Copulas and Copula Semantics in the World’s Languages: A New Project

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Outline

• Introduction: Equative vs. Inverse Analysis
• Case Study I: Identity Sentences and Proper Names
• Typology Project I
• Case Study II: Thai
• Case Study III: Kinande
• Typology Project II

Introduction

Equate vs. Inverse Analysis


a. Predicational
   – That thing is heavy.
   – That woman is Mayor of Cambridge.

b. Specificalional
   – What I don’t like about John is his tie.
   – The only girl who helps us on Fridays is Mary Gray.

c. Identificalional
   – That is Joe Smith.
   – That is the Mayor of Cambridge.
   – The girl who helped us on Fridays is Mary Gray.

d. Identity
   – The morning star is the evening star.
   – Cicero is Tully.

Traditional Logical Analysis

• BE of predicational
  – John is happy: H(j)

• BE of identity
  – Cicero is Tully: c = t

• BE of existence
  – There is a God: ∃xG(x)
The Uniform be Hypothesis

• Williams 1983, Partee 1986
  – The specificational/predicational distinction can be seen as two different argument orderings of a single copula taking one referential (type e) and one predicative (type <e,t>) argument, in either order.
• e + <e,t>: predicational
• <e,t> + e: specificational

The Inverse Analysis

• The referential and predicative arguments are the subject and complement of an underlying small clause, either of which can raise to a higher position.
  – Heggie 1988 (English)
  – Moro 1997 (Italian)
  – Adger & Romchand 2003 (Scotts Gaelic)
  – Mikkelsen 2005 (English, Danish)
  – Den Dikken 2006 (English)
  – Partee 2010 (Russian)

The Inverse Analysis: Evidence

• Small clauses:
  – I consider John (to be) the teacher.
  – I consider the teacher *(to be) John.
• Extraction:
  – Who do you think is the teacher?
  – Who/what do you think John is?
  – (NH?) *Who/what do you think is John?
• Agreement [Italian]:
  – la foto del muro furono/*fu la causa della rivolta (the pictures of the wall were/*was the cause of the riot)
  – la causa della rivolta furono/*fu le foto del muro (the cause of the riot were/*was the pictures of the wall).

The Equative Analysis

• There are two different copula-type structures semantically: predicational and equative.
  – Safir 1985 (English)
  – Zaring 1997 (Welsh)
  – Carne 1997 (Irish)
  – Heycock and Kroch 1999 (English), Heycock 2012
  – Heller 1999 (Hebrew), Rothstein 2001 (Hebrew, English)
  – Partee 1999 (Russian)
  – Hedberg 1990/2000, Han & Hedberg 2008 (English clefts), Hedberg & Potter 2010 (Thai)
  – Lyon 2013 (Okanagan Salish)

Specitational Sentences

• Specitational and reverse specitational sentences provide a value for a variable.
• Higgins: the value phrase is referential.
• Higgins: the variable phrase is ‘superscriptional’:
  – Most later work treats it as a higher type than e:
    • Predicative? <e,t>
    • Attributive quantificational definite description? <e,t,>?
    • Individual concept? <,e>
  – The superscriptional phrase is not purely referential (type e)
    • The winner is Molly, isn’t it/*she? (Mikkelsen 2005, 5.21)

Heycock & Kroch 1999: Identity and specitational sentences are equative

• Only referential NPs can be modified by a nonrestrictive relative clause
  – Identity sentences contain two referential arguments:
    • Your opinion of Edinburgh, which you learned from your parents, is my opinion of Edinburgh, which I learned from mine. (Heycock & Kroch 1999, 31b)
  – Small clause predicates can’t be so modified:
    • *I consider that your opinion of Edinburgh, which you learned from your parents. (Heycock & Kroch 1999, 32b)
• Superscriptional phrases can occur in non-copular sentences and can antecede pronouns:
  – The best value for a dollar has changed — it used to be one hundred and thirty yen, but now it is only one hundred. (Heycock & Kroch 1999, 27)
Specificational sentences are reversible

- Specificational sentences are reversible, which is explained if they are equative.
  - Predicational
    - Which profession does John have?
    - John is the TEACHER.
  - Specificational
    - Which person is the teacher?
    - The teacher is JOHN.
    - Reverse specificational
      - Which person is the teacher?
      - JOHN is the teacher.
- Specificational semantics is tied up with information structure: the variable argument is always the topic and the value argument, the focus.

