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RESEARCH ARTICLE

Pronouns beyond phi-features: the speaker–addressee relation in Japanese pronouns and its implications for formal pronouns

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Abstract

Greenberg's Universal 42 states that all languages have pronominal categories involving at least three persons and two numbers. However, this characterization fails to capture the properties of pronouns in Japanese, which are not bundles of person, number and gender features (so-called *phi-features*); rather, they contain sociolinguistic information about the interlocutors. We propose that these properties are structurally determined. Following Ritter and Wiltschko, we assume that the highest layer of structure in nominals is interactional structure. As for phi-features, we adopt the standard assumption that they are represented internal to the determiner phrase (DP). We propose that the distinctive properties of Japanese pronouns follow from the hypothesis that they spell out elements of the interactional structure and not the DP. We show that the lack of phi-features in Japanese pronouns correlates with other properties of this language's grammar. Support for this analysis comes from languages where pronouns with phi-features can optionally be used to encode formality (e.g. German and French). We propose that in these languages, formal pronouns originate within the DP but are interpreted in the interactional structure. Finally, we suggest that this analysis may extend to imposters and vocatives in that they may also be interpreted in the interactional structure.

1. What is a Pronoun?

It is a widely held assumption that all languages have pronouns, as reflected in Greenberg's (1966:96) Universal 42, reproduced in (1).

(1) All languages have pronominal categories involving at least three persons and two numbers.

Within the generative approach, which we adopt here, pronouns are conceived of as bundles of person, number and (in some languages) gender features (so-called *phi-features*). These

features determine the paradigmatic organization of pronouns. Given this approach, it is tempting to equate the content of first- and second-person phi-features with the interactional roles of speaker and addressee, respectively (Harley and Ritter 2002). However, evidence from the Japanese language indicates that this seemingly straightforward equivalence is not warranted.

The goal of this paper is to demonstrate that Japanese pronouns bear the interactional roles of speaker and addressee but lack phi-features and that the separation of interactional roles from phi-features is structurally conditioned. Phi-based pronouns are typically analyzed as instantiating functional categories internal to the determiner phrase (DP) (Abney 1987, Déchaine and Wiltschko 2002, Ritter 1995). We argue that Japanese pronouns instantiate syntactic categories above the DP that realize interactional content, including speaker and addressee roles. To support this claim, we discuss the well-known observation that Japanese pronouns lack the paradigmatic contrasts typical of phi-based pronouns. As Kuroda (1965:105) explains, '[i]n English grammar, as opposed to Japanese, one can easily point out formal (i.e. syntactico-morphological) characteristics of the personal pronouns. If we review some of these formal characteristics, we can see that there is nothing corresponding to them in the case of the Japanese so-called personal pronouns.' Instead, Japanese pronouns are characterized by rich sociolinguistic information. For example, Takubo (2020:689) notes that 'Japanese counterparts to "pronouns" such as *watasi* 'I,' *anata* 'you,' *kare* 'he,' *kanozyo* 'she,' etc., form an open class, and new additions to this class are always possible.' To see this, consider representative examples in (2).

(2) (a) First-person (singular): watakusi, watasi, boku, ore, wasi, oira, ora, taku,…
(b) Second-person (singular): anata, kimi, omae, omee, temee, anta, otaku, …
(c) Third-person (singular): kare, kanozyo, ano hito, kono hito, sono hito, aitu,…
Takubo (2020):689 (1)

The rich inventory of singular pronouns suggests that they consist of more than phi-features. This is further supported by another well-known fact about Japanese pronouns mentioned by Takubo (2020:690), namely that they 'cannot be freely used in conversational discourse … [and u]nlike English, the use of second person [pro]nouns to refer to the addressee in Japanese is usually considered impolite and restricted only to individuals who are close to the speaker.' This is illustrated in (3).[1]

(3) Context: addressing a teacher
??Tanaka-sensei, {anata, kimi, otaku}-no hon-o yomimasi-ta
Tanaka-Prof. {you, you, you}-GEN book-ACC read.POL-PST
'Prof. Tanaka, I read your book.'
adapted from Takubo (2020):690 (2)

A recent development in the architecture of the nominal spine makes a simple structural analysis available. According to Ritter and Wiltschko (2019), nominals include a layer of

[1] We use the glossing abbreviations listed in the Leipzig Glossing Rules (https://www.eva.mpg.de/lingua/resources/glossing-rules.php), as well as the following: FRML = formal; GER = gerund; NPST = non-past; POL = polite; REM = remote; SFP = sentence final particle; STAT = stative.

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structure dedicated to encoding aspects of the interaction between the speaker and the addressee (i.e. *interactional structure*). We argue that Japanese pronouns spell out this interactional structure, and hence, we refer to them as *interactional pronouns.* Interactional pronouns contrast with *paradigmatic pronouns*, the term we use for pronouns consisting of bundles of phi-features that form closed paradigms.

This paper is organized as follows: In Section 2, we present our assumptions regarding the structure of nominals. In Section 3, we propose that aspects of the socially constructed relationship between speaker and addressee are part of the interactional structure, and we develop our analysis of Japanese pronouns as intrinsically interactional. In Section 4, we extend our analysis to the formality distinction attested in languages with paradigmatic pronouns. In Section 5, we compare our analysis to that of Portner et al. (2019). Section 6 concludes the article.

2. The Interactional Structure of Nominals

Our point of departure is the assumption that nominals and clauses have a parallel structure. This idea goes back to Chomsky (1970) and has been widely assumed (e.g. Abney 1987, Grimshaw 2000).

The focus of the present paper is the set of categories that relate the proposition or referent to the conversational interaction and, hence, go beyond propositional or referential content. That such categories are part of the functional structure associated with clauses was first proposed in the seminal paper by Speas and Tenny (2003). They argue that the propositional structure of a clause is dominated by an articulated speech act phrase (SAP). Evidence for this layer of structure comes from a variety of empirical phenomena, including agreement with the speaker and addressee (Miyagawa 2009, Zu 2015, 2018), confirmational particles (Haegeman 2014, Wiltschko and Heim 2016) and response markers (Krifka 2013). Similarly, it has been proposed that there are functional categories in the nominal domain that relate the referent to the conversational interaction: Hill (2007, 2013) proposes that vocative nominals are associated with a layer of structure above the DP, (her vocative phrase [VocP]) to account for the fact that vocative nominals have different properties from bare nouns or DPs (cf. Espinal 2013).

Given the parallelism between clausal and nominal structure, the existence of a nominal layer responsible for regulating nominal reference in interaction is expected on conceptual grounds. The proposal for a clausal interactional structure that most straightforwardly extends to nominals is that of Wiltschko (2021), as demonstrated by Ritter and Wiltschko (2019). They argue that the same interactional categories can account for the semantic and distributional differences between personal and impersonal pronouns, on the one hand, and different types of vocatives, on the other. Here we offer an analysis of Japanese interactional pronouns and demonstrate that they also require nominal interactional structure. In the remainder of this section, we introduce properties of Wiltschko's (2021) Interactional Spine Hypothesis that are relevant to our analysis.

According to the Interactional Spine Hypothesis, clauses contain another set of functional categories that compose the interactional structure. These consist of a Resp(onse)P and two grounding phrases, $\text{Ground}_{\text{Spkr}}$P and $\text{Ground}_{\text{Adr}}$P. Following Ritter and Wiltschko (2019), we assume that the nominal interactional structure contains the same layers, as illustrated

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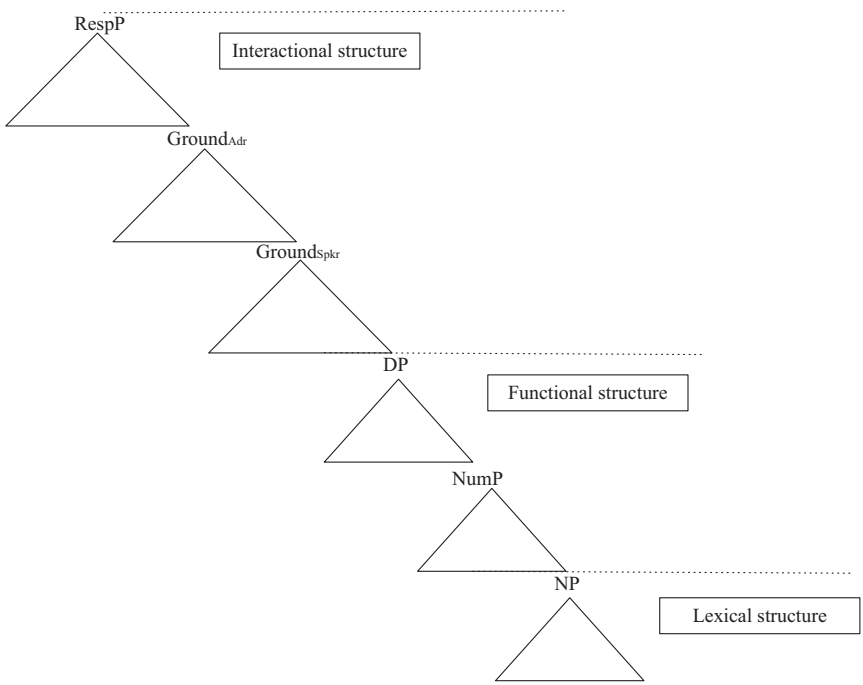
in (4). The Interactional Spine Hypothesis is an extension of Wiltschko's (2014) Universal Spine Hypothesis. According to the latter, specific functional categories are instantiations of universal functions that are present in both the nominal and clausal spine. For example, DP and tense phrase (TP) both instantiate the anchoring function, which is the process of anchoring the event or the individual to the utterance context. The labels GroundP and RespP represent the universal, category-neutral interactional functions grounding and responding, and we assume that there are nominal and clausal versions of these functions as well.

(4)



In the clausal spine, RespP signals whether the sentence functions as an initiating or reacting move. In the nominal spine, RespP serves the same function and hosts attention-getting particles, such as *hey* (Ritter and Wiltschko 2019). Because it plays no role in the typology of nominals developed here, we abstract away from this category.

In (4), $\text{Ground}_{\text{Spkr}}$P and $\text{Ground}_{\text{Adr}}$P constitute the syntactic representation of the interlocutors and their knowledge states (i.e. their grounds). As schematized in (5), the specifier of these phrases is assigned an interactional role by the respective head: the argument in Spec,$\text{Ground}_{\text{Spkr}}$P is assigned the role of the holder of speaker's ground and the argument in Spec,$\text{Ground}_{\text{Adr}}$P is assigned the role of the holder of addressee's ground. These correspond to the traditional speech act roles, speaker and addressee.

