
→ the fact that *–est* associates with focus explains the restrictions on the availability of ⟨dt,t⟩ relative clauses with superlatives in Polish.

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[5] LF for (49): [$_{TP1}$ John [$_{TP2}$ [*-est C*] [$_{TP3}$ [~ *S*] [$_{TP4}$ *x* bought Mary [$_{DP}$ a [$_{NP}$ *d*-expensive gift]]]]]]
$S \subseteq [[TP4]]^f = \{P: \exists d\ [P = \lambda x\ [x \text{ bought Mary a } d\text{-expensive gift}]]\}$; $[[TP3]] = [[TP4]]^0 = \lambda d\ \lambda x\ [x \text{ bought Mary a } d\text{-expensive gift}]$; $C_{<e,t>} = \cup S = \{x: \exists d\ [x \text{ bought Mary a } d\text{-expensive gift}]\}$ (focus association); **John** $\in \boldsymbol{C}_{<e,t>}$; $\forall y\ [y \in C \rightarrow \exists d\ [x \text{ bought Mary a } d\text{-expensive gift}]]$ (presuppositions of *-est* (4))