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INCLINED TO AGREE: FROM PRONOMINAL COPULA TO PREDICATIVE AGREEMENT*

Tamisha L. Tan
Nanyang Technological University,
Harvard University

Abstract While the well-attested Pronominal Copula Cycle has been explored from both typological and formal perspectives (Li & Thompson 1977, Katz 1996, Stassen 2003, van Gelderen 2011), this paper expands on this diachronic pathway by investigating the relationship between fully-agreeing pronominal copulas and person-sensitive predicative agreement morphology, illustrating each stage of the cycle with a range of genetically and geographically diverse languages. In doing so, it identifies the morphosyntactic parameters along which pronominal copulas differ cross-linguistically and provides a synchronic and diachronic account thereof. In particular, it is proposed that whether a language innovates a fully-agreeing, deficient, or invariant copula depends on its treatment of radically underspecified 3sg resumptive pronouns in surface-ambiguous left-dislocation constructions. The types of variation attested in this expanded cycle are furthermore shown to evoke the appearance of gradience in grammatical change both within a given paradigm and across categories, with theoretical implications for the representation of φ-features, the relationship between reduction and linearisation, and the nature of non-canonical or fossilised case-marking.

1 Introduction

The diachronic pathway involving the grammaticalisation of a demonstrative or 3rd person subject pronoun into a copula is well-established cross-linguistically (Li & Thompson 1977, Katz 1996, Stassen 2003), providing a rich empirical testing ground for investigations into formal approaches to syntac-

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tic reanalysis (Edwards 2006, Lohndal 2009, van Gelderen 2011, 2015). This paper focuses on the next step in this cyclical development, exploring the circumstances under which pronominal copulas (1-a) grammaticalise into predicative agreement (1-b) and the gradient variation attested therein concerning full φ-agreement, phonological reduction, linearisation, and case marking.[1]

(1) a. *heena ans* ***heena***.
1PL women 1PL.COP
'We are women.' [Tigre; Beaton & Paul 1954: 18]

b. *aḥna rabe-**na***.
1PL big.PL-1PL.PRED
'We are big.' [Turoyo; Grigore 2007: 55]

By drawing from a wide range of typologically diverse data, this paper extends the 'Pronominal Copula Cycle' and illustrates for the first time the full developmental cline involved in the innovation of non-verbal predicative agreement, with every step of change attested synchronically. At the same time, this article identifies the morphosyntactic parameters by which pronominal copulas differ cross-linguistically and provides a diachronic account thereof. It does so by contrasting the underdescribed phenomenon of fully-agreeing pronominal copulas (1-a) against the more commonly occurring deficient pronominal copulas which fail to show person agreement (2-a) and invariant pronominal copulas which lack any agreement at all (2-b).

(2) a. *ana **huwwa** il-mudarris.*
1SG 3MSG.COP the-teacher.MSG
'I (M.) am the teacher.' [Egyptian Arabic; Choueiri 2016: 119, 28b]

b. *my* ***èto*** *Marija i Ivan.*
1PL.NOM 3NSG.NOM.COP Maria and Ivan
'We are Maria and Ivan.' [Russian; Geist 2008: 95, ex. 46]

In particular, this article will argue that there exist two potential trajectories for the development of pronominal copulas which diverge based on the treatment of featurally underspecified 3rd person pronouns. Namely, languages which interpret 3rd person morphology as the default result of a **lack** of person agreement altogether end up grammaticalising either a deficient or invariant pronominal copula, whereas languages which interpret it as the result of **genuine** person agreement (albeit with a featurally-underspecified 3rd per-

[1]Examples adhere to the Leipzig Glossing conventions with the following variations and additions: ACT - active; ADJ - adjectiviser; CL - class; HAB - habitual; EP - epenthetic; EX - exclusive; MED - medial; PRM – Proto-Rote-Meto; PRT - particle.

son subject) produce a pronominal copula which exhibits full φ-agreement. From a synchronic perspective, I illustrate how this distinction can be modelled through an interaction/satisfaction approach to Agree (Deal 2015, 2022) by positing featural specifications on probes. From a diachronic perspective, I demonstrate that while both person-invariant and fully-agreeing pronominal copulas arise from the syntactic reanalysis and grammaticalisation of resumptive pronouns in topic constructions, only the latter develop into a typologically unusual form of non-verbal predicative agreement. The patterns of variation found within the expanded cycle will furthermore be shown to raise interesting questions for theoretical issues such as the representation of φ-features, paradigmatic and/or categorial gradience in syntactic change, and non-canonical case assignment.

The paper is organised as follows. Section 2 introduces the phenomenon of pronominal copulas, focusing on the typology of agreement patterns they exhibit cross-linguistically, the diachronic factors underlying their distribution, and the synchronic characterisation of their status as functional heads. Section 3 delves further into pronominal copulas which unexpectedly show full φ-agreement, drawing parallels to existing empirical generalisations about the deficient agreement typically found with non-verbal predicative agreement and situating these constructions along a novelly-extended diachronic development pathway. Section 4 further explores this expanded cycle by investigating several types of gradient variation and the implications they have for our models of diachronic syntactic change, while Section 5 concludes.

2 Three Types of Pronominal Copulas

Pronominal copulas are attested in a wide range of languages spanning different families and geographic regions, with examples found in Arabic (Eid 1983, Choueiri 2016) and Hebrew (Doron 1986, Sichel 1997) [Afro-Asiatic]; Polish (Citko 2008), Russian (Geist 2008), Scottish Gaelic (Adger & Ramchand 2003), and Modern Irish (Chung & McCloskey 1987) [Indo-European]; Lango (Noonan 1992) and Nuer (Faust & Grossman 2015) [Nilotic]; and Amarasi (Tan 2022) and Fordata (Drabbe 1926) [Austronesian]; amongst many others (Stassen 2003: 77–84). Despite being widely attested, there has been only preliminary investigation into the typology of these copulas and the parameters by which they may differ, a gap which this article hopes to begin to address.

As surveyed in van Gelderen (2011: Ch. 4), the most common type of non-verbal copula is that which is historically derived from a 3rd person pronoun or demonstrative. Given this origin, it is unsurprising that these copulas often start out as limited to contexts with 3rd person subjects, such as in languages

like Jabem (Dempwolff, Bradshaw & Czobor 2005: 70) and Khorasan Arabic (Akkuş 2016: 6). However, their use is often extended over time to 1st and 2nd person subjects as well, with a notable result being that such pronominal copulas exhibit deficient φ-agreement even after they come to be employed with non-3rd person subjects (3). For instance, in the examples below, we find that the pronominal copula in Hebrew (and many dialects of Arabic) shows agreement for number and gender but not person (3-a); that in Nuer shows only number agreement (3-b), while the copular demonstrative in Russian (and Polish) shows no φ-agreement at all (3-c).

(3) a. *at* ***hi*** *ha-mora.*
2FSG 3FSG.COP the-teacher.F.SG
'You (FSG.) are the teacher.' [Hebrew; Sichel 1997: 301, ex. 15a]

b. *ci-**ke*** *yen kim-ní*
NEG-3PL.COP 2PL doctor-PL
'You (PL.) are not doctors.' [Nuer; Faust & Grossman 2015: 25, ex. 33]

c. *my* ***èto*** *Marija i Ivan.*
1PL.NOM DEM.PROX.NSG.NOM Maria and Ivan
'We are Maria and Ivan.' [Russian; Geist 2008: 95, ex. 46]

Throughout the rest of this paper, elements such as these will be referred to as deficient (3-a,b) and invariant (3-c) pronominal copulas respectively. In general, much of the existing literature has focused on these two types of pronominal copula in terms of their unifying failure to show person agreement (Sichel 1997, Stassen 2003, Choueiri 2016). However, far less frequently discussed is the phenomenon of fully-agreeing pronominal copulas. As described in Akkuş (2016) and Tan (2022), these copulas give rise to apparently "pleonastic" pronoun doubling, either preceding or bracketing (4) a non-verbal predicate.[2]

(4) a. *oa ratoe* ***oa***
2SG king 2SG.COP
'You (SG.) are king.' [Fordata; Drabbe 1926: 54]

b. *ʔintin ʔans* ***ʔintin***
2FSG women 2FSG.COP
'You (FPL.) are women.' [Tigre; Beaton & Paul 1954: 18]

[2]Evidence that such elements are copulas and not resumptive pronouns in a topicalisation structure must be assessed on a language-specific basis; for example, diagnostics indicative of copular status in Tigre include the fact that these "extra" pronominals are typically obligatory, conditioned by the present tense, and host (verbal) negation in *ʾi-* (Demeke 2007: §2.2). Similarly, in Mardin Arabic, the linearisation of the copula in post-predicative position suggests that the pronoun is not functioning resumptively, given that left-dislocated topicalisation in Arabic typically situates the resumptive pronoun in pre-predicate position (Ouhalla 2013).

c. *nəḥne gbār* ***nəḥne***
1PL big.PL 1PL.COP
'We are big.' [Mardin Arabic; Grigore 2007: 55]

One key goal of this article is to explore the synchronic and diachronic relationship between fully-agreeing copulas as in (4) and deficient/invariant copulas as in (3), wherein I will argue that all three types of pronominal copulas are the result of the semantic bleaching and syntactic reanalysis of resumptive pronouns in left-dislocated topic/focus constructions, but that they instantiate Pred heads bearing distinct types of probal specifications. In particular, I propose that fully-agreeing copulas (4) are composite probes which interact with all visible φ-features (but are only satisfied by person features), whereas deficient copulas (3-a,b) probe only for number (and gender) and invariant copulas (3-c) fail to probe at all. Before going into this syntactic analysis in detail, I will first discuss the diachronic origin of pronominal copulas and how a given language's (re)analysis of 3rd person features plays an important role in determining which of these three outcomes is obtained.

