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1 Introduction

Comparative expressions like *She's smarter than to leave the safe unlocked* are examined. Their syntax is revealed to have an idiosyncratic combination of properties from two other types of comparative constructions ((1) an immediate complement, rather than a reduced clause; (2) extraposition from attributive position; (3) impossibility of degree-modification by *no*). Their semantics is revealed to have more in common with expressions of sufficiency than ordinary comparison.

[Poster and supplementary materials available at: <http://www.icsi.berkeley.edu/~rleegold>]

2 Syntax

Comparative *than* may take a *to*-marked infinitival clause:

- (1) She's smarter than to leave the safe unlocked.

These comparatives with infinitives (Cwl) look like run-of-the-mill comparatives: They have

- comparative morphology
- comparative argument structure (*than*-clause)
- comparison semantics

But do they truly fit in any established category of comparative expression in English?

2.1 What it isn't

The infinitival clause's external argument is controlled by the external argument of the comparative predicator. This differentiates it from EASY predicates, and nominal and clausal attributive-with-infinitive constructions [2].

- (2) a. Jo_i is smarter than [_i to fall for that].
b. That_i is easy/easier [_j to read _i].
c. Middlemarch_i is a good book [_j to assign _i].
d. Middlemarch_i is a long book [_j to assign _i].

2.2 Immediate complement or reduced complement clause?

Comparative *than*-PPs have been argued to contain either PHRASAL COMPLEMENTS, or CLAUSAL COMPLEMENTS that have been reduced to phrasal constituents:

- (3) a. You're much taller [than them / than last year].
b. The air here is as clean [as in Hayward].

Putting that debate aside, note that each of these has a clausal counterpart:

- (4) a. You're taller [than they are / than you were last year].
b. The air here is as clean [as the air is in Hayward].

Call the above ITEM COMPARATIVES. Another set of comparatives, VALUE COMPARATIVES, do not have clausal counterparts:

- (5) a. All of them are taller [than six feet (*is/are)].
b. The oven must not be hotter [than 375°F (*is/are)].
c. Their newest model goes as fast [as 200 miles per hour (*is/are)].

Cwl too disallow clausal expansion:

- (6) a. *She's smarter [than to fall for your tricks is/would be].
b. ?*She's smarter [than it would be to fall for your tricks].
c. *The doctor will be more cautious [than to leave documents out in plain view is].

On this diagnostic, Cwl fall into the value comparative camp.

2.3 Extraposition from attributive position

Item comparatives may attributively modify a noun with an extraposed *than*-clause:

- (7) a. a *more capable* person [than our last hire / than last time]
b. *as clean* a room [as any other]

Value comparatives may not:

- (8) a. *a *taller* woman [than seven feet]
b. *a *hotter* oven [than 375°F]
c. *an *older* man [than seventy years]

Cwls do allow attributive modification with extraposition:

- (9) a. I thought I was a *smarter* person [than to be taken for the ride they took me on].
b. Fortunately, Jim was a *nicer* person [than to throw a lamb into a crowd].
c. I'm a *more rounded* person [than to just have one focus].
d. You are a *more vibrant* person [than to allow this type of chicanery to regress your spirit].
e. I'm usually a *more focused* person [than to have different stories running at the same time].

On this diagnostic, Cwl fall into the item comparative camp.

2.4 Negation with *no*

Item and value comparatives allow degree-modification with *no*:

- (10) a. That treatment was found to be *no* more effective than drinking a glass of orange juice.
b. Mike is *no* older than your own son!
c. It must have been *no* heavier than a few pounds.

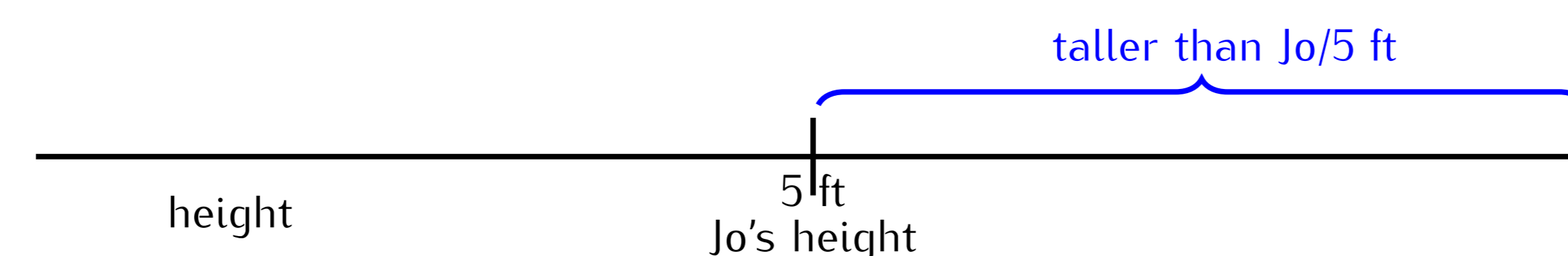
Comparatives with infinitivals do not:

- (11) a. *He's *no* smarter than to leave his safe unlocked when he's out.
b. *She's *no* smarter than to use only minimal encryption on her sensitive files.
c. *Jason is *no* dumber/more gullible than to believe that magicians actually make rabbits disappear.

