The complexity of the copula...

...what to be, what to be???
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
“That bull is in New York.”
What We’re Not Addressing (in detail):

- **Auxiliary be:** Cherlon is planning to make matzo ball soup this weekend.

- **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 kitchen gadget.
  - The reflexive is not locally c-commanded by its coreferent.
According to 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).

• There are other 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.

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.
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?

- They is used for quantificational subjects in copular and non-copular constructions.
  
  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

c. I consider [my best friend *(to be) Sylvia].  \(\text{Specificational}\)
d. I believe [that *(to be) Sylvia].  \(\text{Idenificational}\)
e. I believe [her *(to be) Sylvia].  \(\text{Equative}\)
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.

c. The subject is non-referential; the subject pronominalizes with a non-gendered pronoun (unlike predicational)

Technical Description:

The variable that the subject establishes is valued by the post-copular phrase.

The director of Anatomy of a Murder = x
Otto Preminger specifies the content of x

\( \lambda x. \text{Otto Preminger} (x) \)
• 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?
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.

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.
• 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.
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.

- Sylvia Obernauer is HER.
- 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.”

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 \( Y \).
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.
  - *Cicero is Tully.*

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

### 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.

---

**3-Be**

**2-Be**

**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

\[be = \lambda P\lambda x[P(x)]\]

- That dinner was delicious.

“Specificational” – copula combines first with referential element to right and then with predicative element in subject position

\[be = \lambda x\lambda P[P(x)]\]

- A delicious dinner is what I cooked last night.
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)
SPANISH, RUSSIAN, MANDARIN, HEBREW

A CROSS-LINGUISTIC LOOK

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.
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)

- (7) La presidenta es/ *está* ella.
  The president is.IL/*is.SL* her
  “The president is her.”

- (8) 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.”

- (9) Obama está/ *es* de presidente desde el 2009.
  Obama is.SL/*is.IL* of president since the 2009
  “Obama is the president since 2009.”

- (5) a. Alejandro es agradable.
  Alejandro is.IL pleasant
  “Alejandro is pleasant.”
  b. Alejandro está agradable.
  Alejandro is.SL pleasant
  “Alejandro is being pleasant (today).”

- (10) a. El polo norte es frío.
  The North Pole is.IL cold
  “The North Pole is cold.”
  b. La carne está fría.
  The meat is.SL cold
  “The meat is cold.”
Evaluating the Stage-Individual Distinction

- 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* does not 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.

(20)  
\[
\begin{align*}
a. \text{Este cine } & \text{ está } \text{ siempre vacío.} \\
& \text{This movie-theater is SL always empty} \\
& \text{“This movie theater is always empty.”} \\
b. *\text{Este cine } & \text{ es } \text{ siempre vacío.} \\
& \text{This movie-theater is IL always empty} \\
& \text{Intended: “This movie theater is always empty.” (Camacho 2012: 9, ex. 37)}
\end{align*}
\]

(21)  
\[
\begin{align*}
a. \text{Este perro } & \text{ es } \text{ inteligente.} \\
& \text{This dog is IL intelligent} \\
& \text{“This dog is intelligent.”} \\
b. *\text{Este perro } & \text{ no } \text{ está } \text{ muy inteligente hoy.} \\
& \text{This dog not is SL very intelligent today} \\
& \text{“This dog is not (being) very intelligent today.” (Camacho 2012: 9, ex. 36)}
\end{align*}
\]
- **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.

(32) a. *Александр Порфир’евич Бородин был профессор химии и композитором.
    Alexander Porfiriévich Borodin was professor.NOM chemistry and composer.INSTR
    Intended: “Alexander Porfiriévich Borodin was a professor of chemistry and a composer.”

b. Александр Порфир’евич Бородин был профессор химии и композитор.
    Alexander Porfiriévich Borodin was professor.NOM chemistry and composer.NOM
    Intended: “Alexander Porfiriévich Borodin was a professor of chemistry and a composer.”

c. Александр Порфир’евич Бородин был профессором химии и композитором.
    Alexander Porfiriévich Borodin was professor.INSTR chemistry and composer.INSTR
    Intended: “Alexander Porfiriévich 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.
Case Matching and the Copula

- Why is the object nominative in (a)?

**The little v answer:**
- We don’t have an Accusative-assigning v in (a) because there’s not an external argument.
- F is a non-case-assigning functional head.
  - In (41), case is not assigned in the syntax.
- Nominative is the default morphological case.
- Two lexical entries for byt
  - Identity maps to F = (41)
  - Predicational maps to v = (43)
    - There is an external argument in (43).
    - Instrumental is assigned by v.
• **Shì**
  - Connects two nominals = (44)
  - 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)

(44) Tā shì dàxuéshēng.  
She is college-student  
“She is a college student.”

(45) a. Tā Ō hěn cǒngmíng.  
He be very intelligent  
“He is very intelligent.”
  
b. *Tā shì hěn cǒngmíng.  
He is very intelligent  
Intended: “He is very intelligent.”

(46) Nà bèn shū shì hěn guì.  
That book is very expensive  
“That book is expensive (despite what you claim).”

(47) a. Wǒ mèimei (shì) shibā suí.  
My younger-sister (is) 18 years-old  
“My younger sister is 18 years old.”
  
b. Wǒ mèimei bù shì shibā suí.  
My younger-sister not is 18 years-old  
“My younger-sister not is 18 years old.”
  
c. *Wǒ mèimei bù shì shibā suí.  
My younger-sister not 18 years-old  
Intended: “My younger sister not is 18 years old.”