2.1 The Pronominal Copula Cycle

As first observed by Li & Thompson (1977) for Old Chinese, Hebrew, Palestinian Arabic and Wappo, and later formalised within a Minimalist framework by van Gelderen (2011: §I.4), the Pronominal Copula Cycle describes a well-attested change in which 3rd person subject pronouns or demonstratives are recruited as copulas (see also Katz 1996). One typical way this cycle proceeds is through the reanalysis of resumptive pronouns in left-dislocated topic or focus constructions.

For example, Edwards (2006) presents an account of the origin of pronominal copulas in Egyptian Arabic as based on surface strings like in (5), which is structurally ambiguous between a left-dislocated topic structure (6-a) and pronominal copula structure (6-b).

(5) *il-walad* ***huwwa*** *il-mas'u:l.*
the-boy 3MSG the-responsible.MSG
'The boy (he) is the one responsible' [Egyptian Arabic, Edwards 2006: 60]

(6) a. **Left-dislocated topic**:
[$_{CP}$ *il-walad* ... [$_{PredP}$ [$_{DP}$ ***huwwa***] [$_{Pred'}$ [$_{Pred}$ Ø] [$_{DP}$ *il-mas'u:l*]]]]
b. **Pronominal copula**:
[$_{CP}$ *il-walad* ... [$_{PredP}$ [$_{Pred}$ ***huwwa***] [$_{DP}$ *il-mas'u:l*]]]

Edwards (2006) proposes that the copular construction originally involved a left-dislocated topic DP *il-walad* 'the boy' located high in CP and resumed by a co-referential pronoun *huwwa* 'he' in external argument position, instantiating the actual subject of predication (6-a).[3] It is typically assumed that non-verbal predicates cannot independently introduce external arguments, but do so through a mediating PredP projection in the form of a small clause construction (Bowers 1993, Baker 2003, Citko 2008, *a.o.*).[4] In such a structure, the Pred head takes the non-verbal predicate as its complement while merging the subject of predication in its specifier.

Following Simpson & Wu (2002), Lohndal (2009), van Gelderen (2015) *a.o*, I posit that the resumptive pronoun in Spec, PredP was subsequently reanalysed as the head of the PredP itself (6-b). The Spec → Head reanalysis described here is a classic example of van Gelderen's (2004) Head Preference Principle in action; this principle, based on structural economy, models the tendency for phrasal elements occupying the specifier of a projection with a null head to be reanalysed as the overt instantiation of that head; i.e. 'Be a Head, not a Spec'. This reanalysis would be functionally facilitated by the routinisation of utterances like (5), semantically bleached of their topicalised meaning over time. Given learners' preference for structural economy when acquiring novel constructions (van Gelderen 2004), I propose that speakers would have also been inclined to reanalyse the left-dislocated topic as a conventional (non-topicalised) subject lower in the tree – specifically, as an external argument in Spec, PredP, serving as the subject of predication in the pronominal copula construction.[5]

Existing literature has argued that pronominal copulas occupy a number of distinct syntactic positions, including T (Doron 1986, Sichel 1997, Citko 2008), v/V (Edwards 2006), some 'linking' intermediate position between TP and PredP (den Dikken 2006, Choueiri 2016), and Pred itself (Lohndal 2009, van Gelderen 2015, Tan 2022). While a full discussion of the categorial status of the pronominal copula is reserved till Sections 4.2–4.3, what is crucial for this diachronic account is simply that the resumptive pronoun was reanalysed as a functional head, mediating between the subject and predicate.[6]

[3]While Edwards (2006) proposes that the Egyptian Arabic pronominal copula instantiates *v*, not Pred, interested readers can refer to Choueiri (2016) for arguments against analysing the pronominal copula as verbal based on its interaction with word order and negation.

[4]This parallels the idea that verbal predicates do not introduce external arguments themselves but do so via a mediating Voice/vP (Kratzer 1996, Legate 2014). Though Bowers (1993) originally proposes that Pred introduces verbal external arguments as well, cf. Baker (2003: §2.3) for arguments in favour of divorcing (non-verbal) PredP from (verbal) Voice/vP.

[5]This stage was presumably preceded by one where the overt topic remained in CP, but was resumed by a null co-referential pronoun in Spec, PredP serving as the subject of predication.

[6]In this way, one could posit reanalysis of a resumptive pronoun in either Spec, TP → T or

2.2 *The 3rd Person Copula*

As mentioned above, the element typically recruited to serve as a pronominal copula is either a 3rd person pronoun or demonstrative, such that incipient copulas are often restricted to occurring with 3rd person and/or definite subjects (Dempwolff et al. 2005, Akkuş 2016). This latter restriction, as found in languages like Lango (Noonan 1992), is expected given the proposed origin of these copulas as resumptive pronouns in left-dislocated topic-comment constructions, where topics are generally required to be definite. At the same time, there are both functional and formal reasons why the 3rd person pronoun would be the first (and/or only) one to be grammaticalised as a copula.

From a diachronic perspective, left-dislocation and topic-comment constructions with 1st/2nd person resumptive pronouns are likely to be not only far more infrequent but also dispreferred compared to 3rd person ones due to the potential redundancy of "doubling" a pronominal topic – especially if the topicalised and resumptive pronoun are linearly adjacent (considering potential Obligatory Contour Principle-type constraints on contiguous pronoun repetition). After all, there are few ways to refer to 1st/2nd person subjects without repetitively employing the personal pronoun, with the potential exception of proper names or certain formally 3rd person honorifics, epithets, pejoratives, or hypocoristics. Consider for example the synchronically ungrammatical Egyptian Arabic utterance (7) which could presumably have had a topic-comment interpretation similar to English 'Me, I'm the teacher.'

(7) **ana ana* *il-mudarris*
1SG 1SG.COP the-teacher.MSG
'I am the teacher.' [Egyptian Arabic; Choueiri 2016: 107, ex. 4b]

From a formal perspective, van Gelderen (2011: 131) argues that only 3rd person pronouns possess deictic features (i.e. [i-loc]) which overlap with and can therefore be reinterpreted as locational features on a copula, unlike 1st/2nd person pronouns.[7] Recalling the Head Preference Principle mentioned above, van Gelderen (2008) further motivates Spec-to-Head reanalysis as involving Feature Economy in the form of the change from interpretable to uninter-

Spec, vP → v (Edwards 2006) – either account is reasonable given that external arguments can be assumed to canonically raise or be first-merged into these specifier positions respectively.

[7] In contrast, an anonymous reviewer points out the existence of an interesting asymmetry in that the development of verbal (predicative) agreement typically begins with the recruiting of 1st/2nd person pronouns (Bybee 1985, Mithun 1988, Siewierska 2004, Fuß 2005), in direct contrast to the use of 3rd person pronouns with non-verbal (predicative) agreement. van Gelderen (2011: §2-3) suggests a number of formal reasons for this difference based on the types of features that local vs. non-local pronouns bear.

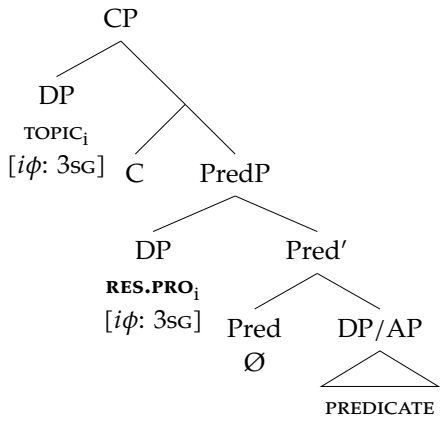
pretable features (i.e. from an inherently and interpretably φ-feature valued pronoun to a functional head bearing an unvalued and uninterpretable φ-feature probe). Crucially, there is a long-running tradition of interpreting the 3rd person as not just 'unmarked' but the radical underspecification or absence of a person feature value altogether (Benveniste 1966, Halle 1997, Noyer 1997, Harley & Ritter 2002, Preminger 2009, 2014).[8] The relevant featural change in the grammaticalisation of a pronominal copula into a functional head would be from [iφ: 3SG] → [uφ: ___], that is, a probe searching for goals bearing φ-features. If the 3SG is underlyingly the total absence of φ-feature values, i.e. [iφ:], then the relevant featural reanalysis from [iφ:] → [uφ: __] would be extremely straightforward due to there being no need to "bleach" or "lose" any φ-features at all, given that there were no inherent or interpretable values there to begin with.[9]

As such, in terms of both their diachronic and featural origin, it is unsurprising that pronominal copulas originate in the 3rd person. However, how does this generalisation relate to the fact that copulas which fail to show person agreement synchronically default to a 3rd person form (3) as well?

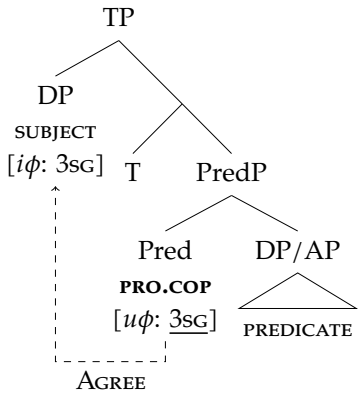
2.3 *AGREE and radical underspecification*

Consider again the proposed diachronic reanalysis involved in grammaticalising a resumptive pronoun into a pronominal copula (8).[10]

(8) a. Stage 1: Resumptive pronoun



b. Stage 2: Pronominal copula



[8]The same intuitions have been used to suggest that the SG specification is really the absence of a number value altogether (Harley & Ritter 2002, Béjar 2003, Preminger 2009, *a.o*).