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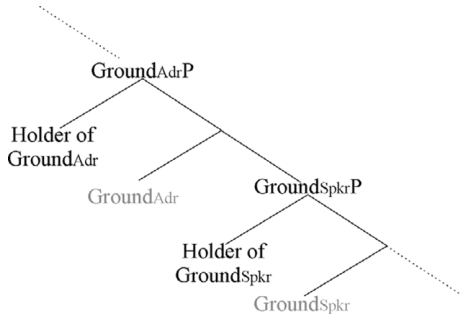
(5)



The terms *speaker* and *addressee*, as we use them here, refer to interactional roles rather than syntactic features. Thus, like thematic roles, they do not participate in any syntactic agreement relation.

In the nominal spine, $\text{Ground}_{\text{Spkr}}\text{P}$ encodes the speaker's commitment to the identity of the discourse referent, that is, the knowledge the speaker has about the referent. $\text{Ground}_{\text{Adr}}\text{P}$ encodes what the speaker assumes the addressee knows about the discourse referent and about the relationship between the interlocutors. For example, speakers often know different names, titles and descriptions for a given individual, but the choice they make when referring to that individual depends on their addressee, as shown in (6) and (7).

(6) A professor talking to one colleague about another. (All three are on a first name basis.)
  (a) Terry is teaching LING 100 next semester.
  (b) #Professor Smith is teaching LING 100 next semester.

(7) A professor talking to an undergraduate student about another professor (undergraduates do not call professors by their first names.)
  (a) #Terry is teaching LING 100 next semester.
  (b) Professor Smith is teaching LING 100 next semester.

Although the interactional structure has no overt content in the examples in (6) and (7), the structure in (5) predicts that it can be overtly realized. In the next section, we show that this is the case for Japanese pronouns.

3. Japanese Pronouns as Interactional Pronouns

In this section, we develop our proposal regarding the syntactic structure of interactional pronouns. We show that it provides a new solution to a long-standing problem in the grammar of Japanese. That is, it has long been observed that Japanese pronouns do not behave like paradigmatic pronouns in two respects: They lack phi-features, and they are laden with fine-grained sociolinguistic content. We show how an analysis of Japanese pronouns as intrinsically interactional accounts for both properties. In Section 3.1, we review previous treatments that seek to account for these distinctive properties of Japanese pronouns and point out their limitations. We then show that nominal interactional structure accounts for the presence of interactional content (Section 3.2), and the lack of phi-features (Section 3.3). In Section 3.4, we explore the difference in interpretation between person,

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number, and gender when realized as formal phi-features and as open-class interactional content.

3.1. The problem of classifying Japanese pronouns

The claim that Japanese pronouns do not behave like paradigmatic pronouns is not new. Previous authors have analyzed them in one of two ways – as nouns or as a third unidentified nominal category. We now review the arguments against analyzing Japanese pronouns as paradigmatic and those for and against analyzing them as nouns. We then introduce a new solution that exploits nominal interactional structure.

3.1.1. An old problem

It is a well-documented observation that Japanese pronouns do not behave like paradigmatic pronouns. They do not form paradigmatic oppositions with contrasting phi-features (Hashimoto 1948, Kuroda 1965, Wetzel 1994). Rather, they contain sociolinguistic content, such as register, the interlocutors' genders, ages, relative social status, and other aspects of their relation to one another. Consequently, Japanese has a sizable inventory of such forms (Hirose 2000; Kondo 1990; Kuroda 1965; Martin 1988; Miller 1967; Shibatani 1990; Suzuki 1976; Wetzel 1994). For example, Martin (1988:1076–1077) lists 22 different speaker-denoting pronouns.

Implicit in much of this literature is the assumption that the forms in question must be either nouns or pronouns. If so, it follows that if they are not pronouns, then they must be nouns. This is the conclusion drawn by Hashimoto (1948) and Kuroda (1965). See also Neeleman and Szendrői 2007. Kuroda offers an argument based on properties that Japanese third-person pronouns share with nouns: they can both be modified by adjectives, as in (8).

(8) (a) tiisai hito
short man
(b) tiisai kare
short he

adapted from Kuroda (1965):105 (3–4))

This argument assumes that adjectives are modifiers internal to the noun phrase (NP). Because adjectives can also modify pronouns, it follows that pronouns must also be nouns.

This reasoning is valid for adjectives that serve as direct modifiers, but not all adjectives are direct modifiers. It is well documented that an additional source of modification is indirect modification, which is assumed to derive from a higher relative clause (see Cinque 2010). Sproat and Shih (1991) show that Japanese adjectives are indirect modifiers. Watanabe (2012), however, identifies two exceptions: adjectives of origin/nationality and material adjectives. These exceptional classes appear to modify nouns directly. Interestingly, they are constructed with *-no*, which suggests that these constructions are appositional. Evidence for this apposition analysis comes from the observation that adjectives of origin/nationality require the addition of *jin* 'person' when they modify pronouns, as in (9).[2]

[2] We thank Kimiko Nakanishi, p.c. for providing these data.

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(9) (a) nihon-jin-no watasi
Japan-person-NO I
'I, a Japanese person'
(b) chuugoku-jin-no anata
China-person-NO you
'you, a Chinese person'
(c) canada-jin-no kanojo
Canada-person-NO she
'she, a Canadian person'

We conclude that the fact that pronouns can be modified by adjectives does not constitute evidence that pronouns are nouns because they can only be indirectly modified. In other words, adjectives that can serve as direct modifiers cannot directly modify pronouns. Rather, when such adjectives appear with pronouns, they modify a noun (*jin* 'person') that is in an appositional relation with the pronoun.

Another difference between Japanese pronouns and nouns has to do with demonstratives (Hinds 1971). Unlike nouns, pronouns cannot be preceded by demonstratives, as shown by the contrast between (10) and (11).

(10) (a) *kono kare (b) *sono kanojo (c) *ano karera
DEM.PROX he DEM.DIST she DEM.REM they

(11) (a) kono hito (b) sono gaijin (c) ano tomodati
DEM.PROX man DEM.DIST foreigner DEM.REM friend
'this man' 'that foreigner' 'that friend over there'

A third difference that pertains to the internal structure of the nominal constituent is that nouns can be possessed, but pronouns cannot. Consider the examples of possessed nouns in (12), where the possessor is marked with genitive *-no*.

(12) (a) watashi-no yujin
I-GEN friend
'my friend'
(b) anata-no hon
you-GEN book
'your book'

The fact that Japanese pronouns cannot be possessed manifests itself in two ways. First, when *kare/kanojo* is used in a possessive construction, it can be analyzed as a noun meaning 'boyfriend'/'girlfriend' but not as a third-person pronoun, as in (13).

(13) (a) watashi-no kare
I-GEN boyfriend
= 'my boyfriend'
≠ 'my he'
(b) anata-no kanojo
you-GEN girlfriend
='your girlfriend'
≠ 'your she'

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Second, first- and second-person pronouns cannot be combined with a possessor, as in (14). We attribute this ungrammaticality to the fact that first- and second-person pronouns are never nouns.

(14) (a) *watashi-no anata
I-GEN you
Intended: 'my you'
(b) *anata-no watashi
you-GEN I
Intended: 'your me'

Strikingly, whereas first- or second-person pronouns cannot be possessed, they can combine with a noun suffixed with *-no*, otherwise used as a genitive marker. In this context, the presence of *-no* gives rise to an appositive interpretation rather than a possessive one, as in (9) and (15).

(15) (a) gakusei-no watashi
student-NO I
= 'I, the student'
≠ 'student's me'
(b) isha-no kimi
doctor-NO you
= 'You, the doctor'
≠ 'doctor's you'

We interpret these facts as evidence that pronouns are not nouns.

The hypothesis that pronouns and nouns belong to different categories is further corroborated by an interpretive difference discussed by Hinds (1971:154). Bare pronouns and nouns have different number specifications. Bare pronouns necessarily denote a singular individual, and plural marking is obligatory when the denotation is nonsingular, as in (16) and (17). In contrast, bare nouns have general number (i.e., they can be interpreted as singular or plural); hence plural marking is optional, as in (18).

(16) (a) Watashi-ga otaya-o non-da
I-NOM tea-ACC drink-PST
'I drank tea.'
(b) Anata-ga otaya-o non-da
you-NOM tea-ACC drink-PST
'You (singular) drank tea.'

(17) (a) Watashi-tachi-ga otaya-o non-da
I-PL-NOM tea-ACC drink-PST
'We drank tea.'
(b) Anata-tachi-ga otaya-o non-da
you-PL-NOM tea-ACC drink-PST
'You guys drank tea.'

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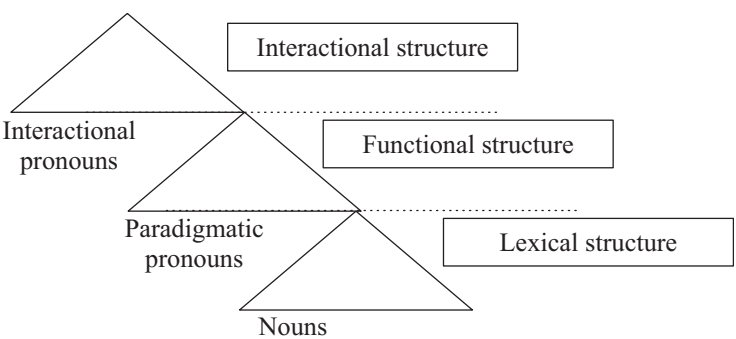
(18) (a) Otokonoko-ga asonde-iru
boy-NOM play-PROG
'A boy is/Boys are playing.'
(b) Otokonoko-tachi-ga asonde-iru
boy-PL-NOM play-PROG
'Boys are playing.'

In sum, there is a consensus that Japanese pronouns are not paradigmatic pronouns and that they have some properties in common with nouns. Nevertheless, there is also evidence that they differ from nouns, suggesting that they belong to a distinct category. So, what is their category? Even researchers who recognize that they are neither nouns nor pronouns offer no answer. For example, Hinds (1971) does not categorize Japanese pronouns at all, and Takubo (2020) classifies them as *personal nouns.* He reasons that they are personal because they deictically refer to the speaker or addressee (unlike nouns) and that they are noun-like because they are open class (unlike paradigmatic pronouns). However, this analysis fails to capture the sociolinguistic content that determines their use conditions, further distinguishing them from common nouns.

