The complexity of the copula…

…what to *be*, what to *be*???
What’s Be Doing?

1. The syntax professor is a fantastic cook.
2. The fact of the matter is that Cherlon freaking hates winter.
3. That cute cat is under the couch.
4. That is the only reason to ever eat natto.
5. I consider Minneapolis a really cool city.
6. Lolcats are the most important thing that Deborah taught to Cherlon.
7. Mike is the department chair.
8. The students are super prepared for their upcoming exam.
9. It is argued to be the best restaurant in the world.
10. Iceland is Iceland.
11. Emily is a carpenter.
12. What Harvey did next was wash himself thoroughly.
13. Electronically is usually fastest.
14. That’s my brother.
15. Red is my favorite color.
16. My favorite color is red.
17. The only thing we couldn’t agree on was whether we should go to France first. (Mikkelsen 2011, ex 1)
18. To love is to exalt.
19. From A to B is 600 miles.
20. Because he was out of money wasn’t his only reason.
21. Outside from one point of view may be inside from another. (ex 41)
OUR ROADMAP

- Taxonomy of copular clauses
- The “meaning” of the copula
- Some complications and reducing the taxonomy
- A cross-linguistic examination
- The PredP small clause approach

What We’re Not Addressing (in detail):
- Auxiliary be: Cherlon is planning a fantastically wonderful dinner party.
- Existential constructions: There is a synopsis of copular constructions in that paper.
- Connectivity effects: What the syntactic professor did last night was buy herself a new pair of shoes. (The reflexive is not locally c-commanded by its coreferent.)
One Taxonomy of “Be” (Higgins 1979)

**Predicational:** The subject is usually a referential DP and the post-verbal phrase describes a property of the subject.

a. The hat is big.
b. The hat/present/thing I bought for Harvey is big.
c. What I bought for Harvey is big.
d. Sylvia is from Seattle/an architect/the architect on that project/my friend/mayor of Seattle.

**Specificational:** The post-copular phrase “specifies” who/what someone/something is.

a. The director of Anatomy of a Murder is Otto Preminger.
b. The only director/person/one I met was Otto Preminger.
c. Who I met was Otto Preminger.

**Identificational:** The subject contains a demonstrative and the post-verbal phrase refers to the “content” of the demonstrative.

a. That (woman) is Sylvia.
b. That (stuff) is DDT.

**Equative/Identity:** The pre and post-verbal items are of the same type (e.g.-nouns, clauses) and the reference of one is identical to the reference of the other.

a. Sylvia Obernauer is HER.
b. Cicero is Tully.
c. Your attitude toward Jones is my attitude toward Davies.  
   (Mikkelsen 2011:1806-12)

• As noted by Mikkelsen, Higgins doesn’t explicitly argue that there are four different be’s (but perhaps the argument is implicit).
• As we’ll see in a bit, there are explicit arguments for 3 be’s, 2 be’s and 1 be
Lay Person's Description:
The subject is usually a referential or quantificational DP and the post-verbal phrase describes a property of the subject.

- The predicate complement can be an AdjP, PP, or definite or indefinite DP.
  a. The coat/present/thing I bought for Harvey is expensive.
  b. What I bought for Harvey is expensive.
  c. Sylvia is from Seattle/an architect/the architect on that project/my friend/mayor of Seattle.

- What makes us think the subject is referential? The subject pronominalizes with a gendered pronoun in copular and non-copular constructions.
  a. The guest of honor was happy, wasn’t she/he/*it?
  b. The guest of honor spoke after dinner, didn’t she/he/*it?
  c. Everyone was happy, weren’t they?
  d. Everyone went to the graduation, didn’t they?

- Can be embedded as a small clause without the copula...
  a. I consider [Sylvia (to be) my best friend].
  b. With [Sylvia absent], there is no point.

- …Not so for other kinds of copular constructions
  a. I consider [my best friend *(to be) Sylvia]. Specificational
  b. I believe [that *(to be) Sylvia]. Identificational
  c. I believe [her *(to be) Sylvia]. Equative

Technical Description:
A property is predicated of the subject.
$\lambda P \lambda x [P(x)]$
There is some property and some entity such that that entity has that property.
Lay Person’s Description:
The post-copular phrase “specifies” who/what someone/something is.

a. The director of Anatomy of a Murder is Otto Preminger.
b. The only director/person/one I met was Otto Preminger.