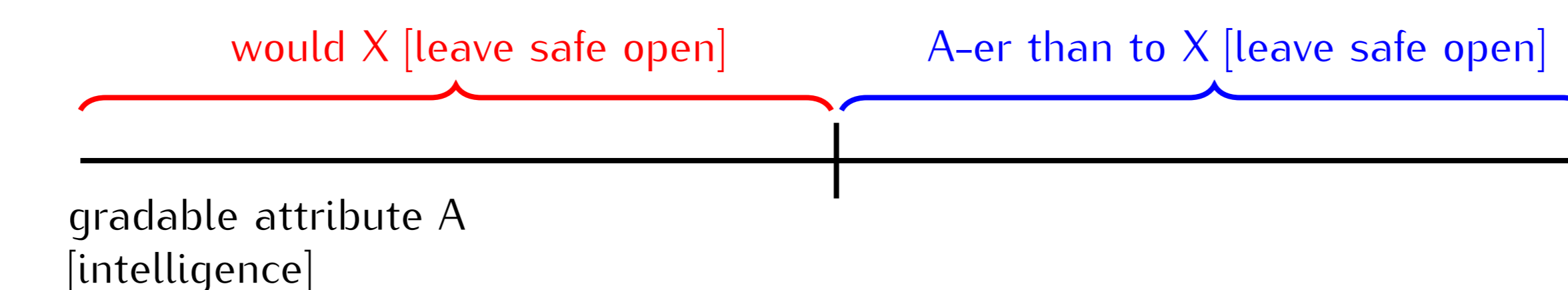
On this diagnostic, Cwl have a syntax that differs from all other comparative expressions.

3 Semantics

Let *taller than 5 feet/Jo* be represented schematically as follows:



A-er than to X (e.g., *smarter than to leave the safe open*) may be represented like so:



The meaning of ordinary comparatives may be captured in terms of degrees [3].

- (12) $\llbracket \text{er/more than } d_c \rrbracket = \lambda G \lambda x. \exists d [d > d_c \wedge G(d)(x)]$

Where d_c indicates the degree denoted by the *than*-clause, either directly by a measurement (*than 5 feet*) or indirectly (*than Leslie is, than we previously thought*).

• Adopting this for Cwl is not trivial.

• What it means for an individual to be smart/cautious/... is not what it means for a state-of-affairs to be smart/cautious/... Any comparison is not of like types:

- (13) a. {Jo/Leaving the safe unlocked} isn't smart.
b. Jo is smarter than to leave the safe unlocked.
c. *Leaving the safe unlocked is smarter than Jo (is).
d. # Which/Who is smarter: Jo or leaving the safe unlocked?

• Cwl semantics is closer to that of VALUE comparatives. Both involve one item and an abstract degree.

• But: the infinitival provides only an indirect measurement against which the individual's degree of intelligence/caution/... is measured.

• The indirectness is troublesome: *five feet* is a measure of length, but should *to leave the safe open* be construed as a measure of intelligence, caution, or whatever predicate is involved?

So we take a different approach:

• Constructionally [4] specify a semantics of SUFFICIENCY. Sufficiency predicates (*too, enough*) already relate the degree of an individual's attribute to a state-of-affairs (see Méier [1] for a recent treatment). I.e., *smarter than to X* is basically *smart enough to not X*.