3.1.2. A new solution

We now offer a new solution to the long-standing problem of classifying Japanese pronouns. We argue that they belong to a syntactically and semantically distinct class of pronouns, which we call *interactional pronouns.* We assume that differences in external distribution, internal composition, and interpretive content are structurally conditioned (see Borer 2005). In what follows, we argue that interactional pronouns occupy the nominal interactional structure and, hence, differ from both paradigmatic pronouns, which occupy the functional structure, and nouns, which occupy the lexical structure, as in (19).

(19)



Recall from Section 2 that the interactional structure contains two grounding phrases that introduce the ground-holders. The postulation of these grounding phrases predicts the existence of speaker- and addressee-denoting interactional pronouns. We propose that Japanese first- and second-person pronouns occupy Spec,Ground$_{\text{Spkr}}$P and Spec,Ground$_{\text{Adr}}$P, respectively, and that they receive their interactional roles in these positions, as schematized in (20).

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(20) (a) $[_{\text{GroundAdrP}}$ $[_{\text{GroundSpkrP}}$ **pronoun** $[_{\text{DP}}$ *pro*]]]
(b) $[_{\text{GroundAdrP}}$ **pronoun** $[_{\text{GroundSpkrP}}$ $[_{\text{DP}}$ *pro*]]]

Thus, the defining property of interactional pronouns is that they are realizations of one of the specifiers in the interactional layer and that their functional structure (DP) is occupied by *pro.* As such, interactional pronouns differ from paradigmatic ones, which spell out the functional structure. Given that phi-features are generally absent in Japanese, we hypothesize that *pro* in (20) also lacks phi-features.

This proposal raises the question as to whether there are interactional pronouns for the third person. We propose that Japanese third-person pronouns are *derived interactional pronouns.* As is well-documented, *kare* and *kanojo*, the third-person pronouns in Japanese, are intrinsically nouns meaning 'boyfriend' and 'girlfriend', respectively.[3] Hence, we propose that *kare* and *kanojo* are inserted as the head of NP and subsequently move to the grounding layer where they function as pronouns, as in (21). More specifically, they move to Spec,$\text{Ground}_{\text{Spkr,}}$ but unlike speaker-denoting pronouns, they are not interpreted as the holder of the speaker's ground but instead as the content of the speaker's ground

(21) $[_{\text{GroundSpkrP}}$ *kare* $[_{\text{DP}}$ …$[_{\text{NP}}$ ~~**kare**~~]]]

Suggestive evidence that *kare* and *kanojo* in their pronominal use occupy $\text{Spec,Ground}_{\text{Spkr}}$ comes from Obana's (2003:154) observation that 'the referent person should be known at least to the speaker, that he/she should not be present at the time of interaction, and that social distances should not be recognized between speaker, listener and referent person.' Thus, like other interactional pronouns, the use conditions for *kare* and *kanojo* are determined by social relations between the speaker and the referent.

Note that in Japanese, at least in some contexts, third-person nominals that denote humans show a similar sensitivity to the speaker–addressee relation. This is exemplified in (22).[4]

(22) Talking to the company president:
(a) #Shachoo-no musuko-wa genkidesu ka?
President-GEN son-TOP fine.is Q
'Is your son fine, Mr. President?'
(b) Shachoo-no musuko-san-wa o-genkidesu ka?
President-GEN son-**HON**-TOP HON-fine.is Q
'Is your son fine, Mr. President?'

When talking to the president about the president's son, an honorific marker (*-san* in (22) must be used on *musuko* ('son'). This raises the question of whether all third-person nominals denoting humans may or must move to the grounding layer. We leave this possibility as a matter for future research.

[3] An anonymous reviewer points out that the use of *kare* and *kanojo* as nouns is a recent innovation that developed from their use as third-person pronouns. We assume that synchronically they are in fact nouns and that this constitutes a case of *degrammaticalization*, in the sense of Lehmann (2015).

[4] We are grateful to an anonymous reviewer for pointing out the significance of this observation, as well as for providing us with the data in (22).

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3.2. Interactional properties

According to our proposal, intrinsic interactional pronouns are inserted into the interactional structure and consequently, their content is interactional. We now demonstrate that the properties of Japanese pronouns are consistent with our analysis.

3.2.1. Rich sociolinguistic content

The fact that Japanese pronouns express sociolinguistic content falls out straightforwardly from the hypothesis that they appear in the interactional structure. This is in line with a widespread assumption according to which different kinds of content are associated with different layers of structure: descriptive (open class) content is associated with the lexical layer (NP) and grammatical features (phi and definiteness) with the functional layer (DP). Japanese pronouns do not have content that falls neatly within either of these layers of structure; rather, their content reflects the properties of the interlocutors and the context of their interaction. In what follows, we review characterizations of interactional pronouns that make it clear that their content is neither descriptive nor grammatical. Hence, their interpretive properties are not compatible with a structural analysis, according to which they are either NPs or DPs. But they have precisely the type of content one would expect of GroundP pronouns.

First consider Kaiser et al.'s (2013) description of different Japanese addressee-denoting pronouns:

> [*K*]*imi* is an intimate sounding form of address for males or females by older men, or by boyfriends towards girlfriends. [*O*]*mae* is quite informal, used between men who grew up or went to school together. It is also used by parents to their sons. [*K*]*isama*, also common in comics, is used in such male bastions as the army, sports teams etc., to subordinates or equals; in ordinary life, if you address someone with *kisama*, it signals that you're trying to pick a fight! […] [*Anata*] is taught to foreigners as equivalent to 'you', simply because it is the most neutral of the lot. However, Westerners are renowned in Japan for overusing *anata*, which still has strong connotations, namely: […] *anata* is used when the speaker/writer does not know what the social level of the person/s addressed is. […] [*A*]*nata* is also typically used by a woman to her husband or lover (although less so by the younger generation).
>
> Kaiser et al. (2013:372–374)

This quote suggests that Japanese pronouns encode information about the addressee (age, gender, and social status), the relation between the interlocutors (level of intimacy), and their context of use (register). Kaiser et al.'s description also makes it clear that different Japanese pronouns do not minimally contrast with one another and that their content cannot be reduced to grammatical phi-features. Thus, these properties support our view that Japanese pronouns are categorically different from paradigmatic pronouns.

If interactional pronouns are not defined by a set of grammatical phi-features, then they need not constitute a closed class. The fact that different grammars of Japanese have different lists of interactional pronouns indicates that this is the case. Relatedly, the sociolinguistic content of interactional pronouns is subject to changing societal pressures that result in the need for frequent innovation in the inventory. Thus, we might expect interactional pronouns to change more rapidly than paradigmatic pronouns. It certainly seems to be the case that the

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Table 1 Restrictions on addressee-oriented interactional pronouns

	Formality	Restrictions on speaker	Restrictions on addressee
kimi	intimate	older man	male or female
		boyfriend	girlfriend
omae	informal	men who grew up or went to school together	
		parent	male offspring
kisama	may appear aggressive	male (superior or equal)	male

use of Japanese pronouns changes relatively quickly. For example, the use of *anata* varies between older and younger speakers, according to Kaiser et al. (2013).[5]

Given that the use of interactional pronouns is sensitive to gender, one might ask whether this is a type of phi-feature. A first indication that the gender specification on interactional pronouns is not a phi-feature comes from the observation that it does not trigger agreement (see Section 3.3.1). Additionally, gender in interactional pronouns does not form a natural class with person and number. It is part of a set of restrictions that also includes age, status, and aspects of the relationship between the interlocutors. Moreover, the use of a given speaker- or addressee-denoting pronoun may be restricted not only by the age and gender of the referent but also by the age and gender of the other interlocutor. This is illustrated in Table 1, based on the description of addressee-denoting interactional pronouns in Kaiser et al. (2013:372–374). The types of restrictions illustrated in Table 1 contrast with phi-feature-based restrictions on paradigmatic pronouns. We note that formal pronouns in languages like French and German, whose use is sensitive to age and social status, are exceptional in this respect, and hence, we analyze them as derived interactional pronouns (see Section 4).

3.2.2. Avoiding pronouns for reasons of politeness

Helmbrecht (2013) developed a linguistic typology based on the number of politeness distinctions in the inventory of second-person pronouns. This typology divides languages into four types: those with no distinctions, those with a binary distinction, those with multiple distinctions, and those that avoid pronouns 'for reasons of politeness'. Interestingly, this fourth type (to which Japanese belongs) is qualitatively different from the first three: the classification is based on the pronouns' conditions of use. We argue that this qualitative difference reflects the fact that the first three types of languages have paradigmatic pronouns, whereas the fourth type of language has interactional pronouns (McDonald 2021). It is their rich sociolinguistic content that leads to complex restrictions on their conditions of use. Consequently, avoiding pronouns might be the socially safest thing to do.

Japanese makes available two strategies for avoiding interactional pronouns: using titles, names, or kinship terms and using a zero pronoun (*pro*). With respect to the first strategy, all the descriptive grammars of Japanese point out that titles, names, and kinship terms are preferred over the forms we are calling interactional pronouns. According to Kaiser et al. (2013:137): 'Japanese pronouns are intimately tied up with hierarchy and levels of respect.

[5] See Yonezawa (2021) for an illuminating discussion of the complex use conditions of *anata*.

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For this reason, the use of personal pronouns is generally avoided in formal relationships and situations; instead, name (family name + suffix of personal address) is preferred' (see also Akiyama and Akiyama 1991). This is illustrated in (23).

(23) (a) Yamada-katyoo, katyoo-wa matigatte-i-mas-u yo.
Yamada-section.chief section.chief-TOP be.wrong-STAT-POL-NPST SFP
'Mr. Yamada, you are wrong.' [*katyoo* = Yamada = addressee]

(b) Yamada, Yamada-wa matigatte-i-ru yo
Yamada Yamada TOP be.wrong-STAT-NPST SFP
'Yamada, you are wrong.' [Yamada = addressee]

(c) Soo-da, otoo-san-ga mattigatte-i-ta.
Yes father-san-NOM be.wrong-STAT-PST
'Yes father, you were wrong.' [*otoo-san* = addressee]
adapted from Takubo (2020):6 7a, 8a, 6b)

This avoidance strategy is not restricted to second-person pronouns but affects the use of all pronouns. For example, in (24) the kinship term *otoo-san* ('father') substitutes for a first-person pronoun.

