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## Revisiting “verbal agreement”: The case of Israeli Hebrew

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This paper questions the adequacy of the notion ‘verbal agreement’ with respect to the inflectional marking of person in verbal paradigms, using Israeli Hebrew (IH) as a case study. With regard to IH, the paper argues against the agreement interpretation of the inflectional affixes of the person-inflected paradigms in general, and against the assumption that third person verbs are not marked for person in particular. Adopting a usage-based and a synchronic intra-paradigmatic perspective, it is suggested that the inflectional affixes in IH should be treated as referential elements (‘bound pronouns’) that are uniformly marked for person. More broadly, the validity of the concept of verbal agreement is questioned based on its incompatibility with observed cross-linguistic data and its historiographical origin. In this respect, the notion verbal agreement presupposes the primacy/naturalness of a particular clausal format – a bipartite structure in which the lexical subject NP and the predicate are present and morphologically independent. As this presupposition essentially reflects a logico-philosophical perspective of the clause originating in the works of the first Greek grammarians rather than a usage-based linguistic one, it is argued that the term ‘verbal agreement’ is inadequate.

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## 1 Introduction

In current linguistic theory, the concept of agreement is typically conceptualized as an asymmetrical relationship in which the presence of some feature (notably person, number, or gender) in one lexical unit (“the controller”) triggers the presence of the same feature in another lexical unit (“the target”) within a particular syntactic domain (Corbett 2006; Haig & Forker 2018; Matasović 2018; Melnik 2020). When the relevant domain is that of the clause, agreement is often dubbed verbal agreement, referring to the pattern in which “the verb is – under syntactically or phonologically specifiable conditions – obligatorily modified by a morpheme (affix or clitic) expressing the agreeing category” (Matasović 2018: 20–21). The notion of verbal agreement is typically evoked in relation to the inflectional marking of person-number-gender (henceforth: PNG) in verbal paradigms; thus, person-inflectional markers are termed “agreement markers”. This notion is heavily entrenched in general linguistics, and appears to be taken for granted as an axiom; accordingly, its adequacy is rarely questioned (but see Cysouw 2011). Israeli Hebrew (IH) is no exception to this tendency, and the concept of verbal agreement is often applied to person-inflectional affixes in two paradigms, namely suffix-conjugated verbs and prefix-conjugated verbs.<sup>1</sup> In this paper, I discuss the notion verbal agreement critically with the aim of demonstrating that this notion is unwarranted – both in terms of the observed data and its historiographical origin – using IH as a case study.

**Table 1** illustrates the two person-inflected paradigms in IH (adapted from Izre’el 2012: 219).

A survey of the literature on Hebrew reveals that there is no consensus on the theoretical interpretation of the inflectional affixes of suffix- and prefix-conjugated verbs. The prevalent view of these affixes includes two related claims: (1) The inflectional affixes are agreement markers; that is, elements that are dependent on, or controlled by, an external subject; and (2) the inflectional affixes of 1<sup>st</sup> and 2<sup>nd</sup> person verbs are marked for person, number, and gender, while the inflectional affixes of 3<sup>rd</sup> person verbs are marked for number and gender, but not for person (Glinert 1989; Berman 1990; Vainikka & Levy 1999; Ariel 1990; 1998; 2000; Levy & Vainikka 2000; Gutman 2004; Melnik 2007). These claims are illustrated by the following quotes:

- A. “agreement markers of person [...] are confined to 1st and 2nd person; 3rd-person verbs require an independent subject pronoun [...]. The 3<sup>rd</sup> person forms in (9c) [= gamar ‘he

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<sup>1</sup> The following quote represents a typical statement: “Verbs are inflected for Subject-Predicate agreement in Number and Gender and, in Past and Future, for person as well” (Schwarzwald 2020: 172). Note that “Past” and “Future” are the traditional labels for suffix- and prefix-conjugated verbs respectively; however, since the meaning of these forms is controversial in IH scholarship, I chose to employ structural labels that are neutral with respect to the assumed meaning conveyed by the respective conjugation in order to avoid any assumptions as to their meaning. The notion of “verbal agreement” is also commonly applied to “present tense verbs” which are essentially participles that are inflected for number and gender, but not person. Since this paper focuses on person inflection, participles will not be discussed here.

Free pronoun	Suffix conjugation	Prefix conjugation
a'ni 1SG 'I'	ga'dal-ti grew-1SG 'I grew'	∅~j <sup>2</sup> -eg'dal 1SG-will.grow 'I will grow'
at 2SGF 'you <sub>sgf</sub> '	ga'dal-t grew-2SGF 'you <sub>sgf</sub> grew'	t-igd'l-i 2SGF-will.grow-CIRC 'you <sub>sgf</sub> will grow'
a'ta 2SGM 'you <sub>sgm</sub> '	ga'dal-ta grew-2SGM 'you <sub>sgm</sub> grew'	t-ig'dal 2SGM/3SGF-will.grow 'you <sub>sgm</sub> /she will grow'
hi 3SGF 'she'	gad'l-a grew-3SGF 'she grew'	
hu 3SGM 'he'	ga'dal-∅ grew-3SGM 'he grew'	j-ig'dal 3SGM-will.grow 'he will grow'
a'naχnu 1PL 'we'	ga'dal-nu grew-1PL 'we grew'	n-ig'dal 1PL-will.grow 'we will grow'
a'tem/n 2PLM/F 'you <sub>plm/f</sub> '	ga'dal-tem/n grew-2PLM/F 'you <sub>plm/f</sub> grew'	t-igd'l-u 2PL-will.grow-CIRC 'you <sub>pl</sub> will grow'
hem/n 3PLM/F 'they'	gad'l-u grew-3PL 'they grew'	j-igd'l-u 3PL-will.grow-CIRC 'they will grow'

**Table 1:** Suffix- and Prefix-conjugation in IH.

finished', *gamra* 'she finished', *gamru* 'they finished', *yigmor* 'he'll finish', *tigmor* 'she'll finish', *yigmeru* 'they'll finish'; L.S.], although zero-marked for person, are still morphologically distinct from 1<sup>st</sup> and 2<sup>nd</sup> person-marked forms in past and future" (Berman 1990: 1142)

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<sup>2</sup> The 1SG affix alternates between ∅- and *j*-, the latter being characteristic of informal and less monitored speech (Ravid 1995: 43; Bolozky 2003: 133–134).