[9]In contrast, diachronically reanalysing a non-3SG resumptive pronoun would require positing a shift from e.g. [iφ: 1PL] → [uφ: 1PL] and extrapolating backwards that the probe has undergone AGREE with a 1PL goal.

[10]Here the pronominal copula is represented as the head of Pred; however, as far as I can tell, the discussion which follows is not affected by positing that it occurs in T or v/V instead.

Following Abramovitz's (2021) account of non-verbal predicative agreement (to be discussed in detail in Section 3), this paper adopts Deal's (2015, 2022) interaction/satisfaction model of AGREE, whereby all probes are specified for i) what features they may interact with via copying, and ii) what features satisfy them to end further probing when encountered, termed the interaction and satisfaction conditions of a probe respectively.[11] In particular, I propose that the probe on fully-agreeing pronominal copulas is specified to interact with and copy all φ-features it comes across, but can only be satisfied by having copied a person feature. Probing down first, the copula finds no person features, given that the predicate is either adjectival or a 3rd person non-pronominal DP (and thus void of person features altogether, cf. discussion in the previous section).[12] As such, the copula probes upwards, continuing to search for a goal with person features – in the absence of which it surfaces with default 3rd person morphology (Preminger 2011, 2014).

Note, however, that this analysis predicts that all pronominal copulas should be fully-agreeing, since the probe is specified to search for (and copy) any and all φ-features. As such, even if the predicate itself lacks a person specification, a 1st/2nd person subject would provide a satisfactory goal for the probe, resulting in person agreement on the copula itself as attested in (9), repeated from (4) above.

(9) a. *oa ratoe* ***oa***
2SG king 2SG.COP
'You (SG.) are king.' [Fordata; Drabbe 1926: 54]

b. *ʔintin ʔans* ***ʔintin***
2FSG women 2FSG.COP
'You (FPL.) are women.' [Tigre; Beaton & Paul 195418]

c. *nəḥne gbār* ***nəḥne***
1PL big.PL 1PL.COP
'We are big.' [Mardin Arabic; Grigore 2007: 55]

Yet recall that this is by far the least commonly attested type of pronominal copula cross-linguistically (Stassen 2003), with instances of deficient and invariant copulas being far more numerous. I propose that this asymmetry can

[11] In addition to predicative agreement, the interaction/satisfaction framework has been applied in the analysis of a wide range of phenomena including but not limited to *ϕ*-agreement, Person Case Constraint effects, negative concord, A'-agreement, and verbal concord in Serial Verb Constructions (Baier 2018, Oxford 2022, Clem 2021, Wu, Tan & Roversi 2023).

[12] There are contexts in which the predicate does bear person features, such as in 'inverse' copula constructions where the predicate itself is a pronoun (Adger & Ramchand 2003, Tan 2022). The proposed account also allows for potential gender or number mismatches between the predicate and subject, as has been attested in some languages (Choueiri 2016). The appendix discusses these mismatches in greater detail.

be accounted for by positing that languages differ with respect to how exactly they reanalyse the radically underspecified 3SG resumptive pronoun with the (empty) featural specification [iφ:]. In particular, while such a null feature set could be interpreted as the result of successful AGREE with a 3SG subject, it could also be interpreted as the default result of the **failure** or absence of **agreement** altogether (Preminger 2009, 2011, 2014). In other words, speakers could just as easily reanalyse [iφ:] as syncretic with a probe that did not AGREE for person at all, but only number, e.g. [u#: (SG)].[13]

In the vein of the long-running line of work by Anagnostopoulou (2003), Chomsky (2000), Béjar (2003), Béjar & Rezac (2003), Sigurðsson & Holmberg (2008), Preminger (2011) and others, I assume that φ-probes can be further decomposed into (at least) separate person (uπ) and number (u#) probes. When faced with a 3SG resumptive pronoun with an empty featural specification (10), I posit that languages with deficient pronominal copulas reanalysed such pronouns as **number** probes,[14] whilst languages with invariant pronominal copulas reanalysed them as functional heads that did not probe at all. The three possible outcomes for reanalysis are schematised in (11), showing a fully-agreeing copula as probing for all φ-features, a deficient one as probing for just number, and an invariant one lacking a probe altogether.[15]

(10) **Stage 1**: Resumptive pronoun (3SG D head)

[iπ:]
[i#:]

[13] I thank a reviewer for the suggestion that the lack of a person feature on 3rd person pronouns would lead to the absence of a person probe altogether, and for highlighting the importance of person and number as separate probes. The SG feature is illustrated here for clarity, but can also be taken to be the absence of a number specification altogether (see also fn. 8, Harley & Ritter 2002, Béjar 2003, Preminger 2009, *a.o.*)

[14] I assume that such number probes are insatiable (Deal 2022), meaning that they do not stop probing even after first encountering a number feature (if any) on the predicate. As mentioned by Abramovitz (2021) and in fn. 12, this could give rise to number mismatches in the case of *plurale/singulare tantum* predicates, discussed further in the appendix.

[15] Although not shown here, we can assume that languages which make gender distinctions also involve a gender probe such as [uγ:], borne on both fully-agreeing and deficient pronominal copula Pred heads as in e.g. Egyptian Arabic (2-a) and Hebrew (3-a). Since it is possible that in certain languages MASC is interpreted as the absence of a gender specification altogether (Bobaljik & Zocca 2011, Bjorkman 2017), it would be interesting to find a gender-distinguishing language that attests a pronominal copula which only agrees for number (i.e. uses the 3MSG or 3MPL forms); see also fn. 17 for the potentially asymmetric dependency between gender and number probes.

(11) **Stage 2**: Pronominal copula (Pred head)

a. Fully-agreeing	b. Deficient	c. Invariant
[uπ:]	[u#:]	Ø
[u#:]		

The grammaticalisation of the resumptive pronoun as a [u#: ___] probe as in (11-b) results in φ-deficient pronominal copulas which are surface-ambiguous in 3rd person contexts but show clear person mismatches in non-3rd person contexts, as attested in Egyptian Arabic (2-a), Hebrew (3-a), and Nuer (3-b). One reason why deficient copulas are so much more frequent than fully-agreeing ones may hence be that it is more economical for speakers to posit one probe (i.e. just number) rather than two (i.e. number and person) in the absence of clear evidence for an agreement relation involving person features.

At the same time, the reanalysed pronominal copula need not become a probe at all; instead, it may lose φ-featural content altogether and become the default Spell-Out of Pred (11-c). This accounts not only for those invariant copulas of demonstrative origin as in Polish and Russian (2-b),[16] but also those which began as personal pronouns, as in the Nilotic language Lango (12).

(12) a. *mân* ***én*** *gwôkk à dákô 'òkwàlò*
3SG.DEM 3SG dog PRT woman 3SG.steal.PFV
'This is the dog that the woman stole.' [Lango; Noonan 1992: 146]

b. *án* ***én*** *à-dáktâl.*
1SG 3SG 1SG-doctor.HAB
'I am the doctor' [*ibid.*]

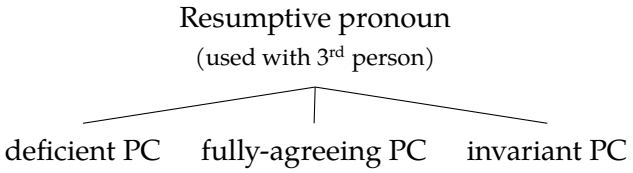
The reason why pronominal copulas do not always end up invariant could arguably be due to frequency as well: in contrast to 1st/2nd person resumptive pronouns, 3PL resumptives would likely have had a high enough incidence that learners could acquire the relevance of number agreement/concord, regardless of the radical underspecification of the SG feature "value".[17] In this

[16] As demonstratives are invariably 3rd person, there is no reason to expect pronominal copulas of demonstrative origin to vary for person – even if they did manage to acquire local person features, there would be no appropriate morphological exponent for these features in the demonstrative paradigm (alternatively put, there would be no relevant Vocabulary Item through which these local person features could be overtly distinguished).

[17] Following the feature geometry of Harley & Ritter (2002), taking gender to be a dependent of number accounts for the Greenbergian universals that all languages which show verbal agreement for gender also show agreement for number, and that all languages which have the category of gender also have that of number but not vice versa (Greenberg 1963). We can incorporate this insight by positing that having a [uɣ] gender probe is dependent on or entails having a [u#] probe, accounting for languages like Hebrew and Egyptian Arabic whose

way, the varying diachronic outcomes for pronominal copulas as in (13) can be posited to arise from the different ways a language learner may have reinterpreted the radically underspecified 3SG feature set instantiated by the resumptive pronoun undergoing reanalysis, as influenced by factors such as frequency of non-3SG subjects in the the input left-dislocation construction.

(13)



3 Predicative Agreement

Having discussed the origin of the relatively unusual phenomenon of fully-agreeing pronominal copulas, this article will now turn to their role in the Pronominal Copula Cycle as the diachronic predecessor of a typologically unusual form of predicative agreement.

The deficient φ-agreement that is frequently attested with pronominal copulas closely parallels the cross-linguistic distribution of non-verbal predicative morphology, where both functional and formal research has identified that non-verbal predicates typically fail to show person agreement (Croft 1991, Stassen 2003, Abramovitz 2021). Scholars such as Baker (2008) have furthermore noted that φ-marking appears to be implicationally sensitive to category: a language which has agreement in predicative contexts and employs full *ϕ*-agreement (for person, number, and gender) on verbal predicates, as in (14-a), will only show number and gender agreement on adjectival predicates (14-b) and no agreement at all on nominal predicates (14-c).