• The subject is non-referential; the subject pronominalizes with a non-gendered pronoun (unlike predicational)
c. The director of Anatomy of a Murder is Otto Preminger, isn’t it?

• Show connectivity effects (Principle A isn’t observed)
d. What the chef did was congratulate himself for being nominated for the James Beard Award.

• Wh construction can precede or follow the copula. (Here the pre-copular phrase specifies who/what someone is.)
e. Who I met was Otto Preminger./Otto Preminger was who I met.
f. Otto Preminger was who I met, wasn’t it?

Technical Description:
The variable that the subject sets up is valued by the post-copular phrase.
The director of Anatomy of a Murder = x
Otto Preminger provides a value for x
λx. Otto Preminger (x)
Lay Person’s Description:
The subject contains a demonstrative and the post-verbal phrase refers to the “content” of the demonstrative.

- As originally stated in Higgins 1979, “these sentences are ‘typically used for teaching the names of people or of things.’” (Mikkelsen 2011:1812)
- The subject is referential; the demonstrative has a deictic interpretation.
  a. That (man) is Joe Smith.
  b. That (woman) is the mayor of Cambridge.
  c. That (place) is Boston.
- Can be responses to questions for more information – e.g., John? Who’s that?
  d. That’s a teacher who has been helping me with my polynomials.
- *It* can also be the subject.
  e. It is Joe Smith/the mayor of Cambridge who is standing over there.
  f. It is Boston that we see underneath us.

Technical Description:
The pre and post-copular expressions are identified as the same.
\[ \lambda x \lambda y [x = y] \]
- This category is very similar to equatives and some argue that identificational is not a separate category.
**Lay Person’s Description:** The pre and post-verbal items are of the same type (nouns, clauses) and the reference of one is identical to the reference of the other.

a. Sylvia Obernauer is HER.

b. Cicero is Tully.
   - It’s difficult to “equate” proper names in main clauses - except for “Muhammad Ali is Cassius Clay.”
   - However, we can equate proper names in embedded clauses – e.g. “Tanya thinks that Sylvia is Louise.”

Back to our “knowledge” discussion…

- If speaker and hearer are familiar with Cicero under the name Cicero and familiar with Tully under the name Tully, but the hearer does not know that they are the same person, then (b) provides the hearer with information about the world.
- If the hearer is not familiar with Tully, (b) doesn’t provide actual information about the world; we just have another way of saying something – e.g. “The person you know as Cicero is also called Tully.”

**One Perspective:** Equatives don’t exist. They are actually predicational clauses and describe a property of the subject.

- **BUT**, with clauses, the content does seem to be the same.

- Your attitude toward Jones is my attitude toward Davies.
- My attitude toward Davies is your attitude toward Jones.

**Technical Description:**

*The referents are equated and neither is predicated of the other.*

\[ \lambda x \lambda y [x = y] \]

There is some \( X \) and some \( Y \) such that \( X \) is the same as \( Y \).
Reducing the Taxonomy

3-Be

Two types of “equating” copula and a predicational copula

- **Equative**: equates individuals
- **Specificational**: equates propositions
- **Predicational**: the standard – a property is predicated of the subject

2-Be

- **Identity**
  \([\text{be}_{\text{IDENT}}]\) \(\lambda x \lambda y [x = y]\)
  - Merges the equative and the specificational of the 3-Be camp
  - There is some \(X\) and some \(Y\) such that \(X\) and \(Y\) are the same.

- **Predication**
  \([\text{be}_{\text{PRED}}]\) \(\lambda P \lambda x [P(x)]\)
  - There is some property and some \(X\) such that \(X\) has that property.

1-Be

- Be always takes one referential and one predicative element
- The two items can combine in either order

“Predicational” – copula combines first with predicative element to right and then with referential element in subject position
\([\text{be}]\) \(\lambda P \lambda x [P(x)]\)
  - That dinner was delicious.