- B. “Though they [= third-person past/future inflections; L.S.] are not morphologically marked for person, their zero marking is a clear identifier of the grammatical person they represent.” (Ariel 1990: 116)
- C. “Significantly, 3<sup>rd</sup> person inflection only marks gender and number. Person is zero-marked.” (Glinert 1989: 53, fn. 2)
- D. “In the third person [of the future tense; L.S.], as in the past tense, the independent pronouns are obligatory. The verb form of the third person does not include person features. It includes the features of number (singular/plural) and gender (masculine/feminine) but not person” (Coffin & Bolozky 2005: 166)

These quotes are revealing in two respects. First, they hint at a possible motivation for regarding 3<sup>rd</sup> person verbs as having a zero person marking, namely the tendency of 3<sup>rd</sup> person verbs to require a free subject pronoun, in contrast to 1<sup>st</sup> and 2<sup>nd</sup> person verbs, with which free subject pronouns are optional (quote A and D). It appears that the apparent requirement of a free subject pronoun has been interpreted as evidence that 3<sup>rd</sup> person verbs do not include person marking, only gender and number ones. It is noteworthy that this assumption was further disseminated beyond Hebrew scholarship to general linguistics – WALS studies, for example, categorize IH as a language with “zero in all 3SG forms” (Siewierska 2013). In addition, these quotes make it clear that it is uncontroversial that 3<sup>rd</sup> person verbs are morphologically distinct, and that the grammatical persons represented by 3<sup>rd</sup> person verbs, i.e., 3SGM, 3SGF, 3PL, are identifiable (quote A and B). What is not clear, however, is how a verb form that is supposedly unmarked for person be unambiguously identified as a specific grammatical person.

A notable exception to this tradition is represented in the works of scholars who follow the theory elaborated by leading Semitic scholar G. Goldenberg (1998, 2013 and elsewhere), such as Bar (2007), Izre’el (2012; 2018; 2020), Zewi (2013), Cohen (2017), and Halevy (2016; 2020). The approach to linguistic description of IH adopted by these scholars is informed by the fact that IH is a Semitic language, with considerably different grammatical features from those of the languages that served as the basis for the general linguistic theory, most frequently Indo-European languages. Scholars operating in this approach regard the suffix- and prefix-conjugated verb as dimorphemic predicational complex consisting of a pronominal subject morpheme and a verbal predicative stem which are linked up into a predicative bond (“nexus”). Crucially, they do not subscribe to the two claims mentioned above, and regard each of the inflectional affixes as pronominal elements, ones that have referential capacities. This view is concisely summarized by Halevy (2020: 544):

“The synthetic inflection of Hebrew means that person, number, and gender affixes representing the subject morpheme are always incorporated in finite verb form, with person marking confined to past and future tense, so that the inflectional affixes of the predicate do not serve merely as agreement markers but rather, they denote the grammatical subject”

In this paper, I will substantiate the latter approach via a critical discussion of the two abovementioned claims, i.e., the interpretation of verbal affixes as agreement markers and the interpretation of 3<sup>rd</sup> person verbs as having no person marking. Consequently, the main claim of the paper will be that the verbal inflectional affixes in IH are best regarded as “bound pronouns” (Kibrik 2011). To substantiate this claim, I will first argue for the general inadequacy of the notion of “verbal agreement” based on the following argument: this notion does not conform to the cross-linguistically dominant pattern of pronominal subject expression, having originated in ancient Greek philosophy and logic, and then being transferred to the grammatical traditions of a few highly influential European languages (§2). I will then argue for the inadequacy of the notion verbal agreement in IH based on various types of language-internal evidence (§3).

## 2 Revisiting “verbal agreement”

The prevailing form-to-form approach to agreement, according to which agreement is a morphosyntactic mechanism of copying features from one linguistic element (controller) to another one (target) has been critiqued in the past by prominent scholars (e.g., Barlow 1999; Mithun 2003; Langacker 2008; Haspelmath 2013; Croft 2001; 2013; Kibrik 2019). These scholars pointed out that a formal approach to agreement is inadequate, as it encounters massive difficulties when confronted with actual data – for example a formal controller may be missing or underspecified, or the controller and the target exhibit a mismatch in agreement features.

Acknowledging the problems associated with the traditional notion of agreement, various types of modifications to that notion have been suggested. Barlow (1999), for example, suggested to reinterpret agreement as a referential morpheme that provides information about the nature of referents, either in combination with some prior referential expression, or serving as the sole representation of the said referent. Kibrik (2019), too, opposes the traditional understanding of agreement as an *asymmetric* form-to-form relationship, and proposes instead to reinterpret it in a *parallel* manner. According to Kibrik, agreement should be viewed as a cognition-to-form mapping, according to which agreement features, such as person, number, and gender, are associated with referents in the cognitive representation. As the speaker produces a clause containing the referent, relevant features are mapped onto language-specific sites where these features must be marked in the given language. Apparent agreement between various sites is considered a side effect of mappings from the same cognitive source. Consequently, in this framework, person inflectional affixes are not regarded as agreement markers, but as bound pronouns, being subsumed under the label “reduced referential devices”, along with free pronouns, and zero reference (Kibrik 2011: 73–77; 2013: 228–231).

Reconceptualizing person inflectional affixes as “bound pronouns” (Kibrik 2011; 2019), “incorporated pronouns” (Bresnan & Mchombo 1987), or “pronominal affixes” (Mithun 2003) instead of “agreement markers” highlights the fact that more often than not such affixes function

referentially in the languages of the world, serving as bound analogues to the free pronouns of the well-known European languages, notably English, German, and French.<sup>3</sup> Significantly, the descriptive traditions of precisely these languages have employed the notion of agreement for the relationship between the (lexical/pronominal) subject NP and the verbal inflectional affixes as early as the 16<sup>th</sup> century, but especially so from the 20<sup>th</sup> century, starting with Bloomfield (1933) (Cysouw 2011: 155; Kibrik 2011: 216; Haspelmath 2013: 203).

On the face of it, the notion of agreement appears as descriptively suited to the description of the verbal inflection of the influential European languages, such as English, German, French. That is because the typical clause structure in these languages minimally involves a verbal form with an explicit subject NP in the form of a lexical NP or a free subject pronoun. Put differently, verbal forms almost never occur without an explicit subject NP, and by implication, verbal forms are considered as insufficient for the constitution of a grammatical clause. However, this pattern is in no way representative of the cross-linguistic variation in pronominal subject expression, being highly peripheral among the world's languages (Siewierska 1999: 238; Kibrik 2011: 216; Dryer 2013; Matasović 2018: 115). Thus, in the majority of the world's languages, pronominal subject expression is typically achieved through bound pronouns, and verbs/predicates can constitute grammatical clauses in themselves (Kibrik 2011; Dryer 2013; Haspelmath 2018). Nevertheless, and quite paradoxically, the “highly exotic” (Kibrik 2011: 220) pattern found in English, German and French has been adopted as the model of canonical agreement by many modern linguistic theories.<sup>4</sup>