(24) Ziroo, otoo-san-ga matigatte-i-ta yo
Jiro father-san-NOM be.wrong-STAT-PST SFP
'Jiro, I was wrong.' [otoo-san = speaker]
adapted from Takubo (2020):6 (6a)

Thus, in Japanese, titles, names, and kinship terms form a natural class with pronouns because they are all interactional and have a similar syntactic distribution. In contrast, in languages with paradigmatic pronouns, the use of titles, names, and kinship terms in place of pronouns is highly marked and is known as the *imposter use* (Collins and Postal 2012), as illustrated in (25).

(25) Would **the baroness** like more wine? [the baroness = addressee]
adapted from Collins and Postal (2012):2 (4h)

We now turn to the second strategy for avoiding interactional pronouns, namely the use of a zero pronoun (*pro*). In Japanese *pro* can occur in both subject and object position, as in (26). It is compatible with any person and number specification, and its interpretation is determined by the discourse context

(26) (a) *pro* Tokyo-e it-ta
Tokyo-to go-PST
'I/We/He/They… went to Tokyo.'

(b) Mary-ga *pro* home-ta
Mary-NOM praise-PST
'Mary praised me/you/him/them …'
adapted from Hasegawa (1985):289 (1)

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We note that in some languages, paradigmatic pronouns can also be replaced by *pro* (and in these languages *pro* is licensed by rich agreement; Rizzi 1986). However, in such languages, the use of *pro* is not determined by politeness but rather by economy considerations. The difference in the use conditions for *pro* as an alternative to paradigmatic versus interactional pronouns is reflected in its frequency of use (see McCraw 2010, Travis 2007 for data and discussion).

3.2.3. Intrinsic referentiality

Recall that first- and second-person interactional pronouns occupy Spec,GroundP where they receive the role of ground-holder. Since ground-holders are always interpreted relative to the current interaction, the bearers of these roles necessarily denote the current speaker or addressee and, consequently, must be referential. Hence, these interactional pronouns will always be referential. Evidence for the intrinsic referentiality of Japanese first- and second-person pronouns comes from the observation that they cannot be used as impersonal pronouns. Thus, they are unlike paradigmatic pronouns, which can be used either personally or impersonally (e.g. Jespersen 1909, Kitagawa and Lehrer 1990, Malamud 2006). This is illustrated in (27) and (28): English *you* can be interpreted impersonally, but Japanese *anata* cannot.

(27) In those days, **you** could marry your cousin.

Malamud (2006):84

(28) Sooiu toki-ni-wa **anata** honnooteki-ni ugoi-te sima-u
Such time-at-TOP you.SG instinctively moving end.up-PRS
'You$_{\text{INDEXICAL}}$/*one react(s) instinctively at a time like that.'

adapted from Kitagawa and Lehrer (1990):755

Kitagawa and Lehrer (1990) show that Japanese *pro*, like English *you*, can be interpreted either personally or impersonally, as in (29).

(29) Sooiu toki-ni-wa *pro* honnooteki-ni ugoi-te sima-u
Such time-at-TOP instinctively moving end.up-PRS
'You$_{\text{INDEXICAL}}$/one react(s) instinctively at a time like that.'

adapted from Kitagawa and Lehrer (1990):755

Kitagawa and Lehrer's (1990:756) explanation of this fact accords with our hypothesis '[I]n languages like Japanese […], the so-called (lexical) personal pronouns, especially those having to do with first-and 2nd persons, are too closely tied to the actual speech act context. They are simply too loaded with semantic and pragmatic information.' The intrinsic referentiality of Japanese interactional pronouns provides an additional property that distinguishes them from common nouns. Common nouns are never intrinsically referential; rather they require functional superstructure to be interpreted referentially.

3.3. Absence of phi-based grammatical properties

Our hypothesis that interactional pronouns lack phi-features correctly predicts that they will not trigger grammatical operations based on phi-features. We now show that they do not trigger phi-feature agreement (Section 3.3.1) or induce phi-based blocking effects in

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long-distance anaphora (Section 3.3.2). Taken together, these facts invite the conclusion that phi-features are simply absent in the grammar of Japanese.

3.3.1. No phi-feature agreement

If Japanese interactional pronouns lack phi-features, it follows that they will not trigger phi-feature agreement. This is indeed the case. Neither verbs nor DP internal modifiers display phi-feature agreement with interactional pronouns (or any other nominal).

First, as shown in (30), there is no subject agreement for person or number on the verb.

(30) Watashi/Anata/Kanojo/Kare/Watshi-tachi/ Anata-tachi / Kare-ra-ga/Kanojo-tachi-ga
I/you.SG/she/he/I-PL/ you-PL/he-PL/she-PL-NOM
otya-o non-da
tea-ACC drink-PST
'I/you (singular)/she/He/We/You (plural)/They drank tea.'

Second, there is no DP internal number agreement on modifiers or specifiers. To see this, we consider nominal phrases where a pronoun functions as the specifier of a common noun. Unlike in English, there is no agreement between the pronoun and the common noun in Japanese. If the Japanese pronoun is marked with the plural marker *-tachi*, the noun is not also marked for plural, as shown by the contrast between (31a) and (31b). This differs from the equivalent construction in English, as shown in (32).

(31) (a) watashi-tachi daigakusei
I-PL undergrad
'we undergrads'
adapted from Inokuma (2011):66 (13c)

(b) ??watashi-tachi daigakusei-tachi
I-PL undergrad-PL
'we undergrads'
adapted from Inokuma (2011):66 (14)

(32) (a) *we undergrad
(b) we undergrads

We interpret this as an indication that the Japanese plural marker *-tachi* is a modifying pluralizer in the sense of Wiltschko (2008), and not a head feature (Section 3.4).

The absence of phi-agreement with interactional pronouns is not surprising, given that it is a characteristic found more generally in the language (Kuroda 1992). This raises the question as to whether there is a necessary correlation between the absence of phi-agreement and the absence of phi-features on pronouns. In the next section, we argue that the answer is no, based on a comparison of Japanese and Mandarin.

3.3.2. No phi-based blocking effects in long-distance anaphora

Blocking effects in long-distance anaphora were first discussed for Mandarin, where the reflexive anaphor *ziji* can be locally or long-distance bound (Huang 1984), as in (33a).

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Significantly, both potential antecedents in (33a) are third-person DPs (*Zhangsan* and *Lisi*), and *ziji* can be bound by either. Blocking effects occur when a first- or second-person pronoun is the more local antecedent. This is illustrated in (33b), where *ziji* cannot be bound by *Zhangsan* due to the presence of the intervening a first- or second-person pronoun.

(33) (a) Zhongshan$_i$ zhidao Lisi$_j$ dui ziji$_{i/j}$ mei xinxin
Zhangsan know Lisi to self not confidence
'Zhangsan$_i$ knows that Lisi$_j$ has no confidence in him$_i$/himself$_j$.'

(b) Zhangsan$_i$ juede wo$_j$/ni$_k$ dui ziji$_{*i/j/k}$ mei xinxin
Zhangsan think I/you to self not confidence
'Zhangsan thinks that I/you have no confidence in myself/yourself/*him.'
adapted from Pan (2000):280 (1d, c)

Importantly, this blocking effect has been attributed to the presence of phi-features on Mandarin pronouns (Huang and Tang 1991,Tang 1985, 1989). On our approach, this would suggest that Mandarin has paradigmatic pronouns. This is indeed the case, as evidenced by the fact that they form a phi-based paradigm of the familiar type, as shown in Table 2.

As for Japanese, Aikawa (1993) showed that the reflexive anaphor *zibun* can be either locally or long-distance bound, as in (34a). Aikawa also shows that the presence of a first-person pronoun does not block long-distance binding: *zibun* can be co-referent with any of the antecedents in (34b). In this respect, Japanese differs from Mandarin.

(34) (a) John$_i$-ga Bill$_j$-ga minna-ni Henry$_k$-ga zibun$_{i/j/k}$-o
John-NOM Bill-NOM everyone-DAT Henry-NOM self-ACC
hihansita koto-o hanasita to omotteiru
criticized (the fact) that-ACC told that think
'John$_i$ thinks that Bill$_j$ told everyone the fact that Henry$_k$ criticized him$_{i/j}$/himself$_k$.'

(b) John$_i$-ga watasi$_j$-ga minna-ni Bill$_k$-ga zibun$_{i/j/k}$-o
John-NOM I-NOM everyone-DAT Bill-NOM self-ACC
hihansita koto-o hanasita to omotteiru
criticized (the fact) that-ACC told that think
'John$_i$ thinks that I$_j$ told everyone the fact that Bill$_k$ criticized him$_i$/me$_j$/himself$_k$
adapted from Aikawa (1993):163 (5, 6a))

Table 2 Chinese paradigmatic pronouns

	Number	
Person	Singular	Plural
1	wǒ	wǒ men
2	nǐ	nǐ men
3	tā	tā men

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We attribute the difference in blocking effects between Japanese and Mandarin to a difference in the pronouns: Japanese has interactional pronouns, which, by hypothesis, lack phi-features and, hence, do not induce blocking effects. In contrast, Mandarin pronouns are paradigmatic bundles of phi-features, and these phi-features induce the observed blocking effect.

Thus, a lack of phi-agreement does not necessarily imply a lack of phi-features on pronouns. However, we contend that when there are no phi-features on pronouns, phi-agreement is simply unavailable and that this is the case in Japanese.

3.4. When person, number, and gender are not phi-features

As we have seen, Japanese interactional pronouns have content pertaining to person, number, and gender, which is like the content expressed by phi-features. In this section, we address questions raised by this fact in light of our claim that Japanese pronouns lack phi-features.

3.4.1. Person

Interactional pronouns are assigned the roles of the speaker, addressee, or another referent that is part of the speaker's ground. This approximates the content of grammatical person phi-features. We now identify three distributional differences that we attribute to the difference between person as an interactional role and person as a phi-feature.

The first difference concerns impersonal pronouns. As a phi-feature, person need not be semantically interpreted.[6] In contrast, addressee-denoting interactional pronouns are inherently referential and cannot be used impersonally (see Section 3.2.3).

