

# The Boundedness Distinction in Adjectives

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## 1 Introduction

- (1) *Bounded/Absolute adjectives*
  - a. The door is open/closed.
  - b. The rod is straight/bent.

- c. The bottle is empty/full.
- (2) *Unbounded/Relative adjectives*
- a. Max is tall/short.
  - b. The book is good/bad.
  - c. Cindy is happy/sad.

Claims:

- ▷ The absolute/relative distinction is contextual. It does not belong inherently to the adjective (scale). Instead, it depends on (some property of) the noun that the adjective is predicated of.
- ▷ This fact is incompatible with degree semantics, in particular the compositional approach to the semantics of gradable adjectives as developed by Kennedy and McNally (2005) and Kennedy (2007).
- ▷ Instead, I shall argue that the absolute/relative distinction is extragrammatical/encyclopedic (in line with the proposals made in Borer 2005a,b).

## 2 Aspects of the absolute-relative distinction

### 2.1 Relative adjectives are vague (absolute adjectives are not)

#### 2.1.1 Contextual variability in truth conditions

- ▷ Sentence (3) may be true in Context 1, but false in Context 2.
- (3) The coffee in Rome is expensive.
- (4)
- a. Context 1: coffee in Naples, coffee in Milan, coffee in Bari, coffee in Venice, coffee in Palermo
  - b. Context 2: coffee in New York, coffee in Paris, coffee in Moscow, coffee in Tokyo, coffee in London
- ▷ These contexts define comparison classes, or a standard of comparison.
  - ▷ With relative adjectives, truth is relative to the comparison class.
  - ▷ A sentence like (5) is therefore not contradictory:

- (5) The coffee in Rome is both expensive and not expensive.
- ▷ The interpretation of absolute adjectives is not contextually variable in this way, because they involve an absolute standard (Kennedy 2007):
- (6) a. \*The door is both closed and not closed.  
b. \*The glass is empty and not empty.
- ▷ With relative adjectives, the standard of comparison may be made explicit, but not with absolute adjectives (McNally 2011):
- (7) a. Compared to her friend Andrea, Marta is tall.  
b. Marta is tall for an 11-year-old.  
c. Marta is taller than Andrea.
- (8) a. ??Compared to the front door, the back door is closed.  
b. ??My front door is closed for a front door.  
c. ??The front door is more closed than the back door.

### 2.1.2 Unclear cases

- (9) a. Organic Kona: \$20/pound  
b. Swell Start Blend: \$9.25/pound  
c. Mud Blend: \$1.50/pound
- (10) The Swell Start Blend is expensive. (relative)
- (11) The window is closed. (absolute)

### 2.1.3 The Sorites paradox

- (12) *The Paradox of the Heap*  
*Premise 1:* A single grain of sand does not make a heap  
*Premise 2:* If  $n$  grains of sand do not make a heap, then  $(n + 1)$  grains of sand do not make a heap  
*Conclusion:* A million grains of sand do not form a heap.
- (13) *Relative Adjectives*  
*Premise 1:* A \$5 cup of coffee is expensive.  
*Premise 2:* Any cup of coffee that costs 1 cent less than an expensive one is expensive.  
*Conclusion:* Therefore, any cup of coffee is expensive.
- (14) *Absolute Adjectives*  
*Premise 1:* This door is closed.

*Premise 2:* Any door that is 1 mm less closed than this door is closed.

*Conclusion:* Therefore, any door is closed.

## 2.2 Degree modifiers

- (15) a. *Absolute (proportional) modifiers:*  
completely, absolutely, totally, mostly, almost, half (full, closed, invisible)
- b. *Relative modifiers:*  
very, terribly, fairly (long, expensive, old, good)

## 2.3 Resultatives

- ▷ Green (1972), Vanden Wyngaerd (2001), Wechsler (2005) observe that resultatives only tolerate absolute adjectives:

- (16) a. She hammered it flat/smooth/shiny.  
b. He wiped it clean/dry/smooth.  
c. She cut the animal free/loose.
- (17) a. \*He hammered it beautiful/safe/tubular.  
b. \*He wiped it damp/dirty/stained.  
c. \*She cut the animal mad/angry.