As mentioned, this paradox has been evoked by several functionally- and typologically-oriented scholars as evidence against the ‘agreement’ interpretation of verbal inflectional affixes. However, considering that many grammatical notions and concepts were initially conceived in the grammatical tradition of Classical Greek, and subsequently mediated to the descriptive traditions of modern European languages by Classical Latin, there appears to be another reason for reconsidering the ‘agreement’ interpretation of verbal inflectional affixes. It appears that similarly to many other concepts in Western linguistic research (Diver, Davis & Reid 2012; Izre’el 2018; Matthews 2019), the ‘agreement’ interpretation of verbal inflectional affixes is rooted in the grammatical tradition of Classical Greek. Notably, however, this grammatical tradition did not develop out of the study of the Greek language in its own right, but rather was rooted in the philosophical, ontological and

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<sup>3</sup> A different view is proposed by Haspelmath (2013), who suggests to abandon the “pronoun”-“agreement” dichotomy with respect to bound person forms. He suggests to view bound person forms as an independent category of “argument indexes”, which vary in the extent to which a “conominal”, i.e. a co-occurring lexical NP or a free pronoun, is present.

<sup>4</sup> It is worth noting that Corbett (2006: 8–9) does not define the term “canonical agreement” based on frequency considerations, but rather on logical ones (“I shall take definitions to their logical end point and build a theoretical space of possibilities. Only then do I ask how this space is populated. It follows that canonical instances, which are the best and clearest examples, those most closely matching the ‘canon’, may well not be the most frequent. They may indeed be extremely rare.”)

logical traditions of ancient Greece, notably those founded by Plato and Aristotle in the 5<sup>th</sup>–4<sup>th</sup> centuries BC, for whom the study of language was a tool to be used in pursuing higher ends – development and understanding of dialectic, logic, rhetoric, and poetry (Law 2003; Allan 2004). That is why it should not be taken for granted that concepts originating in this tradition are descriptively valid for languages other than Greek, and possibly not even to Greek itself.

Against this backdrop, I would like to argue that the ‘agreement’ interpretation of the verbal inflectional affixes may have its origins in the Greek grammarians’ approach to the structure of the sentence, and more specifically in the assumption that a verbal form alone cannot comprise a complete sentence. Starting from the first study of syntax by Apollonius Dyscolus (2nd century CE), the object of the syntactic inquiry was the ‘complete sentence’, considered as a congruent arrangement of different parts of speech (Lallot 2015: 853). Crucially, the basic syntactic arrangement that accomplishes completion was postulated as the combination of two types of words, a noun and a verb (Lallot 2015: 859; Ildefonse & Lallot 2017: 82; Matthews 2019: 79–80). This view is demonstrated in the following excerpts from the *Syntax of Apollonius Dyscolus* (1.14–15; Householder 1981: 23–25):

§14 “The ordering [of the parts of speech, L.S] is a reflection of the complete sentence, quite properly placing the noun first, and after it the verb, since any sentence which lacks (either of) these is not complete [...] It’s easy to test this with a sentence-structure containing all the parts of speech; if either noun or verb is deleted, then the sense of the sentence is indeterminate, but if any of the others is removed, there’s no defect in the sentence at all.”

§15 “I’m not here claiming that you can’t have a complete sentence with pronominal subjects, such as *egō peripatō* (I’m walking) or *su peripateis* (You’re walking).... For then, too, completeness is achieved, when a pronoun is used in place of a noun, which gives an essentially identical structure.”

We can see that in §14, Apollonius argues that nouns and verbs take the first and second places in the logical hierarchy of parts of speech since they are the only parts of speech that are indispensable for a complete sentence. He then illustrates this through a deletion test that begins with a sentence that includes all parts of speech: *ho autos anthrōpos olisthēsas sēmeron katepesen* ‘the same man slipping today fell down’. Apollonius shows that deleting the noun or the verb would result in defective sentences, whereas deleting all of the words but the noun and the verb would result in the minimally complete sentence *anthrōpos epesen* ‘(a) man fell’. Evidently, the noun + verb syntactic configuration is regarded as the primary syntactic structure that achieves completeness. This is also made clear in §15, in which Apollonius clarifies that the minimal sentence can also consist of a pronoun + verb configuration, since it essentially preserves the bipartite structure of the noun + verb configuration by means of replacing the noun with a pronoun.

Paradoxically, however, verbs in Classical Greek *are* in fact capable of forming a sentence on their own. In contrast to English, German and French – languages whose descriptive traditions are rooted in the grammatical tradition of classical Greek – pronominal subject referents in classical Greek verbal clauses are normally expressed only by the personal ending of the verb, with free subject pronouns normally not present (van Emde Boas et al. 2019: 310). In other words, verbs in Classical Greek require a lexical NP subject only for unactivated subject referents, whereas with activated subject referents a verb alone is sufficient for constituting a sentence. The discrepancy between the inability – as postulated by Appolonius – of verbal forms to form sentences on their own, and their ability based on usage pattern of Greek does not go unnoticed by Householder. With regard to the assumption that the sentence *anthrōpos epesen* ‘(a) man fell’ is a minimally complete sentence, he comments that “in Greek one could also delete the noun, since *epesen* ‘he fell’ is a perfectly good sentence, though in isolation [...] it would be indeterminate as to identity of ‘he’.” Similarly, with respect to §15, Householder comments that “the *egō* ‘I’ and *su* ‘you’ are normally present only if emphatic; *peripatō* is the ordinary way of saying ‘I’m walking’”. Thus, the verb’s potential to form a sentence on its own depends on the type of subject taken as point of departure. Starting from sentences with pronominal subjects would lead to the conclusion that verbs are syntactically self-sufficient; whereas starting from sentences with lexical subjects was bound to lead to the opposite conclusion. The point of departure in Appolonius’ syntax appears to be the latter, according to which the noun + verb sentence – i.e., a noun in the nominative followed by a verb in the 3<sup>rd</sup> person, such as *anthrōphos epesen* ‘(a) man fell’ – is the primary syntactic configuration.