The second difference has to do with the use of pronouns in self-talk. Holmberg (2010) observes that when people talk to themselves, they can use either first- or second-person pronouns, as in (35).

(35) Talking to one-self:
  (a) I am such an idiot.
  (b) You are such an idiot.

Crucially, Japanese pronouns behave differently in the context of self-talk, as shown in (36). Although first-person pronouns are always possible, second-person pronouns are only felicitous if the individual is talking to an externalized image of themselves, for example, their reflection in a mirror.

[6] The impersonal use of second-person paradigmatic pronouns is an instance of person not being semantically interpreted. On the impersonal use, second-person pronouns are not interpreted as referring to the current addressee. The possibility of remaining semantically uninterpreted is a general property of phi-features. Gender is not semantically interpreted on inanimate nouns and plural number is not semantically interpreted on *pluralia tantum*. Nevertheless, all phi-features are grammatically active as evidenced by the fact that they enter into the same agreement relations, regardless of whether they are semantically interpreted.

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(36) (a) **watashi**-wa baka da
I-TOP idiot COP
'I'm an idiot.'
(i) ✓ while looking in a mirror
(ii) ✓ without a mirror

(b) **anata**-wa baka da
2-TOP idiot COP
'You're an idiot!'
(i) ✓while looking in a mirror
(ii) * without a mirror

We follow Ritter and Wiltschko (2021) in assuming that *I*-centered and *you*-centered self-talk are qualitatively different: when using the first-person pronoun, the speaker is thinking out loud and there is no addressee; when using the second-person pronoun, the speaker is having a conversation with themselves, and hence, they are treating themselves as an addressee. The Japanese pattern reveals that there is a difference in the role one adopts when talking to oneself with or without an externalized version of oneself. When looking in a mirror, an individual uses *you*-centered self-talk to address their mirror image, and consequently, the self-talking individual assumes the speaker role with the mirror image as the addressee. When there is no mirror, the self-talking individual using *you*-centred self-talk imagines a disembodied voice talking to them, and hence, they hold the addressee role (Gacea 2019:34; see also Ackema and Neeleman 2018). When a disembodied voice is the speaker, what is lacking is knowledge about the social relation between the speaker and the addressee. However, for the felicitous use of a Japanese second-person pronoun, this is precisely what is required. In contrast, paradigmatic pronouns with grammatical person do not have sociolinguistic requirements of this type.

One final consideration concerns the lack of clusivity in Japanese pronouns. *Clusivity* refers to a distinction between two types of first-person plural pronouns: *inclusive* first-person pronouns denote groups containing the speaker and the addressee(s), whereas *exclusive* first-person pronouns denote groups containing the speaker and others but crucially not the addressee(s). Following Ritter and Wiltschko (2019), we assume that this distinction is restricted to languages with person phi-features. This is because the combination of two binary person phi-features ([±1] and [±2]) gives rise to a four-way person distinction, as in Table 3.

If this is the case, then the reason why Japanese has no clusivity distinction is that interactional pronouns receive their interpretation from the roles assigned to the specifier positions of the two GroundPs. Given the inventory of interactional roles, a dedicated

Table 3 Person features

Person	[±1]	[±2]
1 inclusive	+	+
1 exclusive	+	–
2	–	+
3	–	–

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inclusive interactional pronoun that simultaneously denotes the speaker and addressee may not be possible.[7]

In Section 3.1.2, we proposed that third-person interactional pronouns are derived from nouns via movement into the specifier position of GroundSpkrP and that this movement gives rise to their interpretation as the content of the speaker's ground. In this respect, they differ from paradigmatic third-person pronouns, which derive their interpretation from their person feature specification, [-1,-2]. Consequently, all interactional pronouns receive their person interpretation from their interactional roles, which they receive in the interactional structure.

3.4.2. Number

We now turn to the question as to how a number interpretation obtains in interactional pronouns in the absence of a number phi-feature. As discussed in Section 3.3.1, Japanese pronouns can be marked for plural via the suffix *-tachi.* We analyze *-tachi* as an associative plural marker syntactically realized as a modifier. As is typical of associative plural markers, *-tachi* can attach to proper names, and when it does, it triggers a group interpretation with the named individual as the focal member. The same associative interpretation applies to *-tachi* when it is suffixed to first- and second-person pronouns, with the speaker or addressee serving as the focal member. Interestingly, *-tachi* can also be suffixed to common nouns denoting humans. Nakanishi and Tomioka (2004) demonstrate that even in this use *-tachi* has an associative interpretation. Thus, a plural interpretation is possible in the absence of a phi-feature, namely via a group-denoting associative plural marker.

The analysis of *-tachi* as a modifying pluralizer is consistent with the fact that *-tachi* does not trigger agreement (see Section 3.3.1). According to Wiltschko (2008), modifying features do not trigger syntactic relations, including agreement. Additionally, Wiltschko argues that heads are obligatory while modifiers are optional and that this constitutes a diagnostic for modifying plural markers. Interestingly, *-tachi* is only optional when it occurs on nouns (see Section 3.1.1). In the absence of plural marking, nouns have general number and can be interpreted as either singular or plural. However, when pronouns and proper names are unmarked, they are interpreted as singular, and *-tachi* is obligatory for a plural interpretation. We attribute the contrast between common nouns, on the one hand, and pronouns and names, on the other, to their referential properties. Although common nouns are nonreferential predicates and are therefore number-neutral, pronouns and names are referential expressions and are therefore number-specific. Pronouns and names denote unique, singular individuals. Consequently, for them to be interpreted as plural requires explicit plural marking.

In sum, the distribution of *-tachi* is consistent with our hypothesis that Japanese pronouns do not contain phi-features. The fact that Japanese plural pronouns have plural markers is not evidence to the contrary: a plural interpretation is possible through other means, and in Japanese this obtains via the modifying associative plural marker.

[7] An anonymous reviewer suggests that inclusive interactional pronouns could be derived via movement of a pronoun from Spec,Ground$_{Spkr}$ into Spec,Ground$_{Adr}$. Whether such pronouns exist and whether they are qualitatively different from paradigmatic inclusive pronouns is an empirical question that needs to be explored in future research.

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3.4.3. Gender

We now show that information about gender in Japanese pronouns comes about in two ways. For third-person pronouns, gender is due to their lexical content, and for first- and second-person pronouns, a gendered interpretation is due to the use of backgrounded stereotypes about gender roles (McCready 2019:110).

We adopt McCready's analysis of the apparent gender specification of Japanese first- and second-person pronouns and briefly review her analysis here. McCready argues that Japanese pronouns lack gender content of any kind. It follows that they lack a gender phi-feature. Rather, based on her analysis, their gendered interpretation arises from *expressive predication* (in the sense of Potts 2007). As part of their lexical denotation, they contain a predicate which gives rise to non-truth-conditional, not-at-issue meaning. For example, the first-person pronoun *watashi* is specified as 'reserved', and the second-person pronoun *ore* is specified as 'rough'. McCready argues that these expressive predicates are stereotypically associated with specific genders: 'reserved' with female and 'rough' with male, and that this is how the gendered interpretation comes about. Evidence for this analysis stems from apparent gender mismatches, which are quite common for these forms. For example, *ore* is typically used by males as per the stereotypical association of 'rough'. However, women frequently use *ore*, especially in-group (see McCready 2019, Miyazaki 2004, Okamoto and Shibamoto Smith 2016). As for *watashi*, the mismatches show an interesting interaction with formality. When a female speaker uses *watashi*, she can do so in both formal and informal contexts, but when a male speaker uses *watashi*, it is restricted to formal contexts. McCready attributes this difference to sociocultural norms, according to which being reserved is generally required in formal but not in informal contexts. Consequently, males and females can use *watashi* in a formal context. However, in informal contexts the use of *watashi* is determined by gender stereotypes. Females are stereotypically required to be reserved, but males are required to be the opposite. Hence, the use of *watashi* in informal contexts is expected for females but odd for males. These facts of Japanese pronoun usage demonstrate that a gendered interpretation can come about in the absence of phi-features.

3.5. Interim summary

We have now argued that Japanese has interactional pronouns. They differ from paradigmatic pronouns in their content: paradigmatic pronouns have grammatical phi-features, while interactional pronouns have sociolinguistic content. Additionally, they also differ from nouns in their syntactic distribution. Nouns can be directly modified by an adjective or specified by a demonstrative or possessor, whereas pronouns cannot. Furthermore, nouns differ from pronouns in terms of their number interpretation. Although bare nouns are interpreted as either singular or plural (i.e. general number), bare pronouns are necessarily singular. When a plural interpretation is intended, pronouns must be marked for plural. According to our analysis, Japanese pronouns behave neither like paradigmatic pronouns nor like nouns because they are neither. Rather, they instantiate a third type of nominal, namely interactional pronouns. As such they are intrinsically referential and loaded with sociolinguistic content, which is why they are often avoided for reasons of politeness. Moreover, as interactional pronouns, which are inserted directly in the interactional structure, they lack phi-features. This lack of phi-features, however, does not imply that interactional pronouns cannot encode similar content (i.e. person, number, and gender), but they must do so in different ways.

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The existence of intrinsic interactional pronouns raises the question of whether the interactional structure could also be occupied as a result of movement from within the functional structure. If so, then we expect there to be pronouns with both phi-features and sociolinguistic content. In what follows, we argue that this is a promising way of analyzing formal pronouns of the T–V type.

4. Reanalyzing Formal Pronouns as Derived Interactional Pronouns

One of the core characteristics of interactional pronouns is their sensitivity to the identity of the interlocutors and the relation between them. This is reminiscent of formality distinctions in paradigmatic pronouns used for addressees in languages like French and German. So, are formal pronouns in these languages interactional or paradigmatic? In this section, we develop an analysis according to which paradigmatic pronouns can be recycled as interactional pronouns. In other words, they are derived interactional pronouns, as schematized in (37).

