Gradable abstract nouns and eventualities

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Outline

Introduction: Abstract nouns related to gradable adjectives

Data: Two types of gradable adjective related abstract nouns

Background

Analysis

Discussion of other accounts

GNs: Gradable abstract Nouns related to gradable adjectives

- The morphologically simpler form can be nominal or adjectival

Property	English Adj		English N	Finnish Adj		Finnish N	German Adj		German N
BEAUTY	beautiful	←	beauty	kaunis	→	kauneus	schön	→	Schönheit
COURAGE/	courageous	←	courage	rohkea	→	rohkeus	mutig	←	Mut
BRAVERY	brave	→	bravery				tapfer	→	Tapferkeit
GUILT	guilty	←	guilt	syyllinen	→	syyllisyys	schuldig	←	Schuld
HONESTY	honest	→	honesty	rehellinen	→	rehellisyys	erhlich	→	Erhlichkeit
WISDOM	wise	→	wisdom	viisas	→	viisaus	weise	→	Weisheit

Table: Adjective-Noun (Adj-N) pairs in English, Finnish and German. Arrows indicate derivational dependencies, 'is derived from', such that a ← b means that a is morphologically derived from b.

Outline

- Summarise previously observed distributional similarities/differences between Gradable Adjectives (GAs) and related Gradable abstract Nouns (GNs)
  - both allow temporal and degree modification, some GNs have e.g., more non-positive readings
- Identify two classes of these abstract GNs: DISPOSITIONAL (*bravery*) vs. NON-DISPOSITIONAL (*beauty*)

Main Goal

- Account for the distributional differences between GAs and GNs, as well as between dispositional and non-dispositional GNs

- Proposal: GAs and GNs share a common semantic core: a measure function on STATES
  - Type distinction between GAs ($\langle s, \langle d, \langle v_s, \langle e, t \rangle \rangle \rangle \rangle$) and GNs ($\langle s, \langle d, \langle v_s, t \rangle \rangle \rangle$)
- Proposal: DISPOSITIONAL GNs (*bravery*) make available a set of eventualities that manifest the relevant STATE, NON-DISPOSITIONAL GNs (*beauty*) do not

GAs vs. GNs: Parallels and Differences

Some Parallels

- Degree modification (e.g., Nicholas 2010; Doetjes 1997):

(1) a. more/equal/considerable bravery
    b. more/equally/considerably brave

- Spatiotemporal modification (e.g., Zato 2020):

(2) a. Alex's bravery yesterday in court
    b. Alex was brave yesterday in court.

Some differences

- Quantification: *a lot of bravery* (primarily, a *measure* reading) vs. *was brave a lot* (no *measure* reading, only multiple instantiations, see e.g., Wellwood 2016)
- Nominals admit of more, and more natural non-positive readings: *Alex's bravery is lacking – Alex is brave ?in a lacking way* (see e.g., Wellwood 2014)

beauty vs. *bravery*: stativity

Both are stative

(3) a. ?Alex's three minute/year long bravery
b. ?The garden's/Fido's three minute/year long beauty
c. Alex's three minute long speech/four hour long party

(4) a. Alex's constant/ever-present bravery
b. The garden's/Alex's constant/ever-present beauty
c. ?Alex's constant/ever-present speech/party

beauty vs. *bravery*: Spatiotemporal location

Restriction to a spatiotemporal location:

- Relatively unrestricted for *bravery*
- More restricted for *beauty*, the referent must be reasonably conceived of as undergoing a change of state across salient times/places

(5) a. Alex's bravery yesterday/on the battlefield was noteworthy
b. (i) The garden's beauty last winter was noteworthy
(ii) ?Alex's beauty last year/in Greece was noteworthy

beauty vs. *bravery*: Acts and actions

bravery but not *beauty* of an agent can be exemplified straightforwardly in terms of acts/actions

(6) a. Those (three) acts/actions showed Alex's bravery
b. ?Those (three) acts/actions showed of Alex's beauty

Dispositional vs. non-dispositional GNs

Claim:

- Bravery needs one at least to be disposed to act in a certain way (to perform acts of bravery)
- Beauty does not require any actions/dispositions to act (whilst in that state)