It would appear that the primacy of such a configuration goes back to the philosophical, ontological and logical traditions of ancient Greece, notably those founded by Plato and Aristotle (Izre’el 2018). For these philosophers, such a syntactic configuration was regarded as natural based on the presupposed priority of substance (corresponding to the noun) over attributes, qualities, states, relations, and events (corresponding to the verb) because the latter can only be predicated of something (Allan 2007: 44; Schmidhauser 2010: 501–502; Lallot 2015: 860; Ildéfonse & Lallot 2017: 74–77). Crucially, this syntactic configuration represents a particular type of sentence, one that was suited to philosophical and logical inquiries. Nonetheless, the assumption that a verb alone cannot form a complete sentence, and the consequent requirement to have at least two components in a simple sentence, a (pro)noun and a verb, were carried on to be a basic requirement in the Western study of syntax ever since (Seuren 2013; Izre’el 2018). As a consequence of such an approach to sentence structure, and considering that it was the ‘word’ – and not the ‘morpheme’ – that was perceived as the smallest unit that had a meaning (Matthews 2019: 47–48), it is perhaps not surprising that the verbal inflectional affixes were not considered as referential elements that can fulfill the subject role by themselves. Instead, the meaning components of person and number were regarded as properties that are shared by verbs and (pro)nouns, and that are supposed to be congruent in a particular sentence (Matthews 2019), and therefore the bearers of these properties, verbal inflectional affixes, came to be regarded as agreement markers.



### 3 Revisiting “verbal agreement” in IH

Having argued for the inadequacy of applying the notion “agreement” to PNG inflectional markers in verbal paradigms in the previous section, I now turn to IH, aiming to reassess the two prevalent claims found in IH scholarship regarding the status of the PNG inflectional affixes of the person-inflected paradigms: (1) the inflectional affixes are agreement markers, i.e., elements that are dependent on, or controlled by, an external subject, themselves being devoid of referential capacity; (2) the inflectional affixes of 1<sup>st</sup> and 2<sup>nd</sup> person verbs are marked for person, number, and gender, while the inflectional affixes of 3<sup>rd</sup> person verbs are marked for number and gender, but not for person (see §1). The discussion of these claims will be done separately for suffix-conjugated verbs (§3.1) and prefix-conjugated verbs (§3.2).

#### 3.1 Suffix-conjugated verbs

##### 3.1.1 First and second persons

The agreement interpretation is particularly counterintuitive when applied for 1<sup>st</sup> and 2<sup>nd</sup> person suffix-conjugated verbs, since in most cases such verbs appear with no external subject to agree with (Bolozky 1984: 126; Ariel 1990: §6.1; Coffin & Bolozky 2005: 164–166; Bar 2007; Polak-Yitzhaki 2007: 166; Cohen 2016: 128, 133; Dattner et al. 2019; Shor et al. 2022). This referential pattern is quantitatively illustrated in **Table 2**, based on Cohen (2016: §§6.1.4.3–6.1.4.4).

PNG	1SG	1PL	2SGM	2SGF	2PL
Rate	16% (= 40/244)	7% (= 2/27)	15% (= 9/61)	10% (= 5/49)	7% (= 1/14)

**Table 2:** Rates of 1<sup>st</sup>/2<sup>nd</sup> person free subject pronouns with suffix-conjugated verbs.

We can see that suffix-conjugated verbs in the 1<sup>st</sup> and 2<sup>nd</sup> persons tend to appear without free subject pronouns, and the presence of the free subject pronoun is ordinarily motivated by a particular semantic, pragmatic, or interactional factor.<sup>5</sup> This referential pattern is consistent with the cross-linguistically most common strategy for marking pronominal subjects, used by 437 languages of the 711 languages compared in the WALS database (Kibrik 2011; Dryer 2013; Haspelmath 2018).

**Table 3** illustrates the primary and secondary patterns for each PNG combination.<sup>6</sup>

<sup>5</sup> Within Accessibility theory, Ariel (1990: §2.1) regards 1<sup>st</sup> and 2<sup>nd</sup> person free subject pronouns as lower Accessibility markers which are used for contrast, emphasis, or in contexts when the speaker or addressee are less than highly salient. Adopting a more interactional approach, Hacoen & Schegloff (2006) demonstrated that free subject pronouns may appear in environments of dispreferred actions, such as when disagreeing with the prior talk of the recipient. Cohen (2016: 80–82, 100–103, 110–113) observed that free subject pronouns can be used to highlight subjectivity and intersubjectivity.

<sup>6</sup> The examples in this paper come from spontaneous speech recordings collected for The Corpus of Spoken Israeli Hebrew (CoSIH) (<http://cosih.com/>). The terms “primary” and “secondary” reflect the frequency of usage of the respective patterns.

Primary pattern	
(1)	(C842_sp1_058) ra'i-ti et = ha = sa'lon    saw-1SG ACC = DEF = living.room 'I saw the living room.'
(2)	(D932_sp2_252) a'si-nu et = ze be = tsu'ra mesu'deret    did-1PL ACC = DEM in = shape organized 'We did it in an organized manner.'
(3)	(P931_2_sp2_032) a'vad-ta be = bet.ma'lon / worked-2SGM in = hotel 'Did you <sub>sgm</sub> work in a hotel?'
(4)	(Y33_sp1_189) a'mar-t li    said-2SGF to.me 'You <sub>sgf</sub> told me.'
(5)	(OCh_sp2_217) ha'ji-tem b = a = tsafon ve b = a = merkaz    was-2PL in = DEF = place and in = DEF = center 'You <sub>pl</sub> were in the north and in the center.'
Secondary pattern	
(6)	(C842_sp2_103) a'ni ra'i-ti et = ha = 'xeder fel 'gadi    1SG saw-1SG ACC = DEF = room of Gadi 'I saw Gadi's room.'
(7)	(Y311_sp1_135) a'val a'naχnu a'si-nu et = ze be'jaχad    but 1PL did-1PL ACC = DEM together 'But we did it together.'
(8)	(P931_1_sp2_074-075) a'ta a'vad-ta tov   kmo ta'mid    2SGM worked-2SGM good like always 'You <sub>sgm</sub> worked well as always.'

(Contd.)

<p>(9) (C711_4_sp2_022)</p> <p><b>at</b> a'mar-t al = aʃ'dod   </p> <p><b>2SGF</b> said-<b>2SGF</b> on = Ashdod</p> <p>'<b>You</b><sub>sgf</sub> talked about Ashdod.'</p>
<p>(10) (OCh_sp2_216)</p> <p><b>a'tem</b> lo ha'ji-<b>tem</b> be = kol = ma'kom   </p> <p><b>2PL</b> NEG was-<b>2PL</b> in = all = place</p> <p>'<b>You</b><sub>pl</sub> were not everywhere.'</p>