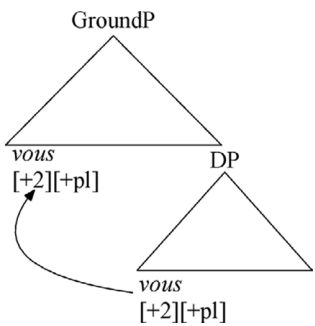
(37) $[_{\text{GroundAdrP}}$ **pronoun$_i$** … $[_{\text{DP}}$ ~~**pronoun$_i$**~~$]]$

Recycling is a movement operation in which a given form is inserted in one position, where it receives an interpretation, and is subsequently moved into a higher position, where it receives a new interpretation (Mezhevich 2008). The new interpretation is determined by the interpretive content of this higher position. Thus, recycling differs from canonical syntactic movement in that the interpretive content of the moved form is reinterpreted in a higher position.[8]

4.1. Formality in French pronouns

The French pronominal paradigm contains a second-person formal pronoun (*vous*), and significantly, this pronoun is identical to the second-person plural form. We propose that formal *vous* is derived via recycling of the second-person plural pronoun. That is, *vous* is first inserted DP internally with second-person plural phi-features. If it remains in this position, it receives its unmarked interpretation. When *vous* is used as a formal pronoun, it moves to the interactional structure, where it receives a marked formal interpretation. Hence, we assume that formal *vous* is interpreted in two different structural positions, as schematized in (38).

(38)



[8] See Massam (2009) for an analysis that entails a similar movement operation for Niuean plural markers.

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Recycling does not affect the grammatical features of the pronoun, but it does affect its interpretation, resulting in an apparent mismatch: It can be used to refer to either a singular or a plural addressee to signal formality. This differs from previous analyses of the T–V distinction, according to which formal pronouns have a morpho-syntactic honorific feature (e.g. Ackema and Neeleman 2018). Such analyses raise the question as to why this feature does not trigger agreement on the verb as phi-features do. There cannot be a general constraint against honorific agreement, as there are languages (for example, Maithili) with dedicated honorific paradigmatic pronouns that trigger honorific agreement on the verb (Kumari, 2023).

We now address the question as to how plurality can be reinterpreted as formality. Consider first what happens when there is no recycling and the plural feature is interpreted in the usual way. In this case, there are two or more addressees, each of which has their own knowledge state (i.e. their individual grounds). Thus, the common ground shared by the addressees is the intersection of the individual grounds of each member of the set. The ground to be considered is the knowledge the speaker assumes all addressees share. To see this, consider Figure 1, which represents a conversational interaction between three interlocutors. The speaker knows propositions p, q, and r, Addressee 1 knows q and r, and Addressee 2 knows only r. These constitute their respective grounds. The intersection of these grounds is r, and this is their common ground. This means that in the presence of multiple addressees, the content of the common ground shrinks, as it only includes knowledge shared between the speaker and all addressees.

We now turn to the formal use of *vous*. We assume that *vous* is always first inserted in a DP internal position. This assumption is motivated by the fact that formal *vous* – like plural *vous* – triggers second-person plural agreement on the verb, as in (39).

(39) Vous {avez/*as} raison.
2PL/2FRML have.2PL/ have.2SG right
'You all/You (formal) are right.'

Because agreement is a grammatical operation targeting phi-features, and phi-features are, by hypothesis, associated with functional categories, it follows that pronouns that have phi-features must originate in the functional structure. As for the interpretation of formal *vous*, we propose that the plural feature has its usual interpretive effect, regardless of how many actual addressees there are. In the absence of a plural addressee, the plural feature signals the presence of a hypothetical generic addressee whose knowledge state consists of the set of

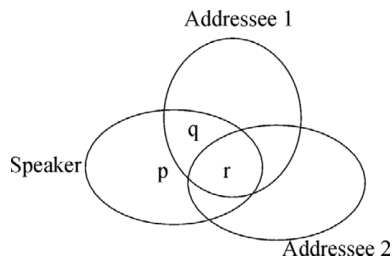

Figure 1 Common ground between speaker and two addressees.

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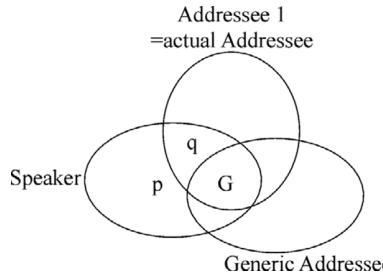

Figure 2 Common ground between speaker and formal addressee.

propositions that constitute general knowledge (G). Thus, in a formal context the common ground is reduced to general knowledge, as in Figure 2.

Introducing a generic addressee is intended to capture the intuition that, when the speaker is in a formal relationship with the addressee, the speaker's contribution to the conversation is such that they only take into consideration what would be known by everyone. On this view, the speaker might be aware of things that the actual addressee knows (e.g. q in Figure 2), but the use of *vous* signals that the speaker does not engage with this knowledge, either because the addressee is of higher social status or because of the formal discourse context.

An anonymous reviewer points out that according to their intuition, polite forms can be used to discuss the exact same knowledge state of the actual addressee as the informal ones, including knowledge that only that addressee may possess. We agree with this observation; however, we do not think that this is a counterargument to our claim. Specifically, our analysis seeks to capture the fact that with the use of the formal pronoun, the speaker signals politeness, where politeness can be understood from the classic pragmatic perspective that puts the notion of face-saving at center stage. That is, by introducing a generic addressee by grammatical means (plural and/or third-person phi-features), the grammar encodes that the speaker does not directly access (and hence does not impose on) the addressee's knowledge state. Mismatches between grammatical form and real-world knowledge in the way the reviewer points out are, in fact, expected just as they are in other grammatical domains (e.g. gender).

4.2. Formality in German pronouns

We now turn to German, where the third-person plural pronoun (*sie*) functions as the addressee-denoting formal pronoun. We argue that the German formal *Sie* is derived via recycling of the third-person plural pronoun. We assume that the interpretation of plural in the interactional layer proceeds as in French: It introduces a generic addressee. We further assume that third-person has the phi-feature specification [-1,-2], which does not correspond to the interactional role in Spec,Ground$_{Adr}$P. The question we have to address now is how [-1,-2] is interpreted in the interactional structure.

We begin by considering what happens when there is no recycling, and [-1,-2] is interpreted in the usual way, namely as a third-person individual who is not a participant in the interaction. We assume that the common ground represents the knowledge state of the interlocutors but does not contain any information about what non-interlocutors know.

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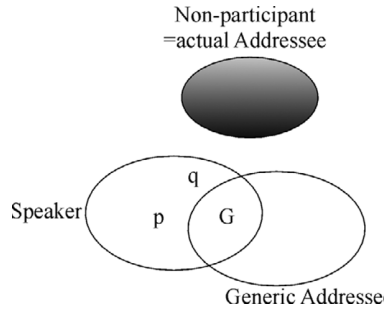

Figure 3 No common ground between the speaker and formal addressee.

Hence, the set of propositions that a particular non-interlocutor knows does not enter into the calculation of the common ground.

Turning now to the contribution of the grammatical person features in the formal use of *Sie*, we propose that the third-person specification contributes to its recycled interpretation: [-1,-2] introduces a non-participant, whose knowledge state does not enter into the calculation of the common ground. In other words, the third-person specification of *Sie* indicates that the actual addressee is treated like a non-participant; the speaker makes no assumptions about their knowledge state. This is the way a third-person is always interpreted, and in Figure 3, we represent this as an opaque ground, which does not intersect with that of the speaker or the addressee. As with *vous*, the plural specification introduces a generic addressee with general knowledge (G).

The recycling analysis raises the question of whether it is possible to treat a singular non-participant pronoun ([-1,-2,-plural]) as an actual addressee without simultaneously introducing a generic addressee. In other words, can a third-person singular pronoun be recycled with the result that the actual addressee is represented as a non-participant, as in Figure 4. We argue that this was the case in earlier stages of German, where a singular third-person pronoun was used as a formal pronoun (see Simon 2003).

Taken together, the facts about the use of *Sie* and *er* to refer to the addressee indicate that the third-person specification signals a discrepancy in status between speaker and addressee: In both cases, the speaker does not consider the knowledge state of the current addressee. The difference between *Sie* and *er* lies in the number feature: The specification [+plural] introduces the generic addressee, whereas the specification [-plural] does not.

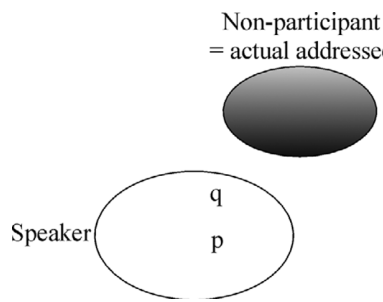

Figure 4 No common ground between the speaker and nonparticipant.

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Finally, like French *vous*, German *Sie* always triggers the same agreement on the verb, whether it is used as the unmarked third-person plural pronoun or as the marked formal pronoun, as in (40).

(40) Sie {haben/*hast} recht.
3PL/you.FRML have.3PL/have.2SG right
'They/You (formal) are right.'

Given the analyses we have just developed for French *vous* and German *Sie* (and *er*), the question arises as to whether the analytical difference affects the context of the use of these two types of formal pronouns. A more precise characterization of what counts as a formal context will have to be developed to answer this question, and a systematic sociolinguistic study is required. This goes beyond the scope of the present paper.

4.3. Typological consequences

We have now argued that paradigmatic pronouns, like interactional ones, can be realized in the interactional layer. We depart from previous analyses in that we do not assume a mismatch between the features and interpretation of formal pronouns. Both the plural and third-person specifications are interpreted literally: the former introduces an additional addressee (i.e., the generic addressee), and the latter treats the actual addressee as a non-participant for the purpose of constructing the common ground.

Our approach, which makes a novel distinction between paradigmatic pronouns and interactional pronouns, offers new insights into the typological facts of formality distinctions in second-person pronouns documented by Helmbrecht (2013). Languages that he classifies as avoiding the use of pronouns have interactional pronouns. In these languages, the information about social relations encoded in interactional pronouns is complex and nuanced, and speakers avoid using them to minimize the risk of a social faux pas. The operation of recycling that gives rise to formal pronouns in T–V languages is a complex operation that is not necessary for well-formedness and thus marked.

In a T–V language, there are also contexts in which speakers prefer to avoid using formal pronouns, for example, when the social relation is unclear. However, unlike the languages that Helmbrecht characterizes as avoiding the use of pronouns, strategies to avoid pronouns in T–V languages are much more involved, in that they require paraphrasing as impersonal or passives, for example. As we have seen, Japanese allows for either pro drop or the use of titles instead.

Because recycling is a marked option, this analysis correctly predicts that languages with formality distinctions of this type will constitute a minority among languages with paradigmatic pronouns. Furthermore, it correctly predicts that the greater the number of recycled pronominal forms, the more marked (and less common) the system will be. Hence systems with two degrees of formality (like French and contemporary German) should be more frequent than systems with three degrees. As illustrated in Table 4, these typological predictions are indeed borne out.