(14) Swahili (Baker 2008: 37, ex. 57)

a. ***ni****-li-anguka.*
1SG-PST-fall
'I fell.' (Verbal, person-number-gender)

b. *ni-Ø* ***m****-refu.*
1SG-be CL1-tall
'I am tall.' (CL1 ≈ SG human) (Adjectival, number-gender)

c. *ni-li-po-kuwa* ***ki****-jana*
1SG-PST-when-be CL7-child
'When I was a child' (CL7 ≈ SG.DIM) (Nominal, number)

pronominal copulas agree for both gender and number (2-a),(3-a), as well as the apparent lack of languages with pronominal copulas which agree for only gender but not number.

This generalisation, termed the Agreement Universal (Stassen 2003: 38),[18] has been found to hold true of intransitive predication in over 410 genetically and geographically diverse languages. Since pronominal copulas are employed in precisely the same non-verbal predication constructions as described by the Agreement Universal, albeit as an auxiliary copular element and not as the predicate itself, this paper seeks to connect the low frequency of person agreement in both contexts by arguing that one key source for predicative agreement is the grammaticalisation of pronominal copulas.

Despite the empirical robustness of Stassen's (2003) *Agreement Universal*, recent work by Abramovitz (2021) has identified genuine counterexamples to the generalisation that non-verbal predicates cannot bear person agreement. For instance, the Chukotko-Kamchatkan language Koryak shows person marking on both adjectival (15-a) and nominal (15-b) predicates.

(15) a. ɣəmmo *n-ə-pəttoŋ-**eɣəm**.*
1SG.ABS ADJ-EP-rich-1SG.PRED
'I am rich.'

b. *muj-u* *jajət͡ɕʔ-ə-**mojo**.*
1NSG-ABS.PL family-EP-1PL.PRED
'We are a family.'

[Koryak; Abramovitz 2021: 3, ex. 6a-7a]

While rare, further investigation reveals that this is far from an isolated case. Similar person-sensitive predicative agreement is attested in other Chukotkan languages like Chukchi and Alutor (Kasyanova 2017, J. Bobaljik *p.c.*), and in languages such as Mojeño Trinitario [Arawak], Turoyo [Central Neo-Aramaic], and Beja [North Cushitic], illustrated in (16).

(16) a. *nuti sontaa-**nu*** *=u'i*
1SG soldier-1SG.PRED =IPFV
'I was a soldier.' [Mojeño Trinitario; Rose 2018: 61, ex. 19]

b. *aḥna rabe-**na**.*
1PL big.PL-1PL.PRED
'We are big.' [Turoyo; Grigore 2007: 55]

c. *barūk win-**wa***
2MSG big-2MSG.PRED
'You (MSG) are big.' [Beja; Wedekind, Wedekind & Musa 2008: 63]

I propose that person-sensitive predicative agreement as in (15)-(16) is the outcome of the grammaticalisation of fully-agreeing pronominal copulas like those in (9), other examples of which can be be found in the Anatolian Arabic varieties of Siirt and Tillo and in Cypriot Arabic (17).[19]

[18] Abramovitz (2021) names this observation more specifically the *Non-Verbal Predicate Agreement Generalization*.

[19] This is not to say that all cases of person-sensitive predicative agreement come from fully-

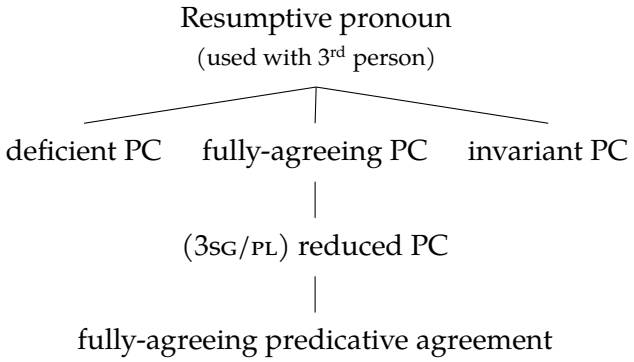
(17) a. *anā* ***anā*** *awne.*
1SG 1SG.COP here
'I am here.' [Siirt Arabic; Akkuş 2016: 3, Table 1]

b. *ḭ̄k* *əl-xādəmayn* ***əntən*** *əntən.*
those the-servants.DU 2PL.COP 2PL
'Those two servants are you (PL.)' [Tillo Arabic; Lahdo 2009: 172]

c. *náxni* ***naxni*** *mpsallin*
1PL 1PL.COP educated.
'We are educated' [Cypriot Arabic; Borg 1985]

That is, fully-agreeing pronominal copulas are an intermediate step on the diachronic pathway from resumptive pronoun to predicative agreement. The full cline proposed in this paper is illustrated in (18); the rest of this section will go through each stage in detail.

(18)



agreeing pronominal copulas. For instance, the Yeniseian languages Ket, Kott, and Yugh all have predicative agreement that inflects for person, number and gender.

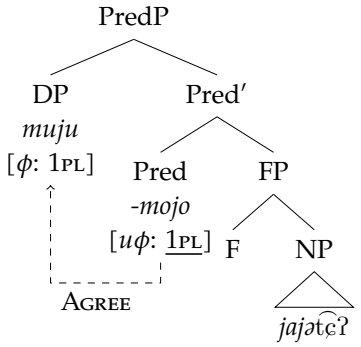
(i) *bɯd-eŋ-**kʌŋ***
strong-ADJ.PL-2PL.PRED
'You (PL.) are strong' [Ket; Vajda 2020: 455, ex. 27e]

However, Vajda (2020: §3.6.) argues that these suffixes originate from a linearly post-predicate copular verb **əŋ*^{j} which bore prefixal subject agreement (e.g. 2PL *k-*) and underwent univerbation, becoming a suffix on the predicate. As will be discussed in fn. 22, putative counterexamples to the Agreement Universal which involve predicative agreement morphology that looks similar or identical to verbal agreement morphology almost certainly arise via a different diachronic mechanism than the one proposed here based on pronominal copulas.

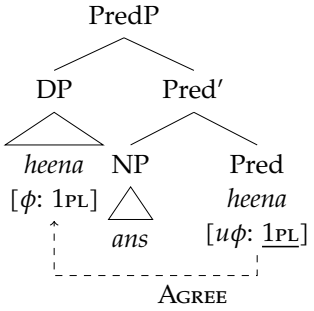
3.1 *The grammaticalisation of pronominal copulas*

The structure proposed in (8-b) for fully-agreeing pronominal copulas is almost exactly akin to that proposed by Abramovitz (2021) for person-sensitive predicative agreement in Koryak. The two structures are given in (19) and (20) for predicative agreement and pronominal copulas respectively.[20]

(19) a. *muj-u* *jajət͡ɕʔ-ə-**mojo***.
1NSG-ABS.PL family-EP-1PL.PRED
'We are a family.'
[Koryak; (15-b)]

b.


(20) a. *heena ans* *heena.*
1PL women 1PL.COP
'We are women.'
[Tigre; (1-a)]

b.


(Mod. from Abramovitz 2021: 8, ex. 28-9)

As discussed in Tan (2022), the key to unifying the typologically unexpected presence of person agreement across both types of non-verbal predication—pronominal copulas and predicative agreement—is in situating the φ-probe on Pred itself, rather than a lower functional projection intervening between PredP and the AdjP/DP predicate.[21] Just as I propose here for fully-agreeing pronominal copulas, Abramovitz (2021) suggests that Pred in Koryak is a probe which interacts with all φ-features but is satisfied only by person features, interacting first with its complement and, finding no person features there, continuing on to probe and Agree with the subject in its specifier.

[20]The structure (19) abstracts away from the concord process proposed by Abramovitz for Koryak which spreads the features on Pred to its complement, resulting in the surface word order and suffixal morphology on the non-verbal predicate. The semantically null FP in (19) is included primarily for parallelism with Baker's (2008) analysis of non-verbal predication and omitted from the pronominal copula structure, although its inclusion would not affect the forwarded proposal.

[21]Indeed, Baker (2008: 59) suggests that one potential analysis of Classical Nahuatl, a language which appears to defy the Agreement Universal in allowing 1st/2nd person agreement prefixes to attach directly to non-verbal predicates, is to situate the person agreement on Pred itself rather than on the lower $F_{adj}P$.

Once the small clause structure in (20) has been established (via the mechanism of Spec-Head reanalysis discussed in the prior section), grammaticalising the pronominal copula into predicative agreement morphology is straightforward. The grammaticalisation of a given lexical item is typically accompanied by a gradual reduction in form along the following pathway.

(21) Lexical Item > Grammatical Word > Clitic > Affix > (Ø)
(Hopper & Traugott 1993)

In line with their increasingly grammaticalised function, pronominal copulas in Pred may phonologically reduce to clitics and then affixes which undergo morphological lowering to attach to the DP/AP predicate, resulting in person-sensitive non-verbal predicative agreement. Indeed, certain North Mesopotamian Arabic varieties such as those from Daragözu have reduced the fully-agreeing pronominal copula to an enclitic throughout the paradigm (Akkuş 2016), as illustrated in (22).

