

# **Constructions for measurement and comparison in Japanese and English**

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# Cross-linguistic constructions

- How to compare constructions across languages?
  - By similarity in form?
  - By similarity in meaning?
  - Covariation in both form and meaning?
- How to know when you've got things you can even start to compare? (Fried & Östman 2004; Boas and Weilbacher, 2006; Fujii 9/26)

# A preview

- A measurement expression in English:  
Value+Dimension
  - [Two meters] [deep], [three feet] [wide], [an inch] [thick], [thousands of pages] [long]
- A superficially-identical expression in Japanese:
  - [*100 peeji*] [*nagai*], [*5 kilo*] [*omoi*]  
[100 pages] [long], [5 kg] [heavy] ← gloss  
“100 pages longer” “5 kilograms heavier”
- What can we say about this?

# Constructions cross-linguistically

- What we did:
  1. Select a semantic domain likely to be expressed across multiple languages, with identical or nearly-identical primitives. (so, not social-interactive emotions).
    - Measurement and comparison, especially of physical dimensions – concrete units of measurement
  2. Assemble sentences in languages of interest that express these semantic notions.
  3. See what happens.

# Theoretical Tools

- Cross-linguistic comparison (“xl-comparison”)
- FrameNet-style frame semantics
  - Potential for cross-linguistic applicability
  - Well-established method for diagnosing semantic elements
- Construction grammar
  - Flexible but formal(izable) specification of form
  - Meshes well with frame semantics
  - Evaluate cross-linguistically FrameNet-style annotation as extended to constructional analysis

# Theoretical Tools: a history

- FrameNet-style frame semantics
  - from Case Grammar: word-centered, basic roles
  - via a switch to a scene/frame-centered view
  - with frame-specific roles
- Construction grammar
  - a model of linguistic form—lexical, phrasal, etc.
  - with frames as a model of meaning
  - And: all types of constructions may evoke frames

# Semantic bases: Measurement

- Frame elements:
  - Item
  - Dimension (scalar)
  - Value
- An Item (e.g., a desk) has a dimension (e.g., height, depth, width) which can be measured on a scale of appropriate units (inches, meters, etc).
- Applicable to non-linear dimensions (intelligence, weight, beauty).

# Measurement-evoking cxns

- What evokes **Measurement**? Particular constructions:
- English:
  - [value]+[dim-adj]: *two feet wide; 100 pages long*
  - [value] in [dim-noun]: *two feet in width*
  - Have a [dim-noun] of [value]: *have a width of two feet*
- Japanese
  - [dim-n]+[value]: *nagasa 100 peeji; futosa 2 meetoru*
  - [value]+aru/da (dimension implicit): *100 peeji da/aru*

# Formal xl-comparison: part 1

- Consider [value]+[dimension] again.
- In English, only age- and linear-dimension-denoting adjectives are licit (\*two pounds heavy, \*105 IQ points intelligent). Only “neutral” adjectives are licit (\*two feet short)
- Japanese [value]+[dimension] structures do not have these restrictions, but they have different semantics and evoke different frames (**Comparison**, rather than **Measurement**)
  - *2 meetoru hikui*: “2 meters shorter”
  - *2,000 en takai*: “2000 yen more expensive”

# Semantic bases: Comparison

- Goal: compare English and Japanese expressions of **Comparison**
- FEs: Item, Standard, Scale, Value (Difference, Extent)
- An Item and a Standard have Values on a Scale. These Values are compared for their relative value (greater than, equal to, etc.).
- We can now consider what constructions evoke the **Comparison** frame.

# Comparatives: English

Construction  
Elements

Frame  
Elements

*She*  
*is*  
*six inches*

External  
support verb  
Specifier

Item  
  
Extent

*tall*  
*-er*

Base  
Marker

Scale  
Direction

*than her father*

Complement

Standard

# Interlude: Construction Elements

- Inner elements: canonical or idiosyncratic juxtaposition of words/phrases.
  - [[tall] [er]], [[[less] [tidy]]]
  - [[fifty miles] [a gallon]]
  - The result: something like a lexical item
- Outer elements: the “valence” of the construct.
  - Correspond to Frame Elements
  - [my car] gets [[fifty miles] [a gallon]]