Nouns that pattern with *bravery*: *courage*, *honesty* — DISPOSITIONAL GNS
Nouns that pattern with *beauty*: *anger*, *guilt*, *happiness* — NON-DISPOSITIONAL GNS

Degree-based accounts of Gradable Adjectives

Bartsch and Vennemann 1972; Cresswell 1977; Bierwisch 1989; Heim 2000, Kennedy 2007; Bylinina 2014; Solt 2018 a.m.o

Kennedy-style: Measure function type $\langle e, d \rangle$

(7) $[\![\text{tall}]\!] = \lambda x.\mu_{\text{TALL}}(x)$
Function from individuals to the degree they are tall

Heim-style: Relational type $\langle d, \langle e, t \rangle \rangle$

(8) $[\![\text{tall}]\!] = \lambda d.\lambda x.\mu_{\text{TALL}}(x) \geq d$
Relation between individuals and the degree to which they are tall

In both cases, a POS operation can introduce a contextual standard, $std_{\mu_{\text{TALL}}}$

(9) $[\![\text{POS}]\!]([\![\text{tall}]\!]) = \lambda x.\mu_{\text{TALL}}(x) \geq std_{\mu_{\text{TALL}}}$

Gradable Adjectives as properties of STATES

- Anderson and Morzycki 2015:
  - A two-place relation between STATES and individuals e.g.: $[\![\text{beautiful}]\!]_{\langle e,\langle v,t\rangle\rangle} = \lambda x.\lambda s.\mathit{beautiful}(s,x)$
  - Degrees replaced with *state kinds*

- Wellwood 2016, 2014; Zato 2020 (see also Baglini 2015; Husband 2010):
  - Even simple predication with gradable adjectives (*Ann was happy*) involves predication over states
  - One-place predicate of STATES e.g.: $[\![\text{beautiful}]\!]_{\langle v,t\rangle} = \lambda s.\mathit{beautiful}(s)$
  - Measures on states introduced by e.g., *more*

Addressing a possible worry about i-level predicates

- Predicative uses of *brave* and *beautiful* are i-level (Carlson 1977, e.g., *#There are firemen brave/beautiful*).
  - Evidence that their semantics do not contain a Davidsonian eventuality/spatiotemporal variable (e.g., Kratzer 1995; Diesing 1992)?
- However Condoravdi (1992) and McNally (1994): what differentiates i- and s-level predicates are temporal persistence inferences
- Even one of Kratzer's (1995) tests classifies *schön* ('beautiful', German) as having an eventuality argument as shown by availability of reading (10b):

(10) ... weil diesen Sommer fast alle Gärten schön waren.
... since this summer almost all gardens beautiful were

a. ...since almost all of this summer's gardens were beautiful (some of the gardens (that we saw) this summer were not beautiful).

b. ...since almost all of the gardens were beautiful this summer (a different proportion (of the same gardens) may have been beautiful in previous summers).

Abstract nouns that denote eventualities

Non-gradable abstract nouns such as *belief*, *statement* have also been argued to express properties of eventualities (e.g., STATES, PROCESSES or EVENTS)

- Grimm 2014 e.g., psych nouns can denote the experiencer state or the stimulus
- Elliott 2020: nouns such as *explanation* expresses a root property of events. Thematic roles are introduced in the syntax via functional heads
- Sutton 2022; Sutton and Filip 2020 nouns such as *statement* and *belief* have an eventuality denoting sense (but are polysemous, so also have an informational entity-denoting sense)
- Zato 2020 uses elements of Anderson and Morzycki's account to derive the semantics of nominals from the semantics of gradable adjectives. Predicts semantic equivalence of e.g. *bello* ('beautiful') and *belleza* ('beauty) in some constructions (*la bellaza de Juan* and *Juan (es) bello*)