Our analysis focuses not on the number of formality distinctions but rather on their source: Formality can be introduced via intrinsic interactional pronouns or recycled paradigmatic pronouns. Everything else being equal, we might expect to find languages where a two-way distinction is derived not by recycling a pronoun but by inserting an interactional

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Table 4 Typology of degrees of formality in pronominal systems (Helmbrecht 2013)

Formality distinctions in second-person pronouns	Number of languages (%)	Example languages
No distinction	136 (68)	Cree, English, Tlingit
Binary distinction	49 (25)	French, German, Mixtec
Multiple distinctions	15 (7)	Nahuatl, Tagalog, Urdu

pronoun directly into the interactional structure. Thus, there is no reason why paradigmatic and interactional pronouns could not coexist in a single language.

In this context, an anonymous reviewer points out that the Dutch formal pronoun *u* might be a candidate for an interactional pronoun that coexists with a set of paradigmatic pronouns. This pronoun presents an interesting challenge as it appears to differ from both intrinsic interactional pronouns and recycled ones. Specifically, it differs from *vous* and *Sie* in that it is not homophonous with a paradigmatic pronoun. However, *u* triggers phi-agreement on the verb; in this respect, it differs from intrinsic interactional pronouns. This combination of properties suggests that *u* is a pronoun with obligatorily recycled phi-features. One possible explanation for the obligatoriness of recycling in the case of *u* is diachronic in nature. Specifically, according to *Etymologisch woordenboek ven het Nederlands*, *u* derives from *uwe edelheid* 'Your Nobleness', which was used in writing and abbreviated as 'UE'. This may have eventually led to the current pronunciation. If so, then *u*, in fact, derives from an imposter, like Spanish *usted*. (See Collins and Ordóñez 2021 for an analysis of Spanish *usted* as an imposter and see Section 4.4 for a discussion of imposters.)

If *u* is obligatorily recycled, then its syntactic structure necessarily includes an interactional layer. This analysis of the formal pronoun *u* correctly predicts two differences between *u* and the regular paradigmatic second-person pronoun. First, *u* has no weak counterpart, whereas the regular paradigmatic second-person pronoun has both a strong and a weak form (*jij* and *je*). Second, *u* cannot be used as an impersonal pronoun, whereas *je*, the weak form of the paradigmatic second-person pronoun, can. We attribute both differences to the obligatory presence of interactional structure as part of *u.* According to Ritter and Wiltschko (2019), this layer is present in Dutch strong pronouns and missing in weak ones. Moreover, they argue that when a second-person pronoun contains an interactional structure, its reference is restricted to the current addressee, and hence, it is incompatible with an impersonal interpretation, as in (41).

(41) (a) **Je** kunt nooit weten.
you can never know
'You never know.' (personal or impersonal)

(b) **U** kunt nooit weten.
you.FRML can never
'You never know.' (personal only)

Hotze Rullmann (p.c.)

Thus, formal pronouns can be derived in at least three ways: base-generated in the interactional layer, optionally moved into the interactional layer, or obligatorily moved into the interactional layer.

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4.4. The difference between *kare*-type pronouns and formal pronouns

In Section 3, we identified another type of derived interactional pronoun: Japanese *kare* and *kanojo*. These are third-person pronouns that derive from common nouns. When used as pronouns, most of their semantic content is removed, and all that remains is their gender. Importantly, since *kare* and *kanojo* are interpreted as third-person interactional pronouns, we analyze them as denoting the content rather than the holder of the ground. The similarities and differences between the two types of derived interactional pronouns are summarized in Table 5.

There are two descriptive differences between formal pronouns and *kare* pronouns: (i) the source of the derived pronoun (pronoun or noun); and (ii) their interpretation in the interactional layer (ground-holder or ground content). These differences define two parameters of variation, and the question arises as to whether there is a correlation between them. In other words, are interactional pronouns that derive from paradigmatic pronouns necessarily interpreted as ground-holders? And are those that derive from nouns necessarily interpreted as ground content? We introduce evidence suggesting that the answer to both questions is no. First, we show that there are nouns that can be interpreted in the interactional structure as ground-holders. Second, we show that there are other types of functional items that can be interpreted as ground content.

There are two contexts where we find nouns that are interpreted in the interactional structure as ground-holders: vocatives and imposters. Consider first the vocatives in (42).

(42) (a) **Cora**, what are you doing?
(b) **Sweetheart**, would you like more wine?
(c) Hey **kid**, don't do that!

These examples illustrate different types of nominals that can serve as vocatives: proper names (42a), and bare common nouns (42b, 42c). Crucially, vocatives are not propositional arguments; they are terms of address. In the present analysis, this means that these nouns are interpreted as holders of the addressee's ground.

Next, consider imposters, which are exemplified in (43).

(43) (a) In this reply, **the present authors** attempt to defend ourselves/themselves…
(b) **This reporter** and his son are proud of ourselves/themselves.
(c) **Your Majesty** should praise yourself/himself.
adapted from Collins and Postal (2012):vii

Table 5 Two types of derived interactional pronouns

	Formal pronouns	*Kare* pronouns
Source category	Paradigmatic pronoun	Noun
Interactional role	Ground holder (addressee)	Ground content
Movement	Yes	Yes
Landing site	Spec, $\text{Ground}_{\text{Adr}}$	Spec, $\text{Ground}_{\text{Spkr}}$
Reinterpretation	Yes (formality)	Yes (bleaching)

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Imposters are so called because they consist of a non-pronominal DP, which is exceptionally interpreted as an interlocutor. For example, in (43a), *the present authors* is interpreted as referring to the authors of the current text, and hence, could be replaced by *we*; similarly in (43b), *this reporter* is interpreted as referring to the speaker (or author) of the current utterance (or text) and could be replaced by *I/me*; and in (43c), *Your Majesty* refers to the King, who is also the current addressee, and thus could be replaced by *you* (barring social norms). Like vocatives, imposters contain a noun but are interpreted in the interactional structure as ground-holders. However, unlike vocatives, imposters also serve as propositional arguments. We can thus conclude that nouns can be (re-)interpreted as either ground content or as ground-holders.

Next, we turn to the question of whether functional items can be (re-)interpreted as ground content. Colasanti and Wiltschko (2019) propose that spatial demonstrative determiners can be recycled in the interactional structure, like paradigmatic personal pronouns. They argue that in their discourse use, the English demonstratives *this* and *that* denote the ground content. To see this, consider the examples in (44).

(44) (a) When I was young, I used to know **this** hippie.
(b) Do you remember **that** woman in the yellow dress?

The proximal form *this* in (44a) is recycled in the speaker's ground and thus interpreted as a discourse referent that is novel in the sense that it is unfamiliar to the addressee. In contrast, the distal form *that* in (44b) is recycled in the addressee's ground and thus interpreted as a discourse referent, which is familiar to both the speaker and addressee. This indicates that functional items, like nouns, can be (re-)interpreted as ground content as well as ground-holders.

We have now seen that the two parameters of variation (source category and interactional role) do not correlate. The resulting typology of derived interactional nominals is summarized in Table 6.

This section's goal was to establish that the recycling mechanism we proposed for *kare* and *kanojo* is not specific to these third-person pronouns; it also captures the facts of formal second-person pronouns derived from paradigmatic ones, vocatives, imposters, and discourse demonstratives.

Table 6 Typology of derived interactional nominals

	kare pronoun	Formal second-person pronoun	Vocative	Imposter	Discourse demonstrative
Interactional role	Ground content	Ground–holder (addressee)	Ground–holder (addressee)	Ground–holder (speaker or addressee)	Ground content
Source	Noun	Paradigmatic pronoun	noun/name	DP	Spatial demonstrative

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5. Why Nominal (Rather Than Clausal) Interactional Structure is the Locus of Formality

The postulation of nominal interactional structure is the linchpin of our account for the expression of formality in pronouns. We have looked at two qualitatively different types of pronouns, both of which require the presence of nominal interactional structure, albeit in different ways: Japanese interactional pronouns are directly associated with interactional structure, while formal pronouns of the T-V type are recycled into this position. As a result, the two types of pronouns differ. Our analysis departs from the one developed by Portner et al. (2019), according to which formality is intrinsically associated with a functional category in the left periphery of the root clause (their *c*P). In this section, we point out some shortcomings of their proposal and argue that the postulation of nominal interactional structure provides the basis for an empirically more adequate analysis.

5.1. A unified analysis for politeness content

Portner et al.'s (2019) analysis aims to unify two seemingly disparate empirical domains: (i) speech-style particles in Korean and (ii) the formality distinction in Italian second-person pronouns. Their goal is to understand a conundrum that these two phenomena present: Portner et al. claim that, on the one hand, both the particles and pronouns encode the same pragmatic information, but on the other hand, they differ in syntactic distribution. Specifically, both encode information pertaining to formality or politeness between the interlocutors, but Korean speech-style particles only occur in root clauses, whereas Italian second-person pronouns are not so restricted.

To account for these observations, Portner et al. propose that there is a functional category in the left periphery of the root clause, which they label cP (where c suggests *context*). They further propose that the specifier of cP hosts the interactional argument of addressee, whereas the head of cP contains information about the relation between the speaker and addressee. They implement this proposal with two grammatical features: (i) a multivalent feature expressing the relative status of the speaker and addressee ([S<A], [S≤A], [S=A], [S≥A], [S>A]) and (ii) a binary feature expressing the formality of the situation ([±formal]).

In their analysis, Korean speech-style particles are in the head of cP, and consequently, they can only occur in root clauses. This is because cP is not embeddable for reasons having to do with its semantics, that is, it denotes a performative relation. In contrast, Italian second-person pronouns appear inside the clause below cP but are interpreted in c (via binding). This accounts for the observation that these pronouns are not restricted to root clauses even though they seem to have the same politeness content as Korean speech-style particles. The politeness content in pronouns is associated with status features that are interpreted in c. For example, Italian *Lei* is specified as [status: S<A] while *tu* is specified as [status: S≥A]. Given the assumption that the content in the cP layer binds these pronouns, the formality and status of the utterance is set in c. In what follows, we point out some shortcomings of Portner et al.'s treatment of formal pronouns.