## 2.4 Nonverbal modal complements in Dutch

- ▷ Barbiers (1995) notes that nonverbal modal complements are restricted to bounded (i.e. absolute) adjectives:

- (18) a. De trossen mogen los.  
The hawsers may loose  
'The hawsers may be released.'
- b. De fles moet leeg.  
The bottle must empty  
'The bottle must be emptied.'
- c. Het raam kan open.  
The window can open  
'The window can be opened.'
- (19) a. \*Het kantoor moet groot.  
The office must big  
'The office must be made big.'

- b. \*Die auto kan snel/traag.  
That car can fast/slow  
'That car can drive fast/slow.'
- c. \*De storm mag hevig.  
The storm may heavy  
'The storm may be made heavy.'

## 2.5 Inchoative auxiliary choice in Dutch

▷ Relative adjectives select *worden* 'become':

- (20) a. Marie is groot geworden/\*geraakt.  
'Marie has become tall.'
- b. Het kind is ziek geworden/\*geraakt.  
'The child has become ill.'

▷ Absolute adjectives select *raken* 'get':

- (21) a. De deur is open/dicht \*geworden/geraakt.  
'The door has become open/closed.'
- b. Het glas is leeg/vol \*geworden/geraakt.  
'The glass has become empty/full.'

## 3 The absolute-relative distinction is variable

### 3.1 Scalar variability

▷ Absolute/Relative is not in the adjective, but in (something about) the thing the adjective is predicated of.

▷ We call this phenomenon 'scalar variability' (Husband 2011).

▷ In the following, we consider some typical absolute adjectives (*empty*, *loose*, *open*) and show that they display relative behaviour when the subject is changed.

▷ EMPTY: typical absolute adjective.

- (22) The glass is half/almost/completely empty. (absolute)

▷ But if we change the subject ...

- (23) My life has been very/terribly/fairly empty. (relative)

- ▷ ... all the properties of relative adjectives show up: relative modifiers, dependence upon a contextual standard, unclear cases, susceptibility to the Sorites paradox.

- (24) a. \*The glass is empty and not empty.  
b. My life has been empty and not empty.

- ▷ LOS ‘loose’

- (25) a. De trossen zijn helemaal/\*?erg los. (absolute)  
The hawsers are completely/very loose.  
‘The hawsers are completely/very released.’  
b. De moraal is er erg/\*helemaal los. (relative)  
The morals are there very/completely loose.  
‘Morals are very loose there.’

- ▷ The nonverbal modal complement test confirms this shift in behaviour:

- (26) a. De trossen mogen los. (absolute)  
The hawsers may loose  
The hawsers may be released.  
b. \*De moraal mag los. (relative)  
The morals may loose  
‘Morals may be loosened.’

- ▷ OPEN:

- (27) a. The window is completely/half/almost open. (absolute)  
b. \*The window is very/terribly/fairly open.  
(28) a. a completely/\*?half/??almost open attitude (relative)  
b. a very/terribly/fairly open attitude

- ▷ Again, the nonverbal modal complement test confirms the shift from absolute to relative, depending on the choice of subject:

- (29) a. Het raam moet open. (absolute)  
the window must open  
‘The window must be opened.’  
b. \*?Zijn houding moet open. (relative)  
His attitude must open.  
‘His attitude must be open.’

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- ▷ ‘very open’ (relative modifier): 49 hits.
- (30)
  - a. a very open person/process/view/weave texture/landscape/ texture/intelligence/capital market system/mind
  - b. very open people/questions/gravel flushes
- ▷ ‘almost open’ (absolute modifier): 4 hits
- ▷ ‘half open’ (absolute modifier): 35 hits:
- (31) door, gate, mouth, eyes, lid, top, shirt, wings, flaps
  - ▷ Boundedness with ‘half open’ stems from the noun, or rather some encyclopedic/world knowledge property of the noun. The property involves movement on a hinge of sorts, and this movement is somehow physically bounded.
  - ▷ ‘completely open’ (absolute modifier): 21 hits:
- (32) a completely open person/window/road/market/platform/mind/situation/way/product range
  - ▷ Much wider range of nouns than with ‘half open’ (31).
  - ▷ Some of the nouns that are found with ‘completely open’ are also found with ‘very open’ in (30).
- (33) a very/completely open person/mind
  - ▷ ‘Open’ shows very mixed behaviour with respect to the absolute/relative distinction
  - ▷ HARD ‘hard’
  - ▷ Relative or absolute? It depends on the kind of subject:
- (34)
  - a. De cement is bijna hard. (absolute)  
‘The cement is almost hard.’
  - b. Hun houding tegenover geweld is erg hard. (relative)  
‘Their attitude towards violence is very tough.’
- ▷ As before, the nonverbal modal complement test confirms the distinction:

- (35) a. Voor we verder kunnen werken, moet de cement eerst hard.  
before we further can work must the cement first hard  
'Before we can go on working, the cement must first be hard.'
- b. \*De houding van de politie moet hard.  
the attitude of the police must hard  
'Police attitude must be tough.'

▷ WET-DRY

- (36) a. a very wet climate (relative)  
b. a half/almost wet towel (absolute)
- (37) a. This region of the country is very dry. (relative)  
b. The glasses are \*?very/half/almost dry. (absolute)

### 3.2 More scalar variability: Quantity interpretations

▷ Rather than involving a scale of ordered degrees, the adjective can be true of more or less parts of the subject.

- (38) a. ??Outside it's completely hot. (Kennedy and McNally 2005, 365)  
Intended: 'All of outside is hot.'
- b. The baby's face is completely hot.  
'All of the baby's face is hot.'
- (39) a. ??Milk is completely white.  
Intended: 'All of the milk is white.'
- b. His suit was completely white.  
'All of his suit was white.'
- (40) a. The meat is half cooked.  
= The degree to which the meat is cooked is halfway between uncooked and fully cooked (degree interpretation)  
= Half of the meat is cooked (quantity interpretation)
- b. The crops are partially frozen.  
= The degree to which the crops are frozen is halfway between unfrozen and frozen (degree interpretation)  
= Half of the crops are frozen (quantity interpretation)
- (41) a. Het meisje is (\*?half) stil. (M. De Belder, p.c.)  
the girl is half silent.  
'The girl is half quiet.'
- b. De zaal is half stil.  
the room is half silent  
'Half of the room (i.e. audience) is quiet.'



- ▷ If a relative adjective can get a quantity reading, it shifts to the absolute class.

(42) The room is completely quiet.

- ▷ Absolute modifiers, no contextual variability in truth conditions, no unclear cases, no Sorites paradox, can occur as a modal complement.

- (43) a. \*?Het meisje moet helemaal stil.  
           the girl must completely silent.  
           ‘The girl must be completely quiet.’  
       b. De zaal moet helemaal stil.  
           the room must completely silent.  
           ‘All of the room must be quiet.’

### 3.3 Quantity interpretations with *completely*

- ▷ ‘Completely’ is quite common with all sorts of gradable adjectives (example from Kennedy and McNally 1999, n1).

- (44) a. #The line is completely straight, but it could be straighter.  
       b. I’m completely uninterested in finances, but Bob is even less interested.

- ▷ ‘Completely’ suggests an (absolute) maximum degree. So why isn’t (44b) a contradiction?

(45) For a student who has just moved here, she is very familiar with the class routines and her teachers’ expectations. In fact, she’s completely familiar with them. (McNally 2011)

- (46) a. My analysis is very/completely different from yours.  
       b. My analysis is very/completely similar to yours.

- ▷ Cases like these with ‘completely’ involve quantity readings: ‘completely different’ means ‘different in all respects’.

- ▷ The relative modifier ‘very’ refers to the degree structure of the adjective, the absolute modifier ‘completely’ quantifies over parts of the subject.

### 3.4 Scalar variability in absolute adjectives

- ▷ In a restaurant context, a glass filled to no more than half its capacity can count as a full wine glass (McNally 2011).
- (47) The wine glass is full.
- ▷ In such a case, standards of comparison may be made explicit, the Sorites paradox arises again, and typical relative modifiers appear:
- (48) a. Compared to my wine glass, your wine glass is full.  
 b. My wine glass is full for a wine glass.  
 c. My wine glass is fuller than your wine glass.
- (49) *Premise 1:* This wine glass is full.  
*Premise 2:* Any wine glass that is 1 ml less full than this wine glass is full.  
*Conclusion:* Therefore, any wine glass is full.
- (50) This wine glass is fairly/very/terribly full.
- ▷ An even more extreme case is (51), where ‘full’ may indicate something like ‘filled to half its capacity’:
- (51) My bath is (very) full.
- ▷ Even though the standard of fullness is absolute in these cases, ‘full’ is used as an adjective with a relative standard, i.e. we have scalar variability with ‘absolute’ adjectives (McNally 2011).
  - ▷ When interpreting ‘full’ with a relative standard (even though an absolute one is available), we are relying on encyclopedic knowledge, such as conventions on what counts as a full wine glass.