Outline

Analysis Outline

1. GAs and related GNs (*bravery*, *beauty*) distinguished from other abstract nouns that can denote states (*knowledge*, *opinion*) by the presence of a degree-based measure function on STATES for the former (cf. Zato 2020)
   - This measure function is a common root between GAs and related GNs
2. GAs and GNs differ in semantic type – This is used to block POS for GNs:
   - GAs: relation between degrees, STATES and a property of individuals (cf. Husband 2010)
   - GNs: relation between degrees and a property of STATES
   - Main idea: After $\exists$-closing, applying POS etc.,
     GAs are fundamentally properties of individuals
     GNs are fundamentally properties of STATES
3. Dispositional vs. non-dispositional GNs: Only dispositional STATES (states that are dispositions to act in a certain way vs. states of being a certain way) are related via a *Manif*estation relation to a set of actions
   - This set of acts can be targeted by spatiotemporal expressions (e.g., *bravery in court yesterday*)

Measure functions on STATES

- Shared root of gradable adjectives and related nominals is relation formed from a measure function on states
- Roughly the kind of measure function assumed by Husband's (2010) analysis of GAs

(11) $\sqrt{\mathrm{P}} = \lambda w.\lambda d.\lambda s.\mu_{\mathrm{P}}(w,s) \succeq d \quad : \langle s,\langle d,\langle v_s,t\rangle\rangle\rangle$

A measure function of states, s, wrt a world, w st $\mu_{\mathrm{P}}(w,s) \succeq d$ says that s measures at least degree d wrt property P in w

(12) $[\![\text{beautiful}]\!]_{\langle s,\langle d,\langle v_s,\langle e,t\rangle\rangle\rangle\rangle} = \lambda w.\lambda d.\lambda s.\lambda x.\mu_{\mathrm{BEAUT}}(w,s) \succeq d \wedge Th(s,x)$

(13) $[\![\text{beauty}]\!]_{\langle s,\langle d,\langle v_s,t\rangle\rangle\rangle} = \lambda w.\lambda d.\lambda s.\mu_{\mathrm{BEAUT}}(w,s) \succeq d$

No POS for nominals

- POS defined for GA type $\langle s, \langle d, \langle v_s, \langle e, t \rangle \rangle \rangle \rangle$, not for GN type $\langle s, \langle d, \langle v_s, t \rangle \rangle \rangle$

(14) $[\![\text{POS}]\!]([\![\text{(be) beautiful}]\!]_{\langle s,\langle d,\langle e,t\rangle\rangle\rangle}) = \lambda w.\lambda x.\exists s.\mu_{\text{BEAUT}}(w,s) \geq std_{\mu_{\text{BEUT}}} \wedge Th(s,x)$

Gradable nominals undergo ∃-closure of *d* instead

(15) a. $[\![\text{Alex's}_{\text{ theme}}]\!] = \lambda\mathfrak{P}_{\langle s,\langle v,t\rangle\rangle}.\lambda w.\iota s.\mathfrak{P}(w)(s) \wedge Th(s, \text{alex})$

(Approx. *Event Identification* in Kratzer 1996)

b. $[\![\text{Alex's beauty}]\!]$

$= [\![\text{Alex's}]\!]([\![\exists\text{-CI}]\!]([\![\text{beauty}]\!]))$

$= \lambda w.\iota s.\exists d.\mu_{\text{BEAUT}}(w, s) \succeq d \wedge Th(s, \text{alex})$

Dispositional vs. Non-dispositional Nominals

- A sortal distinction between STATES
  - STATES which are manifested by acts: eventualities that are not parts of that STATES
  - STATES which are not manifested by acts/actions

(16) $\lambda s.\lambda e_{:\neg e \sqsubseteq s}.Manif(s, e) :=$ for STATES, s, the set of eventualities that manifest s (or some part(s) of s), but are not themselves an improper part of s

Options for analysing dispositional state GNs

1. Polysemy: a STATE reading and an eventuality reading
   - Problem: There is no eventive countable sense: *a bravery* $\neq$ 'an act of bravery'
2. *Manif* is encoded in verbal predicates such as *shows*
   - Problem: what about *Alex's bravery yesterday was notable*?
3. Associated events in the lexicon (similar to associated reading events for *book* in Pustejovsky 1995)
   - E.g., the *constututive* (CONST) qualia attribute: what constitutes *s*, accessible via a routinised coercion