**Table 3:** Variation in subject expression with 1<sup>st</sup>/2<sup>nd</sup> person suffix-conjugated verbs.

Each of the examples (1)–(5) represents the primary pattern in which the suffix-conjugated verb appears without a corresponding free pronoun, and pronominal subject reference is achieved solely via the respective PNG inflectional affix. In such cases, it would be counterintuitive to regard the inflectional affixes as agreement markers since there is simply no “controller” to agree with. Some may still justify the agreement interpretation of the inflectional affixes by postulating a non-existent (“zero”, “null”, “pro-drop”) component in the underlying syntactic structure of the sentence with which the affix presumably agrees. The agreement approach has often been adopted by scholars operating within a generative framework which, under some of its implementations, presupposes an underlying pronoun in the subject position which is deleted in sentences lacking a subject pronoun, a phenomenon glossed as “pro-drop”. Within this framework, a distinction is drawn between languages that allow pro-drop, such as Spanish or Italian, and languages that do not, such as English or French. Israeli Hebrew, according to this approach, is said to be a ‘partial pro-drop’ language with regard to person – pro-drop is allegedly permitted in the first and second persons, but restricted in the third person (Vainikka & Levy 1999; Levy & Vainikka 2000; Gutman 2004; Melnik 2007).<sup>7</sup> However, it seems to me that any functionally-oriented, usage-based approach should try to avoid positing non-existent referential elements, especially “whenever an overt referential device is present that can possibly carry referential function” (Kibrik’s 2011: 236). What about the secondary pattern represented by examples (6)–(10)? In such pattern, it would presumably be more justifiable to interpret the PNG inflectional affixes as agreement markers since the affixes can be viewed as agreeing with the free subject pronoun. This would mean, however, that the inflectional affixes’ theoretical interpretation will be dependent on the presence of the free subject pronoun, a result that is undesirable in terms of descriptive efficiency. A preferred approach would be to assume that

<sup>7</sup> It is interesting that these concepts are often employed by scholars who do not strictly adhere to a generative framework, possibly as a result of the influence of traditional European linguistics, later enhanced by generative approaches, on general linguistics. Glinert (1989: 53, fn. 1), for instance, defined the verbal person inflections as “**just** ‘agreement formatives’” (my emphasis), while acknowledging at the same time that “the pronoun they agree with is often omitted”.

discourse referents can have more than a single representation in a given clause so that all of the indexes jointly constitute the subject referent, thereby distributing the act of reference over several referential elements.<sup>8</sup> Such a unified approach would be descriptively economical in that it dispenses with an additional grammatical category – the agreement marker – for which there is no evidence in the actual linguistic data of IH.

### 3.1.2 Third person

The agreement approach may seem to appear more justifiable when applied for 3<sup>rd</sup> person suffix-conjugated verbs, since in most cases such verbs appear with a free subject pronoun (Bolzky 1984: 126; Ariel 1990: §6.1; Coffin & Bolzky 2005: 164–166; Bar 2007; Polak-Yitzhaki 2007: 166; Cohen 2016: 128, 133; Dattner et al. 2019). This referential pattern is quantitatively illustrated in **Table 4**, based on Cohen (2016: §6.1.4.5).<sup>9</sup>

PNG	3SGM	3SGF	3PL
Rate	81% (= 62/76)	75% (= 36/48)	80% (= 16/20)

**Table 4:** Rates of 3<sup>rd</sup> person free subject pronouns with suffix-conjugated verbs.

Still, although 3<sup>rd</sup> person suffix-conjugated verbs tend to appear with free subject pronouns, there are instances where free pronouns are not present (primary and secondary pattern, respectively). **Table 5** illustrates these two patterns for each PNG combination.

Each of the examples (11)–(13) represents the primary pattern in which the suffix-conjugated verb appears with a corresponding free pronoun, whereas each of the examples (14)–(16) represents the secondary pattern in which a free subject pronoun is not employed. The agreement interpretation of the inflectional affixes would thus be most plausible precisely in the 3<sup>rd</sup> person, if one adopts the prevalent assumption in literature on Hebrew that 3<sup>rd</sup> person verbs – in contrast to 1<sup>st</sup> and 2<sup>nd</sup> person verbs – are marked for number and gender, but not for person. According to this assumption, the 3<sup>rd</sup> person inflectional affixes in the suffix conjugation – *STEM-Ø* (3SGM verbs), *STEM-a* (3SGF verbs), and *STEM-u* (3PL verbs) – are often interpreted as indicating SGM, SGF, and PL, respectively (see p. 3, quotes A–D). However, that seems unfounded given that these affixes are paradigmatically contrasted with 1<sup>st</sup> and 2<sup>nd</sup> person affixes, and thus have a unique 3<sup>rd</sup> person reading. In what follows, I will suggest three lines of reasoning that may have contributed to that interpretation, in order to eventually claim each of them is faulty, rendering the resulting interpretation fallacious.

<sup>8</sup> See “multiple symbolization” (Langacker 2008: 188), “double indexation” (Siewierska 2010: 259), “double representation” (Kibrik 2011: 75), and “double expression” (Haspelmath 2013: 212).

<sup>9</sup> It should be noted that these percentages also include syntactic contexts in which free subject pronouns are normally not used, such as relative clauses and coordinated clauses. That is why, the tendency to use free subject pronouns in independent clauses is probably stronger than suggested by the percentages in Table 4.

Primary pattern
<p>(11) (Y33_sp1_146)  ma <b>hu</b> a'sa-Ø jam     what <b>3SGM</b> did-<b>3SGM</b> there  ‘What did <b>he</b> do there?’</p>
<p>(12) (Y111_sp1_001)  <b>hi</b> lo bik'ʃ-a     <b>3SGF</b> NEG asked-<b>3SGF</b>  ‘<b>She</b> didn’t ask (me to bring her).’</p>
<p>(13) (C612_2_sp1_098-100)  <b>hem</b> pa'ʃut   hit'χil-<b>u</b> lik'not   na'gid sug 'gimel     <b>3PL</b> just started-<b>3PL</b> to.buy let's.say type C  ‘<b>They</b> just started to buy low quality (meat).’</p>
Secondary pattern
<p>(14) (C711_0_sp1_253, sp2_248)  sp1 az hitka'shar-ti li'ʃol o't=Ø ma daa't=Ø     so called-1SG to.ask ACC=<b>3SGM</b> what opinion=<b>3SGM</b>  ‘So I called to ask <b>him</b> for <b>his</b> opinion.’  sp2 ma a'mar-Ø /  what said-<b>3SGM</b>  ‘What did <b>he</b> say?’</p>
<p>(15) (Y111_sp2_002-003)  efo ro'nit /  where Ronit  ‘Where is Ronit?’  lo 'ba-a /  NEG came-<b>3SGF</b>  ‘<b>She</b> didn’t come?’</p>
<p>(16) (C842_sp2_055-065)  jeʃ la='hem di'ra    EXT to=<b>3PL</b> apartment  ‘<b>They</b> have an apartment.’  (12 IUs omitted)  pa'ʃut a's-<b>u</b> mi=ze sa'lon     just did-<b>3PL</b> from=DEM living.room  ‘<b>They</b> just made a living room out of it.’</p>