## 4 Degree Semantics

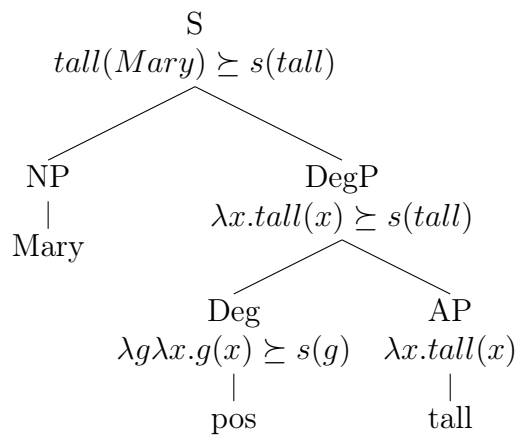
- ▷ The facts discussed in the previous section indicate that the absolute/relative distinction is not in the adjective itself, but that adjectives show scalar variability.
- ▷ This fact is incompatible with degree semantics (Bartsch and Veneman 1972; Cresswell 1976; Kennedy 1999; Kennedy and McNally 2005; Kennedy 2007).

- ▷ Degree semantics: gradable adjectives are not predicates (of type  $\langle e, t \rangle$ ), but denote functions from individuals to ordered sets of degrees (type  $\langle e, d \rangle$ )

$$(52) \quad \llbracket \text{tall}(\text{Mary}) \rrbracket = 1.79\text{m}$$

- ▷ The denotation type  $\langle e, d \rangle$  is converted into a property (i.e. a function from individuals to truth values) via degree morphology, which is of the type  $\langle \langle e, d \rangle, \langle e, t \rangle \rangle$ .

(53)



- ▷ ‘The degree to which Mary is tall is equal to or exceeds the standard degree of tallness.’
- ▷ Positive degree morphology introduces contextual variability through the standard  $s$ :  $s$  is ‘the contextually appropriate standard of comparison’.
- ▷ As we saw earlier, relative adjectives have a relative standard, i.e. the standard  $s$  is determined relative to a contextually determined comparison class.
- ▷ With absolute adjectives, the analysis is the same, except that the standard values for closed scales are minimal or maximal degrees, referring to the maximum or the minimum of the scale (depending on the adjective).
- ▷ In this analysis, the type of an adjective (absolute or relative) ultimately reduces to the type of standard  $s$ , which itself is associated with positive degree morphology, but which also varies in function of the type of adjective that  $s$  is applied to.

- ▷ The evidence concerning scalar variability suggests that the source of the absolute-relative distinction is situated in (something about) the noun the adjective is predicated of.
- ▷ The degree analysis fails to account for the observation that scale type varies with the adjective's subject.

## 5 How to explain scalar variability?

- ▷ Borer (2005a,b): functional ('grammatical') vocabulary vs substantive vocabulary (content words)
- ▷ The substantive vocabulary of a language represents an extra-grammatical conceptual system of encyclopedic knowledge.
- ▷ Rich encyclopedic meaning can easily be overridden or coerced (e.g. mass-count shifts), whereas functional/grammatical meaning cannot (e.g. plural-singular).
- ▷ Is the absolute/relative distinction grammatical or encyclopedic?
  - adjective = substantive vocabulary → encyclopedic
  - positive degree morphology = functional vocabulary → grammatical
- ▷ The scalar variability of adjectives with respect to the absolute/relative distinction, and in particular its sensitivity to aspects of world knowledge, suggest that its primary nature is encyclopedic.

## 6 Conclusion

- ▷ The absolute/relative displays scalar variability.
- ▷ This fact is incompatible with degree semantics.
- ▷ It supports the idea that the absolute/relative distinction is extra-grammatical/encyclopedic.

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