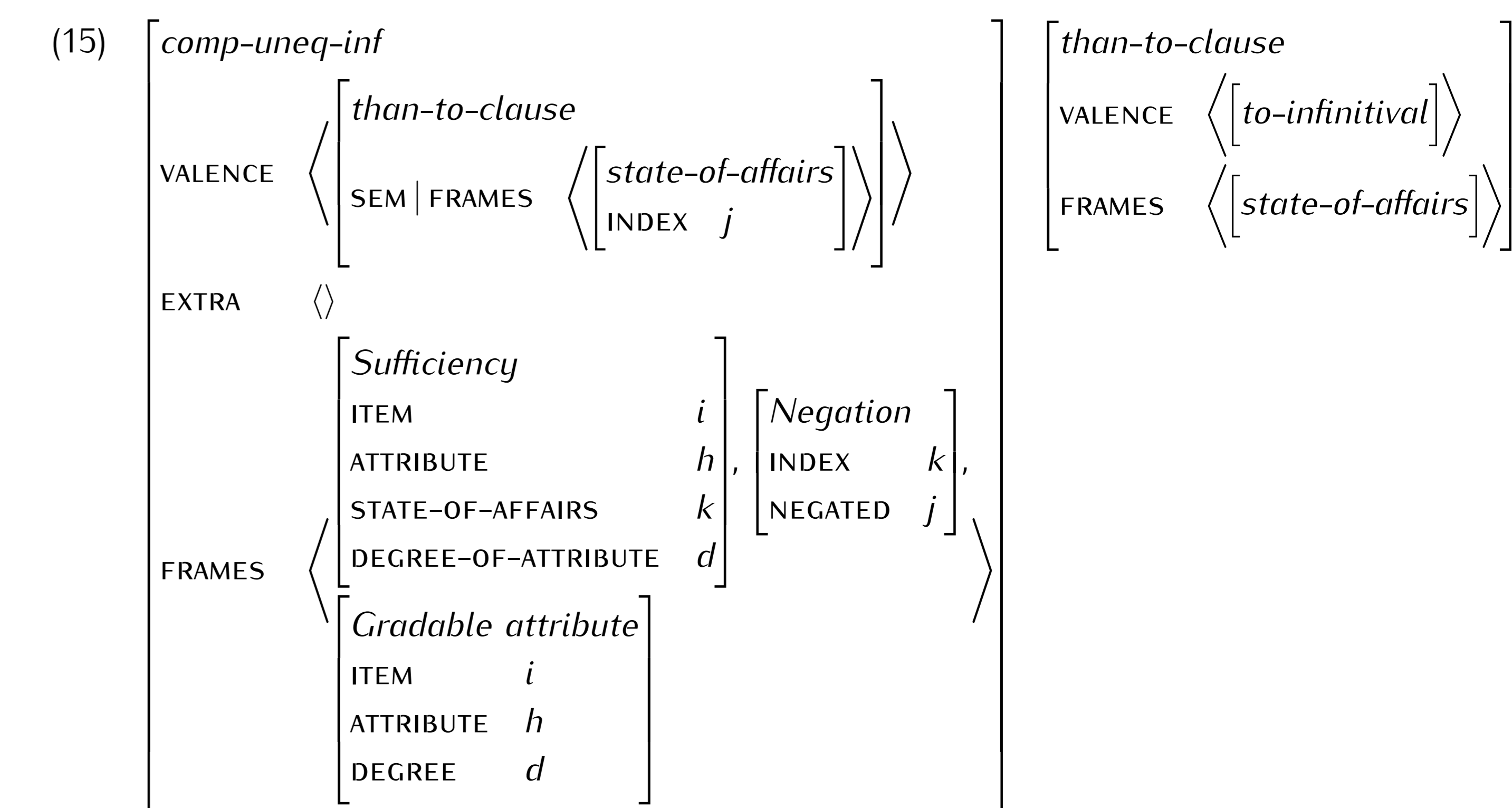
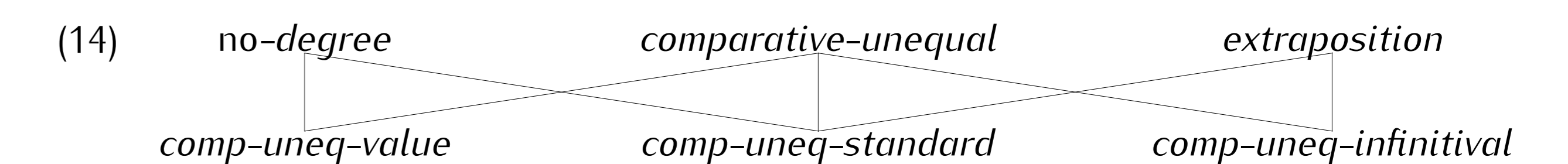
• The alternative is to create a special denotation for infinitivals in the context of comparatives (something like 'the range corresponding to ALL those values of [attribute] at which one might [effect a state-of-affairs]').

• Rather, the semantics of the comparative itself is novel, corresponding to a very specific constellation of syntactic properties.

4 Bringing it Together

Comparatives with infinitival standards of comparison...

- have the morphology and roughly the argument structure of other comparatives
- but have a mixture of several syntactic properties of other comparative constructions
- and have a semantics similar to comparatives, but more in line with predicates of sufficiency



References

- [1] M. Cécile. The meaning of *too, enough, and so...that*. *Natural Language Semantics*, 11:69–107, 2003. [2] N. Fleisher. *Adjectives and Infinitives in Composition*. PhD thesis, University of California-Berkeley, 2008. [3] C. Kennedy and L. McNally. Scale structure, degree modification, and the semantics of gradable predicates. *Language*, 81:345–81, 2005. [4] I. A. Sag. Sign-Based Construction Grammar: An informal synopsis. Unpublished manuscript, Stanford University, 2007.