(22) *ənt* *məni* ***=ənt****?*
2msg who =2msg.cop
'Who are you?' [Daragözu Arabic; Jastrow 1973: 40]

The only difference between fully-agreeing pronominal copulas and person-sensitive predicative agreement is thus in their morphophonological surface form – is the agreeing element still a free-standing lexical item, or a phonologically reduced suffix? Crucially, the underlying structure of both constructions is identical (19)–(20). Evidence in favour of the tight connection between the two types of non-verbal predication comes from how person-sensitive predicative agreement morphology is often clearly formally similar to pronouns.[22] Compare for instance the absolutive pronoun and predicative agreement paradigms in Koryak (23).[23]

[22] Baker (2008: §2.5.1) argues that putative exceptions to Stassen's Agreement Universal from languages like Turkish, Salish, and Abaza involve Spec-Head agreement in TP (with a raised subject and tense lowering) rather than within PredP as illustrated in (19). Crucially, the relevant agreement morphology in these languages typically looks similar or identical to that used on verbal predicates (as expected of φ-feature exponence in T). Following argumentation in Abramovitz (2021), that the various examples of person-sensitive predicative agreement morphology under discussion in this paper are instead formally similar to pronouns suggests that they constitute genuine counterexamples to the Agreement Universal.

[23] This table, following Abramovitz (2021), abstracts over allomorphy of the agreement suffixes as triggered by vowel harmony. The initial [j] found in the 1/2sg predicative agreement suffix is epenthetically inserted to resolve consonant clusters and surfaces as [i] and [e] in other phonological contexts.

(23)

	Absolutive Pronoun	Predicative Agreement
1SG	ɣəmmo	-jɣəm
2SG	ɣətɕ͡tɕ͡i	-jɣi
1DU	muji	-muji
2DU	tuji	-tuji
1PL	muju	-muju
2PL	tuju	-tuju

[Koryak; mod. from Abramovitz 2021: 5, ex. 17]

These similarities recur throughout the Chukotkan dialect cluster (Kasyanova 2017); in fact, the Chukchi and Alutor 2SG predicative agreement suffix is *-jɣət*, bearing an even closer similarity to the 2SG absolutive pronoun ɣət(*o*) (*p.c.* J. Bobaljik). Similarly, the predicative agreement suffixes of Turoyo (16-b) clearly derive from the corresponding nominative pronouns (24).

(24)

	Nominative Pronoun	Predicative Agreement
1SG	ono	-no
2MSG	hat	-hət
2FSG	hat	-hat
3MSG	hiye	-yo
3FSG	hiya	-yo
1PL	aḥna	-na
2PL	haut	-hatu
3PL	hənnək	-ne

[Turoyo; mod. from Grigore 2007: 55]

In contrast, φ-deficient predicative agreement as in Swahili (14) typically looks distinct from the language's pronouns. In general, then, the proposed diachronic pathway captures several parallels between pronominal copulas and predicative agreement. Not only does it account for the clear formal similarity between pronouns and (person-sensitive) predicative agreement morphology in several genetically distinct languages, as well as the close functional and structural isomorphism between the two constructions, but also the relative rarity of person marking with non-verbal predicative agreement, which can now be taken to be a downstream consequence of the low incidence of fully-agreeing pronominal copulas (as one of the key diachronic sources for such morphology).

4 Three puzzles of gradience and variation

While the proposed diachronic pathway from fully-agreeing pronominal copula to person-sensitive predicative agreement is relatively straightforward, it does raise a number of interesting theoretical questions as to the gradience of syntactic change over time. We have already seen how the change from resumptive pronoun to pronominal copula can involve a number of intermediate steps, as with their initial restriction to 3rd person and/or definite subjects. Within a given language, the change from pronominal copula to predicative agreement can also exhibit gradability across both paradigms and syntactic categories. The remainder of this paper explores three such examples of apparently gradient morphosyntactic change as attested in the expanded Pronominal Copula Cycle: reduction, linearisation, and case marking.

4.1 Reduction

Just as 3rd person pronouns are the first to be recruited as pronominal copulas (Section 2.2), 3rd person pronominal copulas appear to be the first to grammaticalise into predicative agreement. Recall that several peripheral Arabic dialects attest fully-agreeing pronominal copulas (25).

(25) a. *anā* ***anā*** *awne.*
1SG 1SG.COP here
'I am here.'

b. *ūwe* ***ūwe*** *awne*
3MSG 3MSG.COP here
'He is here.'
[Siirt Arabic; Akkuş 2016: 3, Table 1]

Revisiting the grammaticalisation pathway in (21), we would expect free-standing pronominal copulas to phonologically reduce into clitics and affixes over time. Interestingly, some Anatolian Arabic varieties like Mardin Arabic show segmental reduction of the copula in *only* the 3SG (26-a,b). The 1PL (26-c) and even 3PL (26-d) copulas are enclitics, but have not undergone aphesis when compared to the independent pronouns. The exact same split reduction pattern is found in the pronominal copula paradigms of Cypriot Arabic (Borg 1985) and Kinderib Arabic (Jastrow 1978).

(26) a. *hūwe gbīr* ***=we.***
3MSG big =3MSG.COP
'He is big.'

b. *hīye gbīr-e* ***=ye.***
3FSG big-F =3FSG.COP
'She is big.'

c. *ana gbīr* ***=ana.***
1SG big =1SG.COP
'I am big.'

d. *hənne gbāṛ* ***=ənne.***
3PL big.PL =3PL.COP
'They are big.'
[Mardin Arabic; Grigore 2007: 55]

Indeed, the 3rd person appears to lead the way even in the change from clitic to affix – for example, in Daragözü Arabic (Jastrow 1973), the 3SG/PL pronominal copulas are suffixal (27-a) (cf. also *hiyu* ... *-ū* in the 3MSG and *hīyən* ... *-ən* in the 3PL), while the rest are enclitic and show no segmental reduction (27-b).

(27) a. *hīya l-bayt-**ī**.*
3FSG the-house-3FSG.COP
'She is home.'

b. *ənt məni **=ənt**?*
2MSG who =2MSG.COP
'Who are you?'
[Daragözu Arabic; Jastrow 1973: 40]

This development is not surprising. As 3rd person pronouns are the first to become pronominal copulas (Section 2.2), they are also the oldest and most frequently used forms in the paradigm. In this way, they are the most susceptible to phonological erosion over time and the first forms to continue along the grammaticalisation cline in (21). This is suggestive of gradience in change within a given paradigm, where certain cells are further along a diachronic development pathway than others – crucially, however, this does not involve structural or categorial gradience, but merely one in morphophonological form. If anything, these examples only further underscore the close connection between pronominal copulas and predicative agreement as one and the same underlying phenomenon.

4.2 Linearisation

More puzzling is the observation that the grammaticalisation of free-standing copulas into clitics and/or affixes appears to be accompanied by a shift in their linearisation from pre- to post-predicative position. Consider again Siirt Arabic, where pronominal copulas across the paradigm are unreduced and precede the non-verbal predicate (28).

(28) a. *anā **anā** awne.*
1SG 1SG.COP here
'I am here.'

b. *ūwe **ūwe** awne*
3MSG 3MSG.COP here
'He is here.'
[Siirt Arabic; Akkuş 2016: 3, Table 1]

In contrast, Mardin Arabic – in which all pronominal copulas are clitics – situates them after the non-verbal predicate (29-a). This is true even when a particular pronominal copula shows no segmental reduction in comparison to its pronominal form (29-b).

(29) a. *hūwe gbīr* **=*we***.
3MSG big =3MSG.COP
'He is big.'

b. *ana gbīr* **=*ana***.
1SG big =1SG.COP
'I am big.'
[Mardin Arabic; Grigore 2007: 55]

This post-predicative linear position is diachronically unexpected. The syntactic reanalysis that allows for resumptive pronouns to become copulas (as proposed in Section 2) requires the pronoun to be surface ambiguous between instantiating a resumptive subject in Spec, PredP and the Pred head; as Pred is typically head-initial in Arabic (Ouhalla 2013), and because left-dislocated topic constructions (and focus-fronting) in Arabic and elsewhere canonically situate the resumptive pronoun before rather than after the predicate, the input to reanalysis should only ever involve a pre-predicative resumptive pronoun and pronominal copula.[24]

There are several possible accounts for this switch. A specific explanation for why many of the Anatolian Arabic varieties (e.g. Cypriot, Daragözü, Kinderib, Mardin and others) employ a post-predicative copular element may be due to areal contact with languages in which the copula is suffixal on the predicate (with a potentially head-final PredP). As discussed in Akkuş & Benmamoun (2016) and Akkuş (2020), the neighbouring languages Turkish, Kurdish, and Turoyo (16-b),(24) all situate their copular element post-predicatively and likely influenced the Anatolian Arabic varieties to do the same. Indeed, as pointed out by an anonymous reviewer, the reversal of linear order between the predicate and copula/predicative agreement marker is not the type of change likely to have occurred during child language acquisition due to the fact that the relevant word order would have been robustly attested in their input. As such, it is perhaps more likely that for these specific languages, the role of contact and/or multilingualism in the context of adult speech may have been a key factor.

However, post-predicative pronominal copulas are also found in the geographically distant Austronesian languages Fordata (4-a) and Amarasi (Tan 2022), as well as in the Ethiopic language Tigre (4-b); these clearly require a separate explanation. In fact, there may be a deeper underlying relationship between the linearisation of a pronominal copula and its reduction. As

[24] An interesting comparison comes from the Subject Agreement Cycle (van Gelderen 2011), where pronominal external arguments (again situated in the specifier of TP or vP) are reanalysed as the morphological exponents of subject agreement (i.e. a head in T or AgrS). The Spec → Head reanalysis involved again predicts that all subject agreement should be prefixal. However, as discussed by Kirby (2021), there are many cases of unexpectedly suffixal subject agreement arising from grammaticalised pronouns, which may be due to 'afterthought'-type right-dislocated constructions. The switch from pre- to post-predicative copulas/predicative agreement discussed here would thus also fall under what Kirby calls 'wrong-side affixation'.

yet, there are no attested cases of fully-agreeing proclitic pronominal copulas, while enclitic copulas such as in (29) are relatively frequent. In addition, it is notable that almost all examples of person-sensitive predicative agreement affixes are suffixal rather than prefixal (15)–(16).