“Specificational” – copula combines first with referential element to right and then with predicative element in subject position
\([\text{be}]\) \(\lambda x \lambda P [P(x)]\)
  - A delicious dinner is what I cooked last night.
REFERENCE: Milstein, Sarah. 2015. To be or (k)not to be, that is the copula: a cross-linguistic look at the categorization and properties of copulas. Ms., Carleton College. Senior thesis.
Spanish

- **Individual Level - Ser**
  - Permanent qualities
  - Can take a DP complement = (7)

- **Stage Level – Estar**
  - Temporary qualities or states
  - Can take a DP complement if *de* is at the beginning of the DP = (8)/(9)

- Some adjectives can appear with both estar and ser = (5)/(10)

1. The president is.IL/*is.SL her
   "The president is her."

2. Obama es/ *está* (el) presidente desde el 2009.
   Obama is.IL/*is.SL (the) president since the 2009
   "Obama has been the president since 2009." (Camacho 2012: 2, ex. 6)

3. a. Alejandro es agradable.
   "Alejandro is IL pleasant"
   b. Alejandro está agradable.
   "Alejandro is SL pleasant"
   "Alejandro is being pleasant (today)." (Camacho 2012: 1, ex. 1)

4. The North Pole is.IL cold
   "The North Pole is cold."
   The meat is.SL cold
   "The meat is cold."

   (Camacho 2012: 2, ex. 8)
Interesting things can happen with PPs = (14)

Some adjectives can only appear with *estar*. But…they don’t seem to encode a transient property. (17)

- Also - *muerto* (dead)

Predicates that are usually used with *ser* can more readily be used with *estar* than the other way around.

An Alternative: Inchoative Theory

Inchoative Aspect: the beginning of a state/event

- Pure location: must have a starting point – *Estar* encodes inchoative aspect
  - (20a) means that there was some moment when the emptiness began.
- Path: starting point not present/emphasized – *Ser* not does encode inchoative aspect
  - (21b) means that there was some starting point of the dog not being intelligent.
  - In (21a), the dog simply has this property.
**Russian**

- **Byt** (to be)
- No copula in the present tense or existentials
- Predicationals = instrumental object (31a)
- Equatives = nominative object (31b)
- Nominatives and instrumentals can’t be coordinated (32), suggesting that they’re different categories
  - Nominatives are DPs
    - Pronouns are usually nominative
    - Pronouns are D heads
  - Instrumentals are NPs
- One proposal: Russian has two homophonous (probably more like polysemous) copulas.

(28) Ya Ø russkij. I be Russian
    “I am Russian.”

(29) Pro Ø kholodno. Pro be old
    “It is cold.”

(31) a. Gnomы byли sušchestvами rabotjačiami.
    Gnomes.NOM were [creatures laborious].INSTR
    “(The) gnomes were laborious creatures.”

b. Lenin byl Vladimir Ulyanov.
    Lenin.NOM was [Vladimir Ulyanov].NOM
    “Lenin was Vladimir Ulyanov.”
    (Pereltsvaig 2008: 7, ex. 9)

(32) a. *Aleksandr Porfир’evič Borodin byl professor ximii i kompozitorem.
    Alexander Porfiryevich Borodin was professor.NOM chemistry and composer.INSTR
    Intended: “Alexander Porfiryevich Borodin was a professor of chemistry and a composer.”

b. Aleksandr Porfир’evič Borodin byl professor ximii i kompozitor.
    Alexander Porfiryevich Borodin was professor.NOM chemistry and composer.NOM
    Intended: “Alexander Porfiryevich Borodin was a professor of chemistry and a composer.”

c. Aleksandr Porfир’evič Borodin byl professorom ximii i kompozitorem.
    Alexander Porfiryevich Borodin was professor.INSTR chemistry and composer.INSTR
    Intended: “Alexander Porfiryevich Borodin was a professor of chemistry and a composer.”
    (Pereltsvaig 2008: 26, ex. 30 b-d)
Some Complexities

- Jekyll and Hyde cases: pronouns can be instrumental “since they do not have ‘characteristic referential interpretation’” (p.24)
- Pronouns start in N and move to D if there is a DP projection.
- If there is a DP layer, the pronoun moves and the phrase gets nominative case.
- If there is not a DP layer, the pronoun remains in N and gets instrumental case.
Why is the object nominative in (a) and accusative in (b)?