# Comparative: Japanese

Construction  
Elements

Frame  
Elements

*kono hon no-hoo wa*  
this book MRKR TOP

External

Item

*ano hon yori*  
that book MRKR

Complement

Standard

*hyaku peeji*  
100 page

Specifier

Extent

*motto nagai*  
more long

Base+mrkr

Scale+direction

# Japanese Comparison: variations

- Three classes of markers (indicators, constructional evokers) of **Comparison** exist:
  - The Item marker *no hoo* (outer element)
  - The Standard marker *yori* (outer element)
  - Adverbs: *motto* ‘more’, *haruka ni* ‘by far’, *wazuka* ‘a little’ (inner element)
- The Item and Standard need not be of the same type (we’ll get to that later).
- But recall that no marker need be present to evoke **Comparison**

# Markerless Comparatives

- Japanese must have a construction to license [Measure]+[Adj] constructs like *100 peeji nagai*
- This syntactic juxtaposition may be motivated, but the interpretation is unexpected.
- Key indicator of **Comparison**: null Standard
  - *kono hon wa nagai* ‘this book is long (for a book)’
  - *...wa 100 peeji nagai* ‘this book is 100 pages longer (than that other thing we’ve been talking about)’
  - cf *That book is (100 pages) longer*

# Formal xl-comparison: part 2

- Reconsider *taller than six feet*
  - There is no formal parallel in Japanese:
    - (1) \**Taroo-wa 6 fiito-yori se-ga takai*  
Taroo-TOP 6 feet-MRKR height-NOM tall
    - (2) *Taroo-wa 6 fiito ijoo aru*  
Taroo-TOP 6 feet more.than have
- Not a Framal distinction, but a Constructional one: Standard\_value is an element in the English Comparative cxn, but not the Japanese one. Japanese has other means to express the same idea.

# Formal xl-comparison: part 3

- The English Comparative allows for comparison of degrees on different (but commensurate) scales
  - *the pool is deeper than it is long*
  - *his prose is duller than his theory is laughable*

# Formal xl-comparison: part 3

- This seems to be prohibited in Japanese
  - *\*kono puuru-wa nagai-yori fukai*  
this pool-TOP long-MRKR deep  
*'This pool is deeper than it is long*
  - *Kono puuru-wa nagasa-yori fukasa-no-hoo-ga fukai/nagai*  
this pool-TOP length-MRKR depth-MRKR-NOM  
deep/long
- Less clear if this is a construction- or frame-based difference

# Formal xl-comparison: part 4

Japanese allows an Item/Standard asymmetry not found in English (Hirose 2007)

(1) nihon-no jinkoo-wa kankoku-yori ooi  
Japan-GEN population-TOP Korea-mrkr numerous  
'Japan has a greater population than Korea'

(2) Taroo-no uchi wa Ziroo yori ookii  
T.-GEN house-TOP Z.-mrkr large  
'Taroo has a larger house than Jiroo'

# Semantic composition

- We've got **Comparison**
  - Item, Standard, Scale, Value(s)
- and a Comparative construction
  - Specifies realization of Item (as External), Standard (as NP, clause, in the same or different mental space, etc.)
  - Provides (in English) possibility for Standard\_value, multiple scales
  - Provides (in Japanese) possibility for Item/Attribute asymmetry

# Semantic composition

- Composition of *longer*
  - *long* evokes **Measurement**; *er* evokes **Comparison**
  - **Measurement** has FEs Item, Scale, Value; *long* specifies that Scale = “length” (“incorporation”)
  - **Comparison** has FEs Item, Scale, Standard, Direction; *-er* specifies Direction= “greater”
  - Comparative construction sets Measurement.Value to be greater than (that of) the Standard; it also sets the Compared Item to be identical the Measurement Item.

# Summing up

- Japanese and English have superficially-similar comparative constructions, which express various parts what we believe is the same underlying **Comparison** frame.
- Other, formally-distinct constructions also evoke the **Comparison** frame.
- Some formally similar constructions actually evoke rather different frames.
- So keep comparing!

# Thank you!

Thanks to the presenters, attenders,  
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ICCG-5!

Slides and paper to be available at  
<http://socrates.berkeley.edu/~hasegawa>

# English comparative: variations

- The Extent need not be expressed.
- An approximation (*much, a bit*) or multiplicative (*several times*) may be expressed.
- The marker may indicate equality (*as*) or inequality, either as *-er, more, or less*.
- Some dependencies exist
  - Extent is not possible for comparisons of equality
  - The semantics of Standard\_value in comparisons of equality is unpredictable (*as tall as six feet*)

# English Comparatives: variations

- The Standard may also be clausal
  - *She is taller than her father is*
- or indicate an entity in another mental space
  - *She is taller than she thinks*
- or indicate another dimension
  - *The door is taller than it is wide*
- or indicate a precise value
  - *She is taller than six feet (nb: \*than six feet is)*