This distribution raises the question of whether it is somehow obligatory for a fully-agreeing copula to first be linearised post-predicatively in order for it to continue on to grammaticalise into predicative agreement. Or could it be the other way around, in that grammatical reduction into a clitic/affix automatically requires the pronominal copula to become post-predicative?[25] In either case, why should there be a relationship between reduction and linearisation at all?

It is likely that each individual example of a post-predicative copula and/or agreement suffix requires a context- and language-specific account (as with the Anatolian dialects above), involving a deeper investigation into the type of input structures available (e.g. right-dislocated 'afterthought' constructions vs. left-dislocated topic/focus fronting), the general distribution of prefixes vs. suffixes, and the nature of prosodic words and phrasing in each language. Although it is beyond the scope of this paper to propose such solutions in detail, the rest of this subsection will present several potential avenues of investigation for future research.

One possibility is that there is a general pressure for fully-agreeing copulas to be phonologically displaced rightwards, away from the subject of predication, due to a form of Obligatory Contour Principle ban against the contiguous repetition of fully homophonous pronouns as found in (28). On this account, the shift in linearisation would precede and potentially even feed phonological reduction (which would render the pronoun and pronominal copula more distinct). Again, this sort of change could be more likely to occur in adult speech due to functional/usage-based or pragmatic factors rather than in child language acquisition. In particular, it could be that the semantic bleaching of topic/focus changes the intonational contour and prosodic phrasing of the relevant utterance, reducing the pause between the (former) left-dislocated element and resumptive pronoun/pronominal copula and rendering adjacent repetition less acceptable than in the formerly pragmatically-marked construction.

Another possibility makes the reverse assumption. In its more grammaticalised function, the pronominal copula may first undergo phonological reduction and weakening, coming to require a host to support it. As

[25] Consider for instance the long-established observation that there is a cross-linguistic preponderance of suffixes over prefixes (Sapir 1921, Mithun 2003, Himmelmann 2014), for which numerous cognitive/functional and formal explanations have been proposed.

pronouns are typically phonologically weak elements to begin with (Selkirk 1996), they may be insufficient to serve as hosts to the pronominal copula – this is compounded by languages with widespread *pro*-drop, where the subject of predication may not even always be overt. In contrast, since the predicate itself is expected to be consistently pronounced (as the key informational load-bearing element), it may instantiate a more reliable host. The reduced pronominal copula is therefore again displaced rightwards, but this time due to its need for a phonological host. On this account, it is instead reduction that precedes the shift in linearisation. However, this analysis does not yet explain why pronominal copulas appear to be mostly weakened on their left edge–becoming enclitics and suffixes–and never their right, recalling the notable absence of proclitic pronominal copulas and prefixal predicative agreement (which would presumably also find a suitably strong and reliable phonological host in the form of the predicate they precede).[26]

The last possibility boils down to what we think the category of Pred actually instantiates.[27] As mentioned in Section 2.1, there have been multiple proposals regarding the category of pronominal copulas (Doron 1986, Edwards 2006, Citko 2008, Choueiri 2016, Lohndal 2009). While it is entirely possible that the answer may be different for individual languages, there are also robust syntactic diagnostics that show Pred to be categorially distinct from T and v/V based on word order, headedness, and its interaction with negation in precisely the context of pronominal copulas (Akkuş 2016, Choueiri 2016, Tan 2022). At the same time, as observed by Edwards (2006) and others, the pronominal copula typically displays a mix of nominal and verbal properties. Considering the copula's pronominal origin, we thus have room for another type of gradience in syntactic change: Pred may inherit certain categorial properties of D(P), such as its headedness.

Many primarily head-initial languages show head-final properties in the nominal domain. For example, Fordata (Kei-Tanimbar) is an SVO language with prepositions, but exhibits canonical N PL NUM QUANT DEM order (30-a) and head-final noun compounds (30-b). Similarly, Amarasi (Timoric) is an

[26] However, it could also be that many instances of pre-predicative fully-agreeing pronominal copulas are in fact proclitics (i.e. phonologically reduced in some way), but that a lack of careful phonetic documentation has obscured their existence.

[27] The question of what it means to have Pred be exponed as a pronoun is not trivial. There are several possible analyses – on a Distributed Morphology account (Halle & Marantz 1994), it could be that the relevant Vocabulary Item insertion rules are category-neutral, and thus insert the personal pronoun exponent regardless of whether the head is Pred or D so long as it bears the requisite combination of φ-features (as proposed in Tan 2022 for Amarasi). Alternatively, the syncretism could be synchronically accidental such that there are two distinct sets of category-sensitive VI rules which, thanks to the diachronic changes proposed in Section 2 above, happen to insert homophonous exponents.

SVO language with pre-verbal TAM marking, but a broadly head-final nominal domain (31-a); its use of adnominal pronoun constructions (e.g. 'we linguists', discussed in Tan 2022: §4) also requires the pronominal determiner to occur post-predicate (31-b), confirming the head-finality of pronominally-headed DPs (Tan 2023: §5).

(30) a. *tamata isa'a watan*
person one only
'only one person' [Fordata; Marshall 2000: 199, ex. 50]

b. *aa duan*
wood master
'tree worm' [*ibid.*: 215, ex. 104]

(31) a. *eon ko'u bo'es am nua naan*
door big ten and two DEM.MED
'those twelve big doors.' [Amarasi; Tan 2022: 15, ex. 4]

b. *too tafa' kai*
citizen small 1PL.EX.OBL
'us small people' [Amarasi; Edwards 2017: 328, ex. 98]

Crucially, both languages employ fully-agreeing pronominal copulas which are obligatorily post-predicate (32).

(32) a. *Oa ratoe* ***oa****.*
2SG king 2SG.COP
'You (SG.) are king.' [Fordata; Drabbe 1926: 54]

b. *Au bifee* ***kau****.*
1SG.NOM woman 1SG.COP
'I am a woman.' [Amarasi; Tan 2022: 2, ex. 2]

While still puzzling from the standpoint of syntactic reanalysis, the innovation of an overtly head-final PredP could be due to the copula retaining the head-finality of the pronominal DP it originated as. If so, this would instantiate a type a categorial gradience, where the transition from pronoun to pronominal copula allows for the retention of certain properties such as headedness. In fact, an interesting example of an invariant pronominal copula which appears to still be ambiguous between its pronominal argument and copular functions comes from Cape Verdean Creole (33), where the 3SG pronoun *el* has been grammaticalised into a phonologically reduced copula *e* that can be used with all persons.

(33) a. (*El*) ***e*** *spertu.*
(3SG) COP smart
'S/he is smart' [Cape Verdean Creole; Baptista 2002: 255, ex. 113b]

b. *Bo* ***e*** *bunitu.*
2MSG COP handsome
'You (MSG) are handsome.' [*ibid.*: 69, ex. 142a]

These constructions allow the subject of predication to be omitted (33-a). However, dropping a non-3rd person subject, such as with 2MSG *bo* in (33-b), forces a 3SG interpretation of the clause (Baptista 2002). This suggests that *e* can still serve as a referential pronominal argument in certain contexts, whilst instantiating a person-invariant copula whose 3SG form is a semantically vacuous morphological default in others.

4.3 Case

More evidence for the potential retention of typically (pro)nominal properties comes from the third puzzle of variation. While almost all the languages discussed so far have innovated pronominal copulas/predicative agreement based on the reanalysis of intransitive subject pronouns (i.e. from the nominative or absolutive case paradigms), there are a small set of languages which instead appear to have derived their non-verbal predicative markers from pronouns bearing non-subject case marking.

This is most clearly exemplified in Amarasi, the Austronesian language discussed in the previous subsection, in which fully-agreeing pronominal copulas are syncretic with the language's set of oblique pronouns (34).[28]

(34) a. *Hai* *bifee* ***kai.***
1PL.EX.NOM woman 1PL.EX.COP
'We are women.' [Tan 2022: 7, ex. 8a]

b. *Hi* *m-neek* *m-iis* ***kai***
2PL.NOM 2PL-love 2PL-complete 1PL.EX.OBL
'You love us completely.' [Unit Bahasa & Budaya 2015, 2 Cor 8:7]

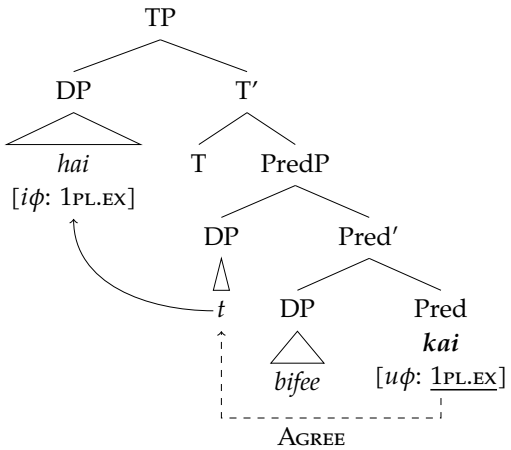
There are two puzzles here. From a synchronic perspective, what is the source of oblique case in these copular constructions? From a diachronic perspective, how did oblique pronouns come to be reanalysed as pronominal copulas? The remainder of this subsection will explore these two questions in turn.