NOTE: See discussion about the reanalysis of shì from a demonstrative to a copula.
What’s interesting about *shì*?

- Can’t co-occur with aspect markers = (49)

- Can only occur with certain auxiliaries = (50)/(51)
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)
- Past and future tense: conjugated form of *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.

a. Šmulik (hu) Ø rofe/ xaver šeli/ al ha- gag.
   Shmulik Pron be doctor/ friend my/ on the- roof
   “Shmulik is a doctor/ my friend/ on the roof.”

b. Šmulik *(hu) Ø mar Švarc.
   Shmulik Pron be Mr. Shwartz
   “Shmulik is Mr. Shwartz.”
# A Quick Comparison

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<td>DP/NP, PP, AdjP No distinction</td>
</tr>
</tbody>
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(Milstein 2015:55)
THE COPULA IN SCOTTISH GAELIC

- Substantive Auxiliary Constructions (SAC)
- Inverted Copular Constructions (ICC)
- Augmented Copular Constructions (ACC)
The Big Picture: One kind of copular structure in Scottish Gaelic (SG)

- A&R want a maximally tight mapping between the syntactic structure and semantics.
- There's one structure for copular clauses in SG.
- The difference is in whether the Pred head encodes an event or not.
- A DP cannot be complement to the Pred head.

THE (ONE COPULA) PREDP APPROACH: ADGER AND RAMCHAND 2003

One kind of small clause for all copular constructions

XP ≠ DP
Background and Context

- *Previous proposals*: DPs can’t be the complement of the Pred head because Pred has to combine with a phrase that isn’t fully referential.

- (4b) is problematic because *Jenny* is referential. The copula is supposed to combine with *the doctor*, but *the doctor* is in the wrong place.

(4) a. Jenny is the doctor.  
   b. The doctor is Jenny.
• Maybe there are different structures for (4a) and (4b) in SG…

…Remember Russian…
• Two lexical entries for byt
• Identity (31b) maps to $F = (41)$
• Predicational (31a) maps to $v = (43)$
• There is an external argument in (43).
  • Instrumental is assigned by $v$. 
A&R argue there’s only one structure for the copula is SG

“The argument we develop here, then, suggests that the interface between the syntactic component and the semantic components is maximally economical – one could say perfect.” [p.328]

NOTE from Cherlon: Don’t ever say something is perfect in a paper!
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).
    - (8) = Substantive Auxiliary Construction (SAC)
SAC and the Copula:
The Pred head is phonologically empty or has an aspect marker. Pred encodes an event.

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

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

(8) Bha Calum ag òl uisge beatha.  
Be-PAST Calum ASP drinking whiskey  
‘Calum was drinking whiskey.’

Word order: Be-subject-predicate
• 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. \((26)/(32)\)
  - Word order: copula-predicate-subject
  - *copula-subject-predicate

- The Analysis: The copula is the manifestation of the Pred head. \((33)\)
  - The copula in ICCs is phonologically weak (it’s part of the onset of the following word).
  - Can’t satisfy the EPP property of T on its own, so the copula pied pipes its complement. \((34)\)
• With ICCs, the predicate is an inherent property of the subject.

• (31) is only good if Calum is no longer alive.

• **The conclusion:** The ICC cannot encode an event.
  ◦ There is no event in which Calum was previously a teacher.

As with SACs, DP complements aren’t allowed with ICCs.
• **NOTE:** (40) is out even without the determiner because it’s the wrong word order.
Meaning of defective copula:

- $\Pi = \text{property}$
- There is some property and some entity such that the property holds of the entity.

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

And, both SACs and ICCs ban a DP complement.

The property denoted by the complement of the copula holds of whatever occupies the specifier of PredP.
Another Potential Challenge: Augmented Copular Constructions (ACCs)

- **Possible to have two DPs** with the defective copula iff 3rd sg.masc pronoun – the augment – immediately follows the copula.

- **The problem:** However we configure PredP, a DP is going to be the complement to the Pred head.

- **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.

“Our contention is that where such a pronominal appears, it is the true predicate of the construction, which means that one of the DPs is interpreted via a link with this pronominal.” [p. 339]
The semantics of ACCs

- Previous proposals argue that these are equatives as in English, but…

- …there’s an interpretive asymmetry in SG.
  - Sean is Hamlet./Hamlet is Sean are both fine in English.
  - (47) is bad in SG.

- Can’t get an equality interpretation at all in ACCs.
  - (53) is bad.
  - (54): The equality has to be explicitly stated.

The Point: We don’t need a separate “equative” structure for ACCs.
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, AP
‘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

SDP = Strong Determiner Phrase
PDP = Predicative Determiner Phrase
KIP = Kind Determiner Phrase

In Essence:
• 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.
The Analysis of ACCs

- 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.
  - The authors are non-committal about where this non-argument position is.
- Because the pronoun is the KIP head, the meaning of KIP associates the pronoun with the DP that encodes the relevant distinguishing property. That property is supplied by the second DP.

\[(102) \text{‘The relevant distinguishing property associated with } x \text{’ holds of ‘Calum’. where } x \text{ is described/replaced by the definite description ‘Hamlet’}\]

- Just as in ICCs, the Pred head pied-pipes its complement to Spec, TP, delivering the word order:
  - copula--augment--DP in specifier of PredP--DP elsewhere adjoined
Cherlon’s take on the A&R analysis of ACCs

- The meaning of KIP relates Aug to Hamlet.
- The property of being Hamlet holds of Calum.
- The movement is the same as with ICCs.
• There are a variety of proposals with respect to the number and function of the copula.
  • There are generally thought to be somewhere between one and four copulae.

• 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.


• 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.