The little v answer:
- We don’t have an Accusative-assigning v in (a) because there’s not an external argument.
- There is an external argument in (b).

Default case
- Two lexical entries for byt
  - Identity maps to F = (41)
  - Predicational maps to v = (43)
- Nominative is the default morphological case.
- F is a non-case-assigning functional head.
  - In (41), case is not assigned in the syntax.
- Instrumental is the default syntactic case.
  - NOTE: The arguments against dative and genitive being the default syntactic case aren’t very convincing.
    - Dative is a “special” case, so it can’t be the default.
    - Genitive has a quantificational connotation, and is assigned by a null quantifier.
Mandarin

Shì

- Connects two nominals = (41)
- Generally not used with APs, but can be for contrastive focus. = (45)/(46)
- Optional when the object of a sentence includes a number and when the sentence is in the affirmative. = (47)
- What makes shì different?
  - Can’t co-occur with aspect markers = (49)
  - Can’t co-occur with most auxiliaries = (50)/(51)

NOTE: See discussion about the reanalysis of shì from a demonstrative to a copula.
Types of Mandarin Copular Clauses

- Simple: “typically contain a referential subject noun phrase linked to a non-referential noun phrase by a copula verb.” (p.35) = (52)/(53)
  - Predicational in our original taxonomy.
  - The interpretations can be context-dependent. = (54)
- Special Affirmative: *It is true that*… = (56)
  - Identificational in our original taxonomy.
- Presentative: A kind of existential sentence. = (57)/(58)
Hebrew

- Past and future tense: conjugated form of \textit{haya}. = (69b)
- Present tense: null or Pron (nominative third person pronoun) = (69a)/(70)
  - Pron not allowed if the subject is a pronoun.
  - (71c) has a specificational interpretation.
- Pron is optional in predicational sentences and required in equative sentences. = (72)
- Pron is argued to be a clitic
  - “Pron is a clitic that is the phonological realization of ‘unattached’ agreement features that have absorbed case”’ (p.44)
  - Since there’s no verb to host agreement features, they’re expressed, both case and agreement are realized on Pron.
  - Pron can’t have contrastive focus and it can’t be the answer to a question.

\begin{itemize}
  \item (69) a. \textit{Pma} $\emptyset$ \{\textit{nora xamuda / tinoket / b- a- bayit}\}.
  \textit{Pma} is \{awfully cute.F / baby.F / in- the- house\}
  “\textit{Pma} is \{awfully cute / a baby / in the house\}.”
  b. \textit{Pma hayta} \{\textit{nora xamuda / tinoket / b- a- bayit}\}.
  \textit{Pma} be.PST.3FSG \{awfully cute.F / baby.F / in- the- house\}
  “\textit{Pma} was \{awfully cute / a baby / in the house\}.”
\end{itemize}

\begin{itemize}
  \item (70) \textit{Pma} hi $\emptyset$ \{\textit{nora xamuda / ha- tinoket / b- a- bayit}\}.
  \textit{Pma} Pron.F.SG is \{awfully cute / the- baby.F / in- the- house\}
  “\textit{Pma} is \{awfully cute / the baby / in the house\}.” (Falk 2004: 227, ex. 1, 2a)
\end{itemize}

\begin{itemize}
  \item (71) a. \textit{*Ata hu} $\emptyset$ more.
    \textit{You} Pron be teacher
    \textit{Intended: “You are a teacher.”}
  b. \textit{*Hu hu} $\emptyset$ more.
    \textit{He} Pron be teacher
    \textit{Intended: “He is a teacher.”}
  c. \textit{Ata hu} $\emptyset$ ha-more.
    \textit{You} Pron be the teacher
    \textit{It is you who is the teacher.”}
\end{itemize}

\begin{itemize}
  \item (72) a. \textit{Šmulik (hu) $\emptyset$ rofe/ xaver šeli/ al ha- gag}.
    Shmulik Pron be doctor/ friend my/ on the- roof
    “\textit{Shmulik is a doctor/ my friend/ on the roof.”
  b. \textit{Šmulik *(hu) $\emptyset$ mar Švarc.}
    Shmulik Pron be Mr. Shwartz
    “\textit{Shmulik is Mr. Shwartz.”}
\end{itemize}
## A QUICK COMPARISON