Den Dikken 2006: A Unified Inverse Analysis

- Predicational
  - Referential subject + predicative predicate of a small clause. Subject of small clause raises to SPEC-TP position.
- Inverse
  - Referential subject + predicative predicate of a small clause. Predicate of small clause raises to SPEC-TP position.
  - Identity sentences
  - Specificational sentences

Den Dikken: Identity Sentences, p. 73, (29)

- Raise to SPEC-TP a matrix small-clause predicate,
- which is a reduced relative clause headed by a null predicate.
- The reduced relative clause contains the referential subject of an embedded small clause.

Den Dikken: Specificational Sentences, p. 95, (32)

- Raise to SPEC-TP a matrix small-clause predicate,
- which is a reduced relative clause headed by a null predicate.
- The reduced relative clause contains the predicative complement of an embedded small clause.

Identity Sentences

- Tautologies:
  - A promise is a promise.
  - War is war.
  - Venus is Venus.
- Identity-establishment sentences:
  - Cicero is Tully.
  - J.A.W. Kamp is Hans Kamp.
  - The morning star is the evening star.
Identity Sentences (cont.)

• Role-play sentences
  – Who is John? Who does he play?
    • John is Hamlet.
    – Who is [plays] Hamlet?
      • Hamlet is John.
      • John is Hamlet.
  – Just because there are two proper nouns flanking the copula doesn’t mean that both are of type e.
    – John is Hamlet, which/* who is Shakespeare’s most famous role.
    – Type shifting is possible.

Identity Sentences in Scots Gaelic

• Scots Gaelic doesn’t have identity-establishment sentences. (Adger & Ramchand 2003, p. 340-341)
  – “S e Cicero Tully.
    COP-PRES AUG Cicero Tully
    ‘Cicero is [identical to] Tully.’
  – ‘S e Cicero agus Tully an aonduine.
    COP-PRES AUG Cicero and Tully the same man
    ‘Cicero and Tully are the same person.’

Scots Gaelic (cont.)

• Scots Gaelic does have role-play sentences in one word order
  (Adger & Ramchand 2003, p. 340)
  – “s e Sean Hamlet a-nochd.
    COP-PRES AUG Sean Hamlet tonight
    ‘Sean is [playing] Hamlet tonight.’
  – “s e Hamlet Sean a-nochd.
    COP-PRES AUG Hamlet Sean tonight
    ‘Hamlet is [played by] Sean tonight.’
• The role Hamlet is higher-order, e.g. a predicate.

Identity Sentences in Russian

• Identity-establishment sentences but not predicational sentences take *eto (Geist 2007, 31, 32):
  – Mark Twain – * (eto) Samuel Clemens
    – Mark T. Num this Samuel C Num
    Mark Twain is Samuel Clemens.
  – Mark Twain – * (eto) pisatel’ po professii
    Mark T. Num this writer by profession
    ‘Mark Twain is a writer by profession.’
• Role-play sentences don’t take *eto.

Identity Sentences in Berber, Arabic

(N. Elouazizi, p.c.)

• Tautologies can occur with the pronominal copula:
  – Tariffy Berber
    • *hwa lward/*ward
      DEF.promise he DEF.promise/promise
      ‘A promise is a promise.’
  – Standard Arabic
    • *hwa lward/*ward
      DEF.promise he DEF.promise/promise
      ‘A promise is a promise.’
• In neither language can two proper names be identified using the copula.
  –  *John hwa Edward.
  – ✓ John and Edward are one and the same person.
  –  *John hwa Hamlet.
  – ✓ John is acting as if he is Hamlet.

Identity Sentences in Hebrew

(Heller 1999, Doron 1983)

• The personal pronominal copula is optional in predicational sentences, but obligatory in identity-establishment sentences.
  – dani hu more
    Danny he teacher
    “Danny is a teacher.”
  – dani *hu mar kohen
    Danny be Mr. Cohen
    “Danny is Mr. Cohen.”
• A demonstrative pronominal copula can equate two phrases of a higher type than e, and can also appear in specification-type sentences.
  – [AP gavo] hu/*hu [AP yafe]
    tall this/ he beautiful
    “Tall is beautiful.”
Identity Sentences in Okanagan Salish

• Proper names can occur in either order in direct predication sentences (90, 92).
• But not in equative sentences (97b).
• Okanagan has no specificational sentences.

Identity Sentences: Summary

• Languages differ in their copula-type syntax:
  – Direct predication, null copula, verbal copula, pronominal copula.
• Languages seem to differ in what kinds of copula-structures they allow from the Higgins paradigm.
  – Not all languages allow identity-establishment sentences with two proper names.
  – Proper names seem to be construable as predicates in some languages.
    • And hence sometimes become allowable in role-play sentences.