5.2. Problems with a unified analysis

We identify two problematic aspects that differentiate Portner et al.'s analysis from ours. First, they take the clausal projection c as the locus of formality and status for the entire

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utterance, and second, they represent formality and status as grammatical features with a limited set of values.

The assumption that the formality of the context and the status of the addressee are both set in c entails that there is a single setting of formality and status for the entire utterance. This incorrectly predicts that within a given sentence, we should not find instances of both formal and informal pronouns. For example, when talking to two addressees of different status it is possible to coordinate a formal with an informal pronoun, as shown in the German example in (45).

(45) Teacher to a parent and their child:
Ich werde mit **Ihnen** und **dir** zur Direktorin gehen.
I will with you.FRML and you to.the principal go
'I will go to the principal with you (formal) and you.'

The problem with (45) is that the formality feature in c would be incompatible with one of the pronouns. This clash in formality is problematic for any analysis that entails a single setting for formality in a given utterance (see also Alok 2020; Donovan and Palaz 2022).

Next, we turn to problems with the assumption that formality and status are represented as grammatical features with a limited set of values. An immediate problem arises when considering a conversation between two interlocutors with different statuses, such as employer and employee. The status would be [employer > employee], and this is reflected in the fact that the formal pronoun is used. In German, the employee uses the formal pronoun to address the employer as expected by the specification as [S<A]. However, what is unexpected in this analysis is the fact that the same formal pronoun is also used by the employer to address the employee. In this case, the feature specification would be [S>A]. Note that this is true regardless of the formality of the context. Both interlocutors will always use formal pronouns, even when talking in an informal setting, such as a party, as in (46).

(46) Context: Office party
Employer: Ist **Ihr** Sohn auch gekommen?
Is 2POSS.FRML son also come.PTCP
'Did your son come, too?'
Employee: Ja. Ich werde ihn **Ihnen** vorstellen.
Yes. I will him 2DAT.FRML introduce
'Yes. I will introduce him to you.'

What the example in (46) demonstrates is that the feature specification of the formal pronoun cannot simply be [S<A], as it is also used when the opposite hierarchical relation holds. Similarly, it would not suffice to specify the pronoun (or context) as [+formal], as the use of a formal pronoun is not restricted to formal contexts. An anonymous reviewer suggests that the use of the same pronoun by the employer might simply indicate that they intend to be polite to the employee as well, and hence, they might express this with the same feature specification [S<A]. Evidence that this is not the case can be gleaned from differences in the forms of address they might use. For example, professors and students use formal pronouns in a university context. However, they differ in the form of vocatives that they use. Professors address their students using their last name and optionally a title (such as *Herr*). In contrast, students must address the Professor with their title (with or without the last name).

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Another problem with the feature specification proposed in Portner et al. is that it cannot capture the qualitative difference between the formal pronouns of a T–V system and the open-ended pronoun inventory found in Japanese. A T–V system of the type discussed in Portner et al. is characterized by a dichotomy between an informal and a formal second-person pronoun. In contrast, as we have seen, the pronominal system of Japanese cannot be characterized in this way. Specifically, there are more than two second-person pronouns, each containing sociolinguistic information that goes well beyond status and formality. One would have to increase the inventory of available features to capture the Japanese forms. However, this still would not capture the other systematic differences between T-V pronouns and Japanese pronouns, such as the presence or absence of phi-agreement.

5.3. Why nominal interactional structure is needed

The problems for Portner et al.'s (2019) analysis discussed here do not arise if one assumes that formality is encoded independently in each nominal. That is, if each nominal has an interactional layer, then each nominal has its own formality and status setting and is not dependent on clausal interactional structure for its interpretation. Furthermore, the assumption of a nominal interactional structure makes it possible to account for the qualitative difference between two types of pronouns with sociolinguistic content: intrinsic interactional pronouns of the Japanese type and interactional pronouns that are derived from paradigmatic ones. The interpretation of intrinsic interactional pronouns derives from their interactional role and not their feature content. Consequently, they form an open-ended class with nuanced sociolinguistic content. In contrast, the interpretation of derived interactional pronouns is constrained by their phi-feature content, which is recycled and reinterpreted in the interactional structure.

The proposal of nominal interactional structure, which is characterized not by phi-features but rather by interactional content, has implications well beyond the typology of formal pronouns. For example, we have seen that Japanese intrinsic interactional pronouns correlate with the absence of phi-features more generally. This correlation remains a coincidence in the analysis developed by Portner et al. but follows straightforwardly from ours. Similarly, our proposal immediately derives the fact that interactional pronouns cannot receive an impersonal interpretation, but paradigmatic pronouns can. This is something Portner et al. (2019:27 Fn.25) observe but set aside.

Importantly, we have argued that postulating nominal interactional structure makes it possible to have a representation of formality, status and politeness without recourse to grammatical formality and status features. Moreover, our approach allows for a straightforward analysis of other interactional phenomena, such as vocatives and terms of address. An analysis that treats the representation of interaction as an extension of the nominal constituent allows us to correlate the distinctive distributional properties of interactional nominals with their distinctive structural properties. We submit that such an analysis is more explanatorily adequate than an alternative that relies solely on a difference in nominal features.

6. Conclusion

We started this paper with a brief discussion of Greenberg's (1966) Universal 42, according to which all languages have pronominal categories involving at least three persons and two

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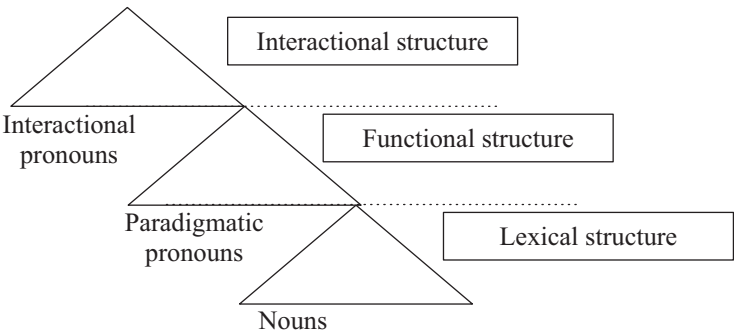
numbers. We discussed empirical problems with this universal. One of these has to do with Japanese, where forms that are typically referred to as pronouns have rich sociolinguistic content and a very different distribution from phi-based pronouns in French and German. For this reason, Japanese pronouns are sometimes characterized as noun-like, although they do not have the same distribution as nouns either.

The core of this paper was devoted to developing an analysis that solves this conundrum. We argued that the so-called pronouns in Japanese are neither nouns nor paradigmatic pronouns; rather, they belong to another category of nominals that we call interactional pronouns. We proposed that interactional pronouns are structurally distinct from paradigmatic pronouns. Specifically, we argued that interactional pronouns are inserted in an interactional structure above the DP. This gives rise to a three-way distinction among nominal expressions, as summarized in (19) and repeated here in (47).

(47)



We extended this analysis to account for formality distinctions in languages with paradigmatic pronouns. We argued that formality distinctions in French and German pronouns are amenable to an analysis whereby the pronoun is inserted in the functional structure and recycled in the interactional structure, where its phi-features take on a new significance that can be exploited for sociolinguistic purposes. In this view then, formality is neither part of the phi-feature bundle of a pronominal paradigm, nor is it a dedicated feature within a pronominal paradigm. In this respect, our analysis is more parsimonious than that of Portner et al. (2019), which assumes dedicated features for formality and status.

We now return to our original question and ask whether Greenberg's Universal 42 is really universal. Our answer is yes and no. What appears to be universal is that all languages have nominal expressions that substitute for lexical noun phrases. However, if we are correct about the analysis of Japanese pronouns, then paradigmatic pronouns are not universal. But this raises the question of why all languages should have paradigmatic or interactional pronouns. Given that they do not constitute a natural class, why do we find one or the other (or possibly both) in all languages? The simple answer is that the architecture of nominals allows for the construction of such forms. In other words, given the complexity of the structure above the lexical layer, languages can construct noun substitutes in various ways.

Our proposal has significant implications to be explored in future research. First, consider the consequences of postulating pronouns that lack phi-features. One might ask whether there is a principled reason why a language might have intrinsic interactional pronouns rather than paradigmatic ones. We speculate that the answer might have to do

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with the absence of phi-features in the language. This is consistent with the fact that Japanese lacks overt phi-feature agreement and blocking effects in long-distance anaphora. Thus, it is not obvious that there is any evidence for phi-features elsewhere in the grammar. If it turns out that Japanese does indeed lack phi-features, then this would have significant consequences for syntactic theory more generally. For example, are there *agree* relations in a language without phi-features, and if so, how are they formed? Does the existence of interactional pronouns in a language point towards a more general tendency of the language to organize its grammar around interactional content? For example, is there an interactional equivalent to phi-based agreement relations? And if so, would this be restricted to languages without phi-features?

Another question that arises is which nominals include an interactional structure. Is there evidence that all referential nominals also include interactional structure? One possible reason why one might assume that this is the case has to do with the fact that at least some nominals are sensitive to the identity of the interlocutors and the context of use (e.g. kinship terms, titles, and names). Their sensitivity to context is reminiscent of the conditions of use we have observed for Japanese interactional pronouns. To see this, consider the examples in (48), which illustrate differences in the conditions of use for *Mommy* and *the mother*.

(48) (a) Young child talking to a sibling:
Where is {Mommy/#the mother}?
(b) A school principal talking to a teacher about a kindergarten student:
Where is {the mother/#Mommy}?

Mommy can only be used when referring to the mother of at least one of the interlocutors, whereas *the mother* is used when referring to the mother of someone other than the speaker or addressee.

On conceptual grounds, the presence of an interactional structure may be justified as it provides a locus for the context-sensitivity of such nominals. In this way, the interpretive content of interactional structure is reminiscent of a contextual variable that restricts the interpretation of quantified nominals, as in (49). In this example, the domain of quantification is restricted to a particular context, such as the graduate syntax class we are teaching. As a result, (49) does not mean that every student in the world got an A, but only those in our syntax class.

(49) Every student got an A.

Adding a contextual variable to the representation of quantified nominals allows for a compositional analysis of the contextual restriction on the interpretation of this type of nominal. In the same way, adding an interactional structure may serve as the locus for the contextual restriction on the use of interactional nominals, which would permit a compositional analysis of the facts we considered here. We submit that an analysis of this type is more constrained than one that would consider these facts purely pragmatic.

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