<table>
<thead>
<tr>
<th>Language</th>
<th>Null Copula</th>
<th>Other Elements</th>
<th>Predicational/ Equative</th>
<th>Category of Copula</th>
<th>Complements</th>
<th>DP vs. NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>Never null</td>
<td>n/a</td>
<td>n/a</td>
<td>Both are $v^0$</td>
<td>DP/NP, PP, AdjP, CP</td>
<td>No distinction</td>
</tr>
<tr>
<td>Russian</td>
<td>Null in present</td>
<td>n/a</td>
<td>Equative: NOM-NOM pattern; Predicational: NOM-INSTR pattern</td>
<td>Identity copula: $F^0$; Predicational copula: $v^0$</td>
<td>DP, NP, AdjP</td>
<td>DP: NOM; NP: INSTR</td>
</tr>
<tr>
<td>Mandarin</td>
<td>Null with AdjPs</td>
<td>Archaic: anaphoric demonstrative Modern: n/a</td>
<td>Predicational: simple copular sentences (too narrow definition)</td>
<td>$V_i$</td>
<td>DP/NP (sometimes AdjP, CP)</td>
<td>No distinction</td>
</tr>
<tr>
<td>Hebrew</td>
<td>Null in present</td>
<td>Pron (clitic)</td>
<td>Predicational: Pron optional; Equative: Pron required</td>
<td>Pron: $I^0$; Copula: $V^0$ or $v^0$</td>
<td>DP/NP, PP, AdjP</td>
<td>No distinction</td>
</tr>
</tbody>
</table>

(Milstein 2015:55)
The Big Picture: One kind of copular structure in Scottish Gaelic (SG)

- Sometimes the Pred head encodes an event, sometimes not.

- A&R reject proposals which argue for 2 different kinds of small clause — one equative and one predicational.

- A&R want a maximally tight mapping between the syntactic structure and semantics.
Theoretical Assumptions

- Pred is like v in that the subject is merged in the specifier.
- T has an EPP feature that is satisfied by movement to T or movement to Spec, TP (cross-linguistically).
- SG is VSO, so EPP satisfied:
  - by V → v → T movement (EX 6) or
  - Merging a tense carrying item in T (EX 8).
    - **Substantive Auxiliary Construction (SAC)**

(6) Dh’òl Calum an t-uisge beatha.
    Drink-PAST Calum the whiskey
    ‘Calum drank the whiskey.’

(8) Bha Calum ag ól uisge beatha.
    Be-PAST Calum ASP drinking whiskey
    ‘Calum was drinking whiskey.’
SAC and the Copula: No overt material in Pred and Pred encodes an event

(9) Tha Calum faiceallach.
    Be-PRES Calum careful
    ‘Calum is (being) careful.’

(10) Tha Calum anns a’bhùth.
    Be-PRES Calum in the shop
    ‘Calum is in the shop.’

(16) *Tha Calum tidsear.
    Be-PRES Calum teacher
    ‘Calum is a teacher.’

(18) Tha Calum ‘na thidsear.
    Be-PRES Calum in-3MS teacher
    ‘Calum is a teacher.’

(21) *Tha Calum an tidsear.
    Be-PRES Calum the teacher
    ‘Calum is the teacher.’

• In SAC, can’t have a simple NP as the second constituent. = (16)
• A possessive preposition is inserted. = (18)
  ◦ NPs denote properties of individuals
  ◦ APs, PPs, verbal constructions denote properties of events
• DPs can’t be predicates in SAC = (21)
• And the structure can’t be saved = (25)
Potential Challenge: Inverted Copular Clauses (ICCs) – The copula is the Pred head and Pred does not encode an event

- Challenge because the predicate is to the left of the subject, as opposed to the right. \=(26)/(27)
  - copula-predicate-subject
- The Analysis: The copula is the manifestation of the Pred head. \=(33)
  - The copula in ICCs is phonologically weak; defective
  - Can’t satisfy the EPP property of T on its own, so the copula pied pipes its complement. \=(34)
Defective copula occupying Pred head can have NP, AP, PP complements…

…but not DP complements…

…because the copula has the meaning in (41).