Let us first consider the synchronic structure of a copular small clause construction as in (34-a), illustrated in (35). Assuming an AGREE-based approach to case assignment (Chomsky 1993), we can posit that the initial pro-

[28] These pronouns are used both in contexts where one would expect accusative case (e.g. as direct objects), as well as in contexts where one would employ dative case (e.g. as prepositional complements, indirect objects, beneficiary arguments, etc.). As such, this paper will refer to them with the general label 'oblique'.

noun receives nominative case upon entering into an Agree relation with finite T_{EPP} and subsequently raising into Spec, TP. However, there is no vP (or other functional projection such as ApplP) which can Agree with the post-predicative pronoun in order to assign it oblique/accusative case.

(35)



As discussed at length in Tan (2022: §5), one possible source of oblique case in these constructions is through a disjunctive and configurational approach to case assignment (Marantz 1991). On a Dependent Case Theory account (Baker 2015), we can assume the following rules to be active in Amarasi:

(36) a. If NP_1 c-commands NP_2 and both are in the same domain, value NP_2's case as accusative.
b. If NP has no other case feature, value its case as nominative.
(Baker 2015: 74, ex. 66)

In the structure in (35), the 'pronoun' in Pred is c-commanded by a distinct nominal in Spec, PredP, allowing it to be configurationally assigned oblique/accusative case as per (36-a). Following Tan (2023: §5) and given the clear formal similarity between the nominative and oblique pronouns in Amarasi,[29] we may analyse the exponent of oblique case as a prefix *k-* which attaches to the base subject pronoun in e.g. *hai* 1PL.IN.NOM, triggering cluster reduction of */k-hai/* → *kai* 1PL.IN.OBL.[30]

[29]Consider 1SG *au* vs. *kau*, 2SG *ho* vs. *ko*, 1PL.IN *hit* vs. *kit*, 1PL.EX *hai* vs. *kai*, and 2PL *hi* vs. *ki*.

[30]This account is supported by the diachronic origin of the oblique pronoun paradigm, which Tan (2023: §5) shows developed from the prefixation of the Proto-Malayo-Polynesian genitive case prefix **n-* onto the Proto-Rote-Meto free pronouns 2SG **koo*, 1PL.IN **kit*, 1PL.EX **kai* etc., originally unmarked for case. Through regular sound change (Edwards 2016: 59) **#k* > *h* (e.g. PMP **pitu* > *hitu* '7'), whereas **#nk* > **ŋk* > *k*, as schematised in (i) for the 2SG pronoun.

(i) a. PMP **kahu* > PRM **koo* > *ho* 2SG.NOM
b. PRM **n-koo* > **ŋ-koo* > *ko* 2SG.OBL (Tan 2023: 374, ex. 61)

Such an account raises a number of questions as to what, categorially, is allowed to constitute a case competitor or recipient for the rules in (36). One possibility is that these pronominal copulas have retained whatever nominal property marks constituents as visible to the case-assigning algorithm thanks to their diachronic origin as pronouns. As proposed in Baker (2015: 174), this distinguishing property may be a referential index or diacritic. If a pronominal copula kept this index on the way from grammaticalising from a pronominal D head into Pred, it would be visible to receive dependent case; in contrast, pronominal copulas which appear to receive unmarked (i.e. nominative/absolutive) case presumably lost their referential index at the same time as transitioning from a head bearing valued and interpretable φ-features to an unvalued φ-probe. Crucially, the retention of a nominal referential index on these heads could constitute another form of categorial gradience in syntactic change.[31]

Regardless of the synchronic analysis of these constructions, the oblique case-marking on these elements remains puzzling from a diachronic perspective. As outlined in Section 2.1, the left-dislocated topic constructions which give rise to pronominal copulas should only ever employ resumptive pronouns bearing the case of (intransitive) subjects, i.e. nominative or absolutive. Given the synchronic status of such constructions in Amarasi (37), there is no reason to expect there to have ever been an oblique pronoun in a syntactic position appropriate for reanalysis as Pred.

(37) *Au* *he'* *ia,* ***au/*kau*** *'-roim* *=je*
1SG.NOM REL DEM.PROX, 1SG.NOM/OBL 1SG-like 3SG.OBL
'As for me, I like it/her/him.' [Amarasi]

We run into the same problem as with pre- vs. post-predicate linearisation discussed in Section 4.2 above; the utterance serving as the putative input

Evidence for the intermediate stage of this development comes from closely-related Rote languages such as Dela which retains the nasal cluster in 2SG.NOM *hoo* vs. 2SG.ACC *ŋgo* (Tamelan 2021: 97) and Lole which shows 2SG.NOM *o* vs. 2SG.ACC *ŋgo* (Balukh, Shiohara & Thine 2023).

[31] Tan (2022: §5.2–3) discusses an alternative account of oblique case in these constructions based on the distinction between unmarked and default case (Marantz 1991, Schütze 2001, Christopoulos & Zompì 2019). Another possibility, as suggested by an anonymous reviewer, is that these pronominal copulas are not in fact receiving synchronic case at all, and are simply fossilised as bearing oblique case due to their diachronic origin (cf. the complex complementiser *trotzdem* 'although' in German, which contains within it a dative demonstrative). However, one difficulty in assuming that these copulas are entirely fossilised would be in accounting for their productive ability to 'inflect' for φ-agreement, co-indexing the features of the subject of predication. On this analysis, we would have to assume that the Vocabulary Insertion rules for Pred (e.g. $\text{Pred}_{\text{1PL.EX}} \Leftrightarrow$ /kai/) accidentally duplicate the form taken by the productive combination of the nominative pronoun and oblique case prefix *k-* (e.g. OBL ⇔ /k-/ in combination with $\text{D}_{\text{1PL.EX}} \Leftrightarrow$ /hai/).

for syntactic reanalysis would not be surface string-ambiguous with the output structure in terms of the case on the reanalysed element. Our options are either to posit that i) oblique case marking was an innovation that occurred after the initial syntactic reanalysis occurred (unlikely, given that the very ability of Pred to receive case appears to be a retention), or ii) oblique pronominal copulas arise from the syntactic reanalysis of a different type of input structure (i.e. not left-dislocated topics but some other construction).

One possible alternative source for oblique pronominal copulas in Amarasi are the adnominal pronoun constructions (APCs; e.g. 'you teachers', 'us linguists') shown in (31-b) above and further exemplified in (38-a). Following Höhn's (2017, 2020) pronominal determiner analysis of APCs (Postal 1966, Abney 1987), the pronouns (e.g. *kai*, 'us') in these constructions instantiate D heads which take nominal predicate NPs (e.g. *ho aten* 'your servant') as their complement. Since DP is head-final in Amarasi, these pronouns occur post-predicate – notably, they obligatorily occur in the oblique case.[32] It is possible that APCs such as (38-a) were an alternative input structure for the syntactic reanalysis that gave rise to pronominal copula constructions like in (38-b); I leave investigation of this to future work.

(38) a. [$_{DP}$ *Ho* *aten* ***kai***] *mi-'ko* *paah Kana'an*
2SG.NOM servant 1PL.EX.OBL 1PL.EX-from land Kana'an
'We servants of yours are from the land of Kana'an.'
[Amarasi; Unit Bahasa & Budaya 2015, Genesis, 42:8]

b. *Hai* *suma* [$_{PredP}$ *ho* *aten* ***kai***.]
1PL.EX.NOM only 2SG.NOM servant 1PL.EX.OBL
'We are just your servants.'

Crucially, this is not an isolated case; oblique pronominal copulas should presumably give rise to 'oblique' predicative agreement morphology over time via the same grammaticalisation process as discussed in Section 3. Indeed, I have found at least two typologically-distinct languages where predicative agreement morphology is clearly derived from object markers. The first is Afghanistan Arabic (39), where all non-3SG predicative agreement suffixes involve the object pronoun suffix appended onto the 'equational' element *-in(n)* and look clearly distinct from the paradigm of subject pronouns (40).

(39) a. *Duklan* *min-in-**in***
3FPL.NOM who-PRED-3FPL.OBL
'Who are they?'

[32] Tan (2022: 32) suggests some cross-linguistic parallels for the choice of accusative/oblique case in APCs, as in English 'we linguists' vs. 'us linguists' (Emonds 1986) and with accusative marking on pronominally-headed non-restrictive relative clauses in Danish (Parrott 2009).

b. *Duk* *xassál-**in***
3MSG.NOM washed-3FPL.OBL
'He washed them.' [Afghanistan Arabic; Ingham 2006: §2.2.1]

(40)

	Subject Pronoun	Object Pronoun	Predicative Agreement
1SG	ana	-ni	-in-ni
2MSG	hint	-(a)k	-inn-ak
2FSG	hinti	-ki	-in-ki
3MSG	duk	-u	-wa
3FSG	duki	-(h)a	-ya
1PL	niḥna	-na	-in-na
2MPL	hintu	-kum	-in-kum
2FPL	hintin	-kin	-in-kin
3MPL	duklaw	-(h)um	-inn-um
3FPL	duklan	-(h)in	-in-in

(Mod. from Ingham 2006: §2.2.1–2)

Interestingly, the 3SG predicative agreement suffixes *-wa* (M.) and *-ya* (F.) are clearly derived from the Classical Arabic subject pronouns *huwa* and *hiya* respectively, and not the present day Afghanistan Arabic subject pronouns *duk* and *duki* or object markers *-u* and *-(h)a*. Again, this data raises the question of whether 'oblique' predicative agreement markers arise via the same diachronic pathway as those derived from subject pronouns, especially since the two types co-occur within a single paradigm in (40).