**Table 5:** Variation in subject expression with 3<sup>rd</sup> person suffix-conjugated verbs.

The first line of reasoning involves a diachronically-biased interpretation of the 3<sup>rd</sup> person inflectional affixes of the suffix conjugation. As is well known, free pronouns constitute the most common diachronic source of person indexing on the verb (Siewirska 2004: 263–268; Corbett 2006: 264–269; Kibrik 2011: 280). That is what we find in the case of the 1<sup>st</sup> and 2<sup>nd</sup> inflectional affixes of the suffix conjugation, which are assumed to be derived from their free pronouns counterparts. The 3<sup>rd</sup> person inflectional affixes, by contrast, are assumed to be derived from the nominal number-gender affixes:  $-\emptyset$  ‘SGM’,  $-a(t)$  ‘SGF’, and  $-\bar{u}$  ‘PLM’ (Hasselbach 2004b: 17; 2013: 138; Rubin 2005: 27).<sup>10</sup> The diachronic association of 3<sup>rd</sup> person inflectional affixes with number-gender affixes may have been mistakenly interpreted synchronically as a lack of person marking.

The second line of reasoning involves a synchronic trans-paradigmatic analogy, i.e., extension from the adjectival/participial  $-\emptyset$  ‘SGM’ and  $-a$  ‘SGF’ suffixes to the suffix-conjugation verbal  $-\emptyset$  and  $-a$  suffixes, an extension that was possibly enhanced by the diachronic connection between the two. Starting with the  $-\emptyset$  suffix, we observe that in addition to the suffix-conjugation verbal paradigm, it occurs in the number-gender inflectional paradigm, one that is shared by all adjectives, participles and a subgroup of nouns (animate nouns).<sup>11</sup> **Table 6** illustrates this paradigm.

	Participle			Adjective	Animate Noun
	‘grow(s)’ ‘growing’	‘barefoot’	‘frighten(s)’ ‘frightening’ ‘scary’	‘big’	‘horse’
SGM	ga'del- $\emptyset$	ja'χef- $\emptyset$	mafχid- $\emptyset$	ga'dol- $\emptyset$	sus- $\emptyset$
SGF	gde'l-a	jaχe'f-a	mafχi'd-a	gdo'l-a	su's-a
PLM	gde'l-im	jaχe'f-im	mafχi'd-im	gdo'l-im	su's-im
PLF	gde'l-ot	jaχe'f-ot	mafχi'd-ot	gdo'l-ot	su's-ot

**Table 6:** Number/Gender inflectional paradigm.

Comparing the form *ga'dal* ‘he grew’ (**Table 1**) with the form *ga'del* ‘grow(s), growing’ (**Table 6**), we should note that although both forms have no overt suffix, it would be wrong to assume that these forms are morphologically unmarked for person, number, or gender. Instead, it would be justifiable to assume that the phonological absence of overt suffix represents a “morphological

<sup>10</sup> This type of development is similar to that of the third person plural indexes of the past tense paradigm in Polish (*robił-y* ‘work.PST-3PL.F’ and *robił-i* ‘work.PST-3PL.M’), which originated from nominal plural markers and were later reconstructed as dedicated third person plural markers (Seržant 2021: 55).

<sup>11</sup> A participle can be used as either a temporal form denoting an activity or a process that occurs in the present, future or past depending on what is implied by the context (in which use they are often termed “present tense verbs”) and/or as an adjective (Halevy 2013; Werner 2013; Taube 2013; Schwarzwald 2020).

zero”, i.e., an absence of form that is morphologically marked for a semantic feature (Mel’čuk 2002: 242; 2006: 471; Cysouw 2003: 64; Kibrik 2011: 233). Positing a morphological zero in this case satisfies the criteria put forward by Mel’čuk (2002: 242):

“A zero sign must always do a clearly circumscribed job, that is, carry an information payload; it must do so in the absence of other contenders, that is, it must be the very last resort of our description; and it must be opposed to non-zero signs, that is, participate in a perceptible semantic—that is, paradigmatic—contrast with overt signs.”

In our case, the forms *ga’dal* ‘he grew’ (Table 1) and the form *ga’del* ‘grow(s), growing’ (Table 6) participate in a paradigmatic contrast with forms that have overt person suffixes in the suffix-conjugation verbal paradigm and the adjectival/participial paradigms, respectively. That in turn leads to the conclusion that the absence of an overt suffix after the stems *ga’dal-* and *ga’del-* expresses 3SGM and SGM, respectively, while nothing else does. Put differently, according to a synchronic-paradigmatic analysis, the inflectional  $-\emptyset$  suffix in IH reflects a trans-paradigmatic syncretism, marking 3SGM in the suffix-conjugated verbal paradigm on the one hand ( $= -\emptyset_{3SGM}$ ), and SGM in the adjectival/participial paradigm on the other ( $= -\emptyset_{SGM}$ ).<sup>12</sup> An equivalent analysis of the  $-a$  suffix in both of these conjugations would similarly lead to the conclusion that the inflectional  $-a$  suffix reflects a trans-paradigmatic syncretism, marking 3SGF in the suffix-conjugated verbal paradigm on the one hand ( $= -a_{3SGF}$ ), and SGF in the adjectival/participial paradigm on the other ( $= -a_{SGF}$ ). The  $-u$  suffix is different from the  $-\emptyset$  and  $-a$  suffixes in that it was not retained in the adjectival/participial paradigm. Nonetheless, it appears in 2PL and 3PL prefix-conjugated verbs (*t-STEM-u* and *j-STEM-u*, respectively), as well as in PL imperatives. Here too, it seems that the PL interpretation of the  $-u$  suffix in the suffix-conjugation was influenced by inter-paradigmatic association to plural forms (see discussion in §3.2).<sup>13</sup> However, an unbiased synchronic-paradigmatic analysis of the  $-u$  suffix in suffix-conjugated verbs would lead to the conclusion that it marks the third person, in addition to number. Thus, we can state that according to a synchronic and intra-paradigmatic analysis, the 3<sup>rd</sup> person inflectional affixes in the suffix conjugation are better interpreted as marking the 3<sup>rd</sup> person ( $-\emptyset$  ‘3SGM’,  $-a$  ‘3SGF’, and  $-u$  ‘3PL’).

<sup>12</sup> The morphological zero interpretation of the former ( $= -\emptyset_{3SGM}$ ) is arguably more substantiated than that of the latter ( $= -\emptyset_{SGM}$ ), since 3SGM in IH meets another, a more strict criterion for postulating morphological zeroes, according to which a postulated zero sign must have a non-zero sign expressing the same meaning (Haas 1957; Segel 2008). Indeed, 3SGM in IH has additional overt allomorphs: free (*hu* ‘he’), bound (*j-*; 3SGM in prefix-conjugated verb, see §3.2), or clitic ( $(n)o/ = av$ ; used in attributive syntactic positions), while SGM does not.