\( \Pi = \) properties

(41) means: The property denoted by the complement of the copula holds of whatever occupies its specifier.

Unlike with SACs, there is no “event” meaning associated with the copula in ICCs.

But, both SACs and ICCs ban a DP complement…
Another Potential Challenge: Augmented Copular Constructions (ACCs)

- **Possible to have two DPs** with the defective copula iff 3\(^{rd}\) sg.masc pronoun immediately follows the copula = (43)

- **The proposal**: ACCs are a subtype of ICCs. The special status of DPs in ACCs derives from their semantics.
  - The pronoun is actually an argument of the copula with one of the DPs interpreted via a “link” to the pronominal

- **What about the semantics of ACCs?**
  - Interpretive asymmetry.
    - Sean is Hamlet./Hamlet is Sean are both fine in English.
    - (47) is bad in SG.
  - Can’t get an equality interpretation. = (52) - (54)

\[
\begin{align*}
(43) \text{‘} & S e \text{ Calum an tidsear} \\
\text{Cop-PRES Aug Calum (DP1) the teacher (DP2)} \\
\text{‘Calum is the teacher.’}
\end{align*}
\]

\[
\begin{align*}
(46) \text{‘} & S e \text{ Sean Hamlet a-nochd} \\
\text{Cop-PRES Aug Sean Hamlet tonight} \\
\text{‘Sean is (playing) Hamlet.’}
\end{align*}
\]

\[
\begin{align*}
(47) \text{‘} & S e \text{ Hamlet Sean a-nochd} \\
\text{Cop-PRES Aug Hamlet Sean tonight} \\
\text{‘Sean is (playing) Hamlet.’}
\end{align*}
\]

\[
\begin{align*}
(52) \text{Cicero is Tully.}
\end{align*}
\]

\[
\begin{align*}
(53) \text{‘} & S e \text{ Cicero Tully} \\
\text{Cop-PRES Aug Cicero Tully} \\
\text{‘Cicero is identical to Tully.’}
\end{align*}
\]

\[
\begin{align*}
(54) \text{‘} & S e \text{ Cicero agus Tully an aon duine} \\
\text{Cop-PRES Aug Cicero and Tully the same man.} \\
\text{‘Cicero and Tully are the same person.’}
\end{align*}
\]
The Layers of the DP

- SDPs are referential, and only they can appear in argument positions. ‘The dog is barking.’
- PDPs are predicative and can appear in certain contexts that host, for example, APs. ‘Fido is a dog.’
- KIPs represent pure properties, and can appear, for example, as the complement of the ‘kind of’ construction in English. ‘This is a friendly kind of dog.’
- The Proposal: SG has SDP and KIP

In Lay-Person’s Terms:
- The pronoun in ACCs projects only up to KIP.
- The meaning of KIP allows the pronoun to be associated with one of the full – SDP – arguments of the copula.

(92) \[
\text{[KIP]} = [\iota \pi : \text{where } \pi \text{ is the relevant distinguishing property associated with } x]
\]
The Analysis

- The augment/pronoun is generated as the complement to the Pred head (the copula).
- The 1st DP, Calum, is generated in the specifier of PredP.
- The 2nd DP, Hamlet, is generated in a non-argument position.
- Because the pronoun is the KIP head, the meaning of KIP associates the pronoun with the DP that encodes its “relevant distinguishing property,” the DP in the specifier of PredP.
- Just as in ICCs, the Pred head pied-pipes its complement to Spec,TP, delivering the word order:
  - copula-pronoun-DP in specifier of PredP-DP elsewhere adjoined
• There are a variety of proposals with respect to the number and function of the copula.

• Languages instantiate the copula in a variety of ways.
  • Stage/Individual Level, Tense, Categories of allowable complements

• The PredP approach for Scottish Gaelic argues for a uniform structure for different types of copular clauses.

SUMMARY


• Milstein, Sarah. 2015. To be or (k)not to be, that is the copula: a cross-linguistic look at the categorization and properties of copulas. Ms., Carleton College. Senior thesis.

REFERENCES