The second language is Mojeño Trinitario, an Arawak language spoken in Bolivia, where the predicative agreement found on non-verbal predicates (41-a) is identical to the suffix used to mark the pronominal object argument of a transitive verb (41-b), and distinct from that used to mark intransitive and transitive subjects.[33]

(41) a. *juiti 'chosi-**nu**=po*
now old-1SG=PRF
'Now I am old.' [Mojeño Trinitario; Rose 2011: 473, ex. 11]

b. *p-ewacho-k-a-**nu***
2SG-replace-ACT-IRR-1SG
'Replace me!' [*ibid.*: 473, ex. 9]

[33] In Mojeño Trinitario, the subject-marking prefixes (used also to co-index possessors) are clearly derived from the case-invariant pronouns, with which the object suffixes bear a passing but less clear-cut resemblance – e.g. 2SG subject prefix *py-* vs. pronoun *piti* vs. object/non-verbal predication suffix *-vi* (Rose 2018: 56).

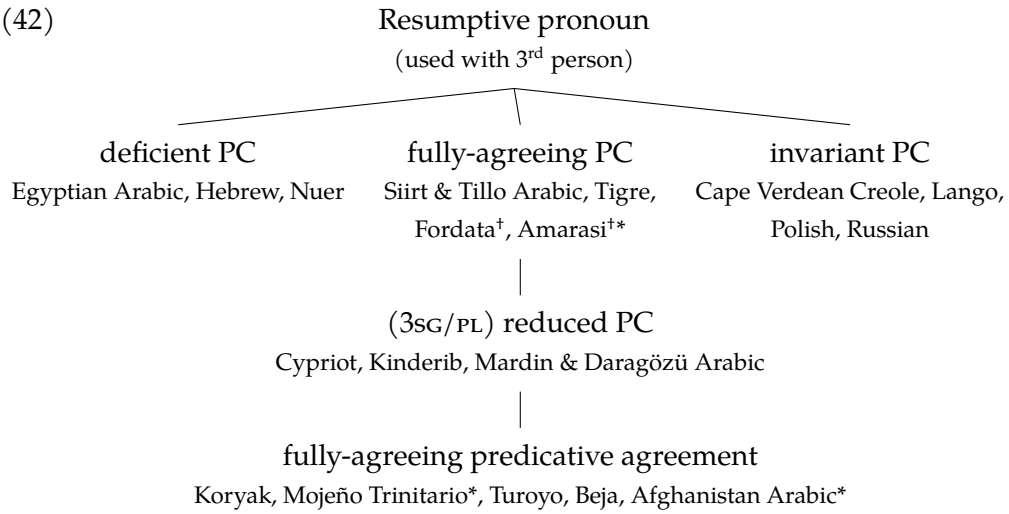
Given that free-standing pronouns in this language are invariant for case, future work should first investigate the diachronic origin of these object markers in order to potentially shed light on why they are syncretic with the predicative agreement suffixes.

Nevertheless, the existence of languages whose non-verbal predicative constructions employ elements which are clearly derived from and/or are syncretic with the language's object markers poses a significant puzzle for our understanding of the diachronic origin of both pronominal copulas and predicative agreement morphology, while also hinting at a degree of categorial gradience in the syntactic change from D to Pred as undergone by these elements.

5 Conclusion

In sum, this paper has presented a novel expansion of the Pronominal Copula Cycle in which fully-agreeing pronominal copulas can be seen as an intermediate stage in the diachronic development of person-sensitive predicative agreement. The entire pathway, as well as each stage's attestation in various genetically and areally diverse languages, is illustrated in (42).[34]

(42)



* Languages where the pron. copula/predicative agreement derives from object pronouns.
† Languages where the pron. copula/predicative agreement occurs post-predicatively.

This cycle evokes well-known principles of syntactic change such as Spec-Head reanalysis, Feature Economy, and the Head Preference Principle (Simp-

[34] Recall that all attested instances of phonologically reduced pronominal copulas and predicative agreement clitics/affixes occur post-predicatively.

son & Wu 2002, van Gelderen 2004, 2011). Furthermore, the change from pronominal copula to predicative agreement can be seen to follow the typical grammaticalisation cline from free-standing word to clitic to affix (Hopper & Traugott 1993), where phonological reduction over time is led by the most frequently employed and earliest-recruited forms (i.e. in the 3rd person).

From a synchronic perspective, the three possible diachronic outcomes of the reanalysis of resumptive pronouns as fully-agreeing, deficient, or invariant pronominal copulas has been suggested to fall out from individual language's varying treatment of the radically underspecified 3SG featural specification. Whereas fully-agreeing copulas involve languages reanalysing the pronoun as Pred heads bearing full φ-probes, deficient copulas arise in languages that take the absence of a person feature value to be indicative that no person agreement occurred at all, grammaticalising a Pred head which probes only for number (and potentially gender). Finally, invariant copulas are those which lack probes altogether. Pending further investigation, it is possible that the relative likelihood of each of these outcomes occurring is conditioned by factors such as the relative frequency of non-3SG subjects in the input left-dislocation constructions.

Finally, this paper has highlighted a number of interesting points of variation in the expanded Pronominal Copula Cycle which point to gradience in syntactic change, both i) within a given paradigm, in terms of which cells are the first to be phonologically reduced, and ii) across categories, in terms of the retention of nominal D head properties after grammaticalisation into Pred, as well as iii) in the initial innovation of pronominal copulas as limited to 3rd person/definite contexts or remaining ambiguous between their argumental and copula functions. It has also discussed a number of puzzles in terms of the relationship between phonological reduction and pre- vs post-predicative linearisation, the source of (oblique) case marking in these constructions, and the complications they each pose for the proposed syntactic reanalysis, all of which are promising avenues for future research.

Appendix

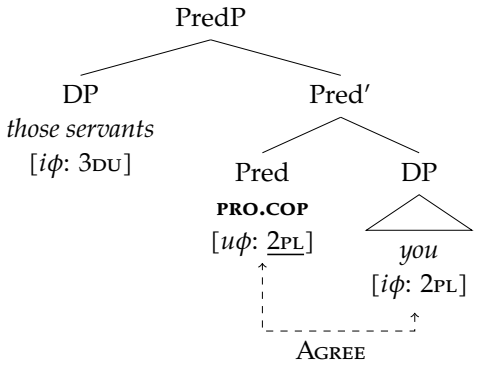
The interaction/satisfaction-based approach to Agree described in Section 2.3 above makes a number of predictions about the possibility of mismatching constructions where the non-verbal predicate is not 3SG.

For one, 'inverse' copula constructions where the predicate is a 1st/2nd person pronoun and the subject of predication is 3rd person should result in the pronominal predicate controlling agreement on the copular Pred head. This is because the Pred head should not need to probe any higher than its complement given that its satisfaction condition would be met by the person

feature on the predicative pronoun. This prediction is borne out in languages such as Tillo Arabic (43), where the pronominal copula can be seen to agree with the following pronoun in both person and number rather than the preceding 3DU phrasal subject. The derivation involved is illustrated in (43).

(43) *Āk ə-xādəmayn* ***ənt-ən*** *ənt-ən.*
those the-servants.DU 2PL.COP 2PL
'Those two servants are you (PL.)' [Tillo Arabic; Lahdo 2009: 172]

(44)



However, more research is needed to determine the exact structure of these inverted copula constructions and especially the role of 'low' predicative pronouns (Adger & Ramchand 2003, Conrod 2019, Tan 2022).

The second prediction is that constrained gender mismatches should be allowed between a nominal predicate and subject of predication. This is because the Pred head should first copy any gender feature found on its complement, before either 'over-writing' it or gaining a second gender feature value from the subject of predication. Such mismatches are attested in languages like Egyptian Arabic (45), among others.

(45) *il-ziriiba di* ***hiyya/*huwwa*** *beet-ak*
the-sty.FSG this.FSG 3FSG/*3MSG house.MSG-your
'This sty is your house.' [Egyptian Arabic; Choueiri 2016: 113, ex. 18b]

Assuming that the probe in Egyptian Arabic interacts with number and gender, but is insatiable such that it probes both its complement and specifier, the probe should first acquire a MASCULINE gender value from the predicate. In subsequently probing its subject, this value is overwritten by a FEMININE feature which surfaces overtly on the pronominal copula.

There are many different theoretically possible gender resolution patterns. The analysis above obtains regardless of whether the MASCULINE gender specification is really the *absence* of a gender value in the same way 3SG is the absence of person and number values (Bobaljik & Zocca 2011, Bjorkman 2017),

such that it will always get overwritten in cases of conflict (46), or if it is actually featurally represented (47). In the latter case, given that languages are known to differ in terms of whether a probe which has agreed with multiple goals for the same feature chooses to expone the first or last-received value (Deal 2022), we find two possible patterns (in addition to the possibility that all gender mismatches are ruled ungrammatical in a given language).

(46) **Resolution pattern 1**: MASC is the absence of features:

1st DP (predicate)	**2nd DP** (subject)	**Copula**
M	F	F
F	M	F

(47) **Resolution pattern 2a/b**: MASC is featurally represented

1st DP (predicate)	**2nd DP** (subject)	**Copula**	
		EXPONE LAST	EXPONE FIRST
M	F	F	M
F	M	M	F

Notably, languages which allow for *plurale/singulare tantum* nouns may also allow for number mismatches in these constructions, pending further investigation. Pronominal copula constructions thus present a novel avenue of research into the outcome of multi-goal AGREE, which recent work has explored across a wide range of empirical domains including Person Case Constraint hierarchies, German Copula Constructions, and Feature Gluttony in general (Coon & Keine 2021); Complementiser Agreement (Deal 2015); and mismatches in Free Relatives (Bergsma 2019, Tan & Grishin 2020).

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Tamisha L. Tan
SHHK-03-43
48 Nanyang Avenue
Singapore 639818
tamishaltan@ntu.edu.sg
www.tamishaltan.com