<sup>13</sup> In addition, 3PL suffix- and prefix-conjugated verbs have an impersonal use in which they are paradigmatically contrasted with PL participial forms (Halevy 2020: 569; Taube 2007; Berman 2011). That may have additionally contributed to the analogical extension from the adjectival/participial  $-im$  ‘PL’ suffix to the suffix-conjugation verbal  $-u$  suffix.

A third line of reasoning that may have been responsible for the claim that 3<sup>rd</sup> person suffix-conjugated verbs are not marked for person is the fact that the primary referential pattern with such verbs involves the presence of a free subject pronoun (see **Table 5**). The apparent need for an obligatory free pronoun may have been erroneously interpreted as evidence for the ‘zero’ marking of third person verbal forms due to the expectation that a subject referent should normally be represented in a clause only once (cf. Croft 2001: 228). This expectation is based on the following logic: if a free subject pronoun is normally present, it already marks the referent’s person, and therefore the verb is not marked for person. Put differently, single marking of pronominal referents is assumed to be the norm (primary pattern), whereas double marking is the exception (secondary pattern), and thus has to be accounted for. However, this does not have to be the case. Pronominal subject reference in Russian, for example, demonstrates precisely such a primary pattern (Kibrik 2013: 233–235; his “free pronoun + inflection”).<sup>14</sup> Still, as a primary pattern it is pragmatically unusual in that it goes against the prediction that speakers will tend to choose the most attenuated referential form that enables the recipient to achieve sufficient recognition of the referent (Sacks & Schegloff 1979; Hachohen & Schegloff 2006). That is why it would be of interest for a diachronically-oriented research to examine how this pattern might have come about.

In light of the discussion in this section, I would argue that the agreement interpretation of the inflectional affixes in the suffix-conjugation should be rejected, both for 1<sup>st</sup>/2<sup>nd</sup> person and the 3<sup>rd</sup> person. Instead, I suggest that the inflectional affixes of the entire suffix-conjugation constitute referential elements, “bound pronouns” (Kibrik 2011), and to distinguish between two domains based on the primary and secondary referential patterns, as illustrated in **Table 7**.

Domain		First/second person	Third person
Primary pattern	A	Bound pronoun	Free pronoun + Bound pronoun
Secondary pattern	B	Free pronoun + Bound pronoun	Bound pronoun
Examples	A	ka'tav-ti. wrote-1SG 'I wrote.'	ka'tav-ta. wrote-2SGM 'You <sub>SGM</sub> wrote.'
	B	a'ni ka'tav-ti. 1SG wrote-1SG 'I wrote.'	a'ta ka'tav-ta. 2SGM wrote-2SGM 'You <sub>SGM</sub> wrote.'
			hi kat'v-a. 3SGF wrote-3SGF 'She wrote.'
			kat'v-a. wrote-3SGM '(She) wrote.'

**Table 7:** Variation in pronominal subject reference with suffix-conjugated verbs.

<sup>14</sup> Kibrik contrasts the “free pronoun + inflection” pattern (*on igra-et* ‘he play-PRES.3SG’) with the “inflection alone” pattern (*igra-et* ‘play-PRES.3SG), the former being responsible for the majority of discourse occurrences, ranging between 2/3 and 3/4 of all.



### 3.2 Prefix-conjugated verbs

Having argued against the agreement interpretation of the inflectional suffixes in the suffix-conjugation in the previous section, I now turn to prefix-conjugation. Prefix-conjugated verbs in IH are used to convey two broad types of meanings: (1) indicative (so-called “future”), whereby the speaker asserts that some state of affairs is possible, likely, or hypothetical; and (2) modal, whereby the speaker asserts that some state of affairs is necessary, desired, or obligatory (Glinert 1989: 123; Berman 2014: 5; Malibert-Yatziv 2016; Kalev 2017: Chapter 5). It has been argued that in informal registers, notably in spontaneous conversations, the presence of free subject pronouns is mainly motivated by the type of meaning expressed by the verb, with free subject pronouns preferred in indicative uses, and dispreferred in modal uses (Berman 1990: 1145; Ariel 2000: 236–238; 2007: 288; Cohen 2016: 112–113; Kalev 2017: 197–198).

The agreement approach may appear justifiable when applied to the indicative use of 1<sup>st</sup> and 2<sup>nd</sup> person prefix-conjugated verbs in informal register, since in this use free subject pronouns are normally present (cf. Ariel 2000). This referential pattern is exemplified for each PNG combination in **Table 8**.

Starting with the 1<sup>st</sup> and 2<sup>nd</sup> person, we can observe that in contrast to suffix-conjugated verbs, indicative prefix-conjugated verbs tend to require free subject pronouns (examples (17)–(21) vs. examples (1)–(5) in **Table 3**).<sup>15</sup> It has been suggested that the difference between the two conjugations is motivated by the difference in salience and distinctness of the person inflectional affixes of the suffix-conjugation in relation to those of the prefix-conjugation. From a trans-paradigmatic perspective, 1<sup>st</sup> and 2<sup>nd</sup> inflectional suffixes in the suffix-conjugation are phonologically more salient and inflectionally more distinctive than are the corresponding affixes in the prefix-conjugation, in that the former recapitulate part of the corresponding free pronouns more clearly (Ariel 1990: 116–117; 2000: 237–238; Berman 1990: 1142; see **Table 1**). To this we should add the intra-paradigmatic syncretism of prefix-conjugated verbs, in which two inflectional affixes are homophonous: the prefix *t-* marks both 2SGM and 3SGF, and in informal registers the prefix *j-* has become a marker of 1SG in addition to the original 3SGM (Berman 1990: 1144–1145; Ravid 1995: 43; Bolozky 2003: 133–134).

Despite the alleged opacity of the 1<sup>st</sup> and 2<sup>nd</sup> inflectional affixes in the prefix-conjugation, free subject pronouns are dispreferred for indicative uses in the formal register, a pattern that is consonant with the prescriptive stance to avoid the use of free subject pronouns in the 1<sup>st</sup> and 2<sup>nd</sup> persons, probably since that was the primary pattern in the classical varieties of Hebrew (Bahat &

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<sup>15</sup> To the best of my knowledge, the only quantitative support for the primacy of the pattern illustrated in Table 7 comes from Ariel (1999: 236) who observed this pattern in 88.7% out of the total indicative (“future”) prefix-conjugated verbs in her data. Moreover, while the primacy of the double marking pattern appears most sound in matrix clauses, the status of the double marking pattern in various types of embedded clauses remains to be examined empirically (cf. Landau 2004).