The Typology of Copulas Project

• Questionnaires with contexts to control for information structure and the particular sense and use of the copular sentence.
• Distinguish all four of Higgins’ types, in both orders.
• Distinguish different uses of proper names.
• Later extend to clefts/pseudoclefts and locative sentences.
Thai: Kuno & Wongkhomthong 1980: Two Copulas

(9a) ปืนหน้า*กิน: ถ้ำหมู่วัด ดูซ่า:หักม.
Japan is country industry
‘Japan is an industrial country.’

(9b) ตอนที่: ชัก บาง *กิน/กิน: ฮ์
person that I love is John
‘The person that I love is John.’

(10) ตอน กิน/กิน: ตอนที่: ชัก บาง
John is person that I love
‘John is the person that I love.’

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Sentence 1

• **Actor that I like best kheuu/bpen person tall**
  – **Context A:** “Suppose that you are describing a number of qualities about your favorite actor. She is sweet, brunette, Canadian and witty. Then you say that the actor you like best is tall.”
  – **Context B:** “Out of a room full of actors, you are asked to identify the actor that you like the most. You identify the tallest person in the room as your favorite actor.”

• Out of context: **bpen (5/5)**
  - **bpen (5/5):** e + <e,t> predicational
  - **kheuu (5/5):** <<e,t>,t> + e specificalional

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Sentence 2

• **Actor that I like best kheuu/bpen Mr. Sun.**
  – **Context A:** “Out of a roomful of actors, you are asked to identify the actor that you like the most. You identify Mr. Sun.”
  – **Context B:** “Suppose that you are a huge movie fan. You have always had a favorite actor, but the identity of your favorite actor changes constantly. Last year, actor that I like best was Mr. Jones. Last month, actor that I like best was Mrs. Kim. Currently actor that I like best is Mr. Sun.”

• Out of context: **kheuu (5/5)**
  - **Context A: kheuu (5/5)** <<e,t>,t> + e specificalional
  - **Context B: kheuu (5/5), bpen marginal (2/5)** <<e,t>,t> + e specificalional

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Sentence 3

• **Mr. Sun kheuu/bpen actor that I like best**
  – **Context A:** “Suppose that you are talking about the famous actor Mr. Sun. You say that he is short, fat and has a reputation for being short tempered. Nevertheless, you continue your description by saying that Mr. Sun is the actor that you like best.”
  – **Context B:** “I’m asking about different people in your life. I ask who your mother is and who your best friend is. Then I ask who the actor that you like best is.”

• Out of context: **bpen or kheuu**
  - **Context A: bpen (5/5)** e + <e,t> predicational
  - **Context B: kheuu (4/5), bpen (1/5) e + <<e,t>,t> reverse specificalional

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Sentence 4

• **He kheuu/bpen person tall**
  – **Context A:** “You witness a crime. The police officer asks you to describe the culprit. You list a number of traits, including that he is tall.”
  – **Context B:** “You witness a crime. Out of a police lineup, you are asked to identify the culprit. You identify the tallest person as him.”

• Out of context: **bpen (5/5)**
  - **Context A: bpen (5/5) e + <e,t> predicational
  - **Context B: kheuu (5/5) e + e identity

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Sentence 5

• **He kheuu/bpen Mr. Sun.**
  – **Context A:** “You are introducing your friends to a group of people. You say, ‘She is Jill. He is John. He is Mr. Sun.’”
  – **Context B:** “Suppose that you find yourself face to face with King Rama (who can change his shape at will). At first he appears in his true form. Then suddenly, he changes to look like your best friend. Then he changes to look like Mr. Sun.”

• Out of context: **kheuu**
  - **Context A: kheuu (4/5), neither (1/5)** e + e identity
  - **Context B: kheuu (3/5), bpen+become (1/5), neither (1/5)** e + e identity
Thai: Summary

- Predicational sentences: bpen
- Specificalional, reverse specificalional, identity sentences: kheuu.
- It looks like bpen is a predicational copula and kheuu is an equa4ve copula.
- The inverse analysis can’t easily capture kheuu used with a post-copular superscriptional phrase.

Case Study III

Kinande

Kinande (Schneider-Zioga & Mutaka, in progress)

Predicational copula: NI
- Magulu ni múli (Adjective Phrase)
  1Magulu COP 1tall
  ‘Magulu is tall.’
- Johann ni mugalimu (Noun Phrase)
  1John COP 1teacher
  ‘John is a teacher.’
- Magulu ni w’eButembo (Prepositional Phrase)
  1Magulu COP 1of 24Butembo
  ‘Magulu is from Butembo.’

Kinande (cont.)

- Specificational copula: YO
  - Copula agrees with value, which must contain an augment.
    - Augment marks definiteness/specificity.
  - What is the problem?
    - (15a) émbuga ló lúhi
      aug.9problem 1ICOP aug.11war
      ‘The problem is the war.’
    - (15b) olúhi ló mbúga
      aug.11war 11COP 9.problem
      ‘The war is the problem.’