Application to *bravery*

(17) a. $[\![\text{bravery}]\!]_{\langle s,\langle d,\langle v_s,t\rangle\rangle\rangle}$
$= \left\langle \lambda w.\lambda d.\lambda s.\mu_{\text{BRAV}}(w,s) \succeq d,\ \text{CONST} = \lambda e.\mathit{Manif}(s,e) \right\rangle$

b. $[\![\text{bravery yesterday}]\!]_{\langle s,\langle d,\langle v_s,t\rangle\rangle\rangle}$
$= \left\langle \lambda w.\lambda d.\lambda s.\exists e.\mu_{\text{BRAV}}(w,s) \succeq d \wedge \mathit{Manif}(s,e) \wedge \tau(e) = \text{yesterday},\right.$
$\left. \text{CONST} = \lambda e.\mathit{Manif}(s,e) \right\rangle$

- *bravery yesterday* analysed as a routinised coercion: the state of being brave that was manifested by certain actions/events yesterday

Analysis Summary

- A type distinction between gradable adjectives and related nouns, but derived from a common measure based root, and both have a degree argument, both are stative
  - Accounts for why degree modifiers are applicable to both
  - Can also be used to block POS applying to nominal predicates
- A distinction between gradable abstract nouns: dispositional and non-dispositional
  - Proposal: Only dispositional GNs have an associated set of eventualities/actions that make the state manifest
  - Used as a 'hook' for constructions such as *showed bravery* and *bravery yesterday*

Outline

Tropes

GAs and GN analysed in terms of tropes (particular instantiations of properties)

- e.g., Moltmann 2004, 2013, 2004; Nicholas 2010
- Moltmann argues against a STATE-based analysis:

(18) a. John saw the beauty of the rock formation.
b??John saw (the state of) the rock formation being beautiful. (M 2013, p. 51)

- not clear that *the state of* maps to the technical term STATE
- not clear that this test is decisive:

(19) a. I [...] immediately felt ashamed that I'd let them see my fear. (BNC)
b. [their] sole purpose as Chanel's ambassadors is to be seen (and documented) being beautiful (enTenTen21)

- A STATE-based account also offers unification with other eventuality-denoting abstract nouns (e.g., *party*, *statement*)

Wellwood's (2016) use of 'covert eventisers'

- Welwood uses a Kratzerian 'covert eventiser' mapping to derive pluralities of atomic events from states for some GA constructions
  - Not suitable for dispositional GNs, since this would predict an unattested countable reading

Summary

A STATE and degree based account of GNs

- Connects to a common semantic core with GAs
  - But unlike pure state-based accounts offers a clear difference between GNs and GAs. Once the *d* argument is filled/closed:
    - GAs are fundamentally properties of individuals
    - GNs are fundamentally properties of STATES
- Provides a link to other kinds of abstract nouns that have at least an eventuality-denoting sense (e.g., *belief*, *party*, *statement*)
- But also clearly demarcates GNs from these other abstract nouns
  - Degree-based measure function or not
- At least a competitor to a tropes-based view

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More arguments against STATES from Moltmann 2013

Moltmann's arguments in outline

(20) a. A state in which e.g, Alex is beautiful can always be denoted by constructions such as *(the state of) Alex's being beautiful*

b. The distribution of e.g., the construction *Alex's beauty* is not identical to the distribution of the construction *(the state of) Alex's being beautiful*

c. Therefore, e.g., the construction *Alex's beauty* does not denote a STATE

Not obvious we must accept (20-a)

- TCs of e.g., *Alex is British* assumed to be e.g., *there is a state (or sum of states) in which Alex is British*
- But:

(21) a. ?There is an Alex's being British
b. ?There is a being British of Alex

- The gerund introduces tense and aspect in a way that is not controlled for. Cf:

(22) ?Alex is being beautiful.

More arguments against STATES from Moltmann 2013

(23) a. *the sharpness of the knife = the sharpness of the blade of the knife*
b. *the state of the knife being sharp ≠ the state of the blade of the knife being sharp*

- Not so clear that there is a contrast
- Minimally, an inferential relationship:
  - If s is a state of a knife, namely that being sharp, then there is also a state s' of the blade of the knife being sharp
- Arguably, mereological parthood:
  - $s' \sqsubseteq s$