Kinande (cont.)

- When a proper name is a post-copular value, NI is used. Names don’t contain augments, so can’t trigger post-copular agreement.
- NI is perhaps borrowed from the predicational paradigm for this specificalional use.
- Possible reverse specificalional uses occur, but the post-copular variable phrase lacks an augment (22), and YO could be a focus marker here.
- (16a) yondi yo w’ibitabu?
  1who 1COP who ‘stole the books’
- (16b) ómwbí ni Magulu
  aug.1thief COP Magulu
  ‘The thief is MAGULU.’
  [Reverse specificalional on inverse analysis: e + <e,t>]

Kinande (cont.)

- The fact that the post-copular variable phrase in (15b) and (22) lack an augment, which is consistent with them being predicates, type <e,t>, supports the inverse analysis, whereby the superscriptional (variable) phrase is the predicate of a small clause.
- Even a proper name can surface in this position, indicating that proper names can perhaps also be predicates.
- (20) ómwbí yo Magulu
  aug.1thief 1ICOP 1Magulu
  ‘The THIEF is [named] Magulu.’

JNU Visit 37

JNU Visit 40

JNU Visit 41
Kinande (cont.)

- Tautologies are predicational.
  - obwira ni bwira, ni ekasi ni kasi
  - aug.14Friendship COP 14Friendship and aug.14 Duty COP 14Duty
  "Friendship is friendship, but duty is duty."

- Informative identity sentences fit the specificalional pattern.
  - Eririma ky’ ekihugo; n’embuto yowene b’ abana b’Obwami
  - 5field 7COP aug.7world; & seed 9of good 2COP 2child 2of 14chieftancy
  "The field is the world, and the good seed stands for the people of the kingdom." (from Matthew 13:38)

Identity Sentences in Kinande

- Role-play and informative identity statements with proper names could be either specificalional or predicational.
  - Hamlet ni Magulu
  - Hamlet COP Magulu
  "Hamlet is [played by] MAGULU."

- Jorge Bergoglio ni Pope François
  "Jorge Bergoglio [who you know] is POPE FRANCIS."

- But they can also be reverse specificalional, with the post-copular name, then, possibly a predicate.
  - Pope François yo Jorge Bergoglio.
  - 1Pope Francis 1COP 1Jorge Bergoglio
  "POPE FRANCIS is [named] Jorge Bergoglio."

Kinande: Summary

- Kinande has a complete copula sentence paradigm.
- Two basic types of copulas: NI (non-agreeing, predicational), YO (agreeing, pronominal).
- YO is tied up with focus marking.
- The system of augments has a role to play in copular semantics.
- Proper names lack augments, in which case they can’t trigger agreement in post-copular position and therefore exhibit a different syntax in copular sentences.
- The inverse analysis seems to capture the Kinande copular sentence facts, but the NI/YO distinction also patterns in the direction of a predicational/equative distinction within the Higgins paradigm.

Typology Project II

Language Typology of Copulas

- English, Italian:
  - One copula, many functions
- Russian:
  - No predicational copula in present tense; demonstrative pronominal identity copula
- Thai:
  - No copula for adjectives; two copulas for TP, predicational vs. identity/pronominal
- Arabic, Berber:
  - Verbal copula (null in present tense), pronominal copula
- Hebrew:
  - Verbal predicational copula (null in present tense), Two pronominal copulas—personal pronoun (predicational, identity), demonstrative pronoun (identity, specificalional)
- Kinande
  - Predicational copula, specificalional (pronominal) copula
- Okhangan Salihe:
  - Direct predication, null equative copula

Project Summary

- Explore the realization of copular-type sentences cross-linguistically: no copula (null?), one copula (verbal, pronominal), two copulas (verbal, pronominal).
- Do the syntactic patterns used to express different semantic/pragmatic types of copular sentences descriptively line up the same in all languages?
- If they do line up, how far can we collapse the Higgins’ paradigm?
  - Do some languages support the equative analysis while others support the inverse analysis?
  - Aim at transcending theoretical differences by comparing how the different accounts capture the descriptive base, which we propose to expand.
- Formal semantics (with type shifting) + generative syntax (Minimalism).
Conclusion

• What about languages of India?
• How many and what kinds of copular systems are there in the different languages?
• Looking for collaboration from JNU.

Haiku

Be has no meaning
What’s the non-meaning of be?
Search outside Europe.

– Patricia Schneider-Zioga, 6/6/14

Selected References

• Schneider-Zioga, Patricia & Philip Ngessimo Mutaka. In progress. The linker and other copular constructions in Kinande.