(17) (C711_2_sp1_073) 'ani Ø-eχa'ke im = ze    <b>1SG 1SG-will.wait</b> with = DEM 'I will wait with it'
(18) (P311_2_sp4_101) tov <b>a'naxnu</b> n-eda'ber ma'χar    good <b>1PL 1PL-will.talk</b> tomorrow 'Ok, we will talk tomorrow.'
(19) (C842_sp2_003) be = jom.ri'jon <b>a'ta</b> t-i'jan ets'li   in = Sunday <b>2SGM 2SGM-will.sleep</b> at = 1SG 'On Sunday <b>you<sub>sgm</sub></b> will sleep at my place.'
(20) (Y32_sp2_261) <b>at</b> t-i'r-i    <b>2SGF 2SGF-will.see-CIRC</b>    ' <b>You<sub>sgf</sub></b> will see.'
(21) (D142_sp3_105) <b>a'tem</b> t-ih'j-u ba = dolo'mitim / <b>2PL 2PL-will.be-CIRC</b> in.the = Dolomites ' <b>You<sub>pl</sub></b> will visit (lit. be at) the Dolomites?'
(22) (C1624_sp1_361) od.me'at <b>hu</b> j-ih'je mena'hel    soon <b>3SGM 3SGM-will.be</b> manager ' <b>He</b> will be a manager soon.'
(23) (C514_2_sp1_092) <b>hi</b> t-ih'je be'seder    <b>3SGF 3SGF-will.be</b> fine ' <b>She</b> will be fine.'
(24) (C842_sp1_188) <b>hem</b> j-ena's-u    <b>3PL 3PL-will.try-CIRC</b>    ' <b>They</b> will try.'

**Table 8:** Indicative (“future”) use of prefix-conjugated verbs: informal register, primary pattern.

Ron 1960: 188; Bar 2007; Holmstedt 2013).<sup>16</sup> Consequently, Ariel (1990, 2000, 2007) suggested that in informal registers, notably in spontaneous conversation, the 1<sup>st</sup> and 2<sup>nd</sup> inflectional affixes in the prefix-conjugation are being reanalyzed as nonreferential, hence the need for a free subject pronoun, whereas in formal registers the same affixes retained their referentiality, hence free pronouns are not required. Such a conclusion, however, would be at odds with the fact that prefix-conjugated can be used to convey various modal meanings, notably imperative and cohortative meanings (Kalev 2017: Ch. 5). In such modal uses, free subject pronouns are dispreferred regardless of register (Berman 1990; Ariel 2000; 2007; Cohen 2016; Kalev 2017). **Table 9** exemplifies the imperative use of 2<sup>nd</sup> person prefix-conjugated verbs.

(25) (OCD_3_sp2_065)
az t-a'vo                      li'jon    ets'li    ma'χar
so <b>2SGM-will.buy</b> to.sleep at.me tomorrow
'So come to sleep at my place tomorrow.'
(26) (C712_2_sp1_085)
t-imtse-'i                      li        o'to            bevaka'ja
<b>2SGF-will.see-CIRC</b> to.me ACC = 3SGM please
'Find it for me please.'
(27) (P311_2_sp8_006)
t-a'vo-u                      laχ'tom    b = a = jo'man
<b>2PL-will.come-CIRC</b> to.sign    in = DEF = diary
'Come sign in the diary.'

**Table 9:** Modal use (“imperative”) of prefix-conjugated verbs (a); primary pattern.

Each of the examples (25)–(27) represents the primary pattern in which the prefix-conjugated verb appears without a corresponding free pronoun. Adding a corresponding free pronoun in each case would instigate an indicative (“future”) interpretation. Thus, assuming that inflectional affixes in the prefix-conjugation are being reanalyzed as nonreferential is at odds not only with their referentiality in formal registers, but also with their referentiality in modal uses. That suggests that the corresponding 1<sup>st</sup> and 2<sup>nd</sup> inflectional affixes can be interpreted as referential elements, as opposed to agreement markers.

<sup>16</sup> In the formative years of IH, the increased use of free subject pronouns has been ascribed to the foreign influence of European languages, notably Yiddish and Russian, in which pronominal subjects were typically coded by free pronouns, and had therefore been repeatedly condemned by prescriptivists (e.g., Yellin 1912: 3–4; Avineri 1929: 299; Garbell 1930: 60; Epstein 1947: 95–103; and see Blanc 1954: 389).

Additionally, prefix-conjugated verbs can convey various modal meanings as a part of specific constructions. One such construction is the “*je* ‘that’ + prefix-conjugated verb” construction (Bar-Adon 1966; Bolozky 2013; Schwarzwald & Shlomo 2015; Inbar 2016; 2020; Kalev 2017). This construction consists of an independent clause prefaced by *je* ‘that’, conveying a variety of modal meanings (desires, wishes, prohibitions, volitions, curses, commands), as illustrated in **Table 10**.

(28) (C711_4_sp4_012)
<i>je j-a'vi li l = a = 'χeder</i>    that <b>3SGM</b> -will.bring to.me to = DEF = room 'Let <b>him</b> bring me (a pomegranate) to my room.'
(29) (Y34_sp2_073)
<i>je t-ik'ne</i>    that <b>3SGF</b> -will.buy 'Let <b>her</b> buy.'
(30) (OCD_1_sp3_060)
<i>je = lo t-a'ki li b = a = 'oto</i>    that = NEG <b>2SGM</b> -will.throw.up to.me in = DEF = car 'Don't <b>you</b> <sub>sgm</sub> dare throwing up in my car.'

**Table 10:** Modal use (“optative”) of prefix-conjugated verbs (b), primary pattern.

Another modal construction is the “*bo/i/u* ‘come’ + prefix-conjugated verb” construction (Malibert-Yatziv 2016; Kalev 2017), as illustrated in **Table 11**.

(31) (C842_sp2_183)
<i>az bo-∅ n-e'leχ</i>    so come.IMP-SGM <b>1PL</b> -will.go 'So let's go.'
(32) (P931_2_sp2_293)
<i>bo-∅ t-a'gid li [...]</i>    come.IMP-SGM <b>2SGM</b> -will.say to.me 'Tell me [...].'

**Table 11:** Modal use (“cohortative”) of prefix-conjugated verbs (c); primary pattern.

Each of the examples in **Tables 10** and **11** represents the primary pattern in the respective construction whereby the prefix-conjugated verb appears without a corresponding free pronoun. A secondary pattern in which a free subject pronoun is used appears to be infrequent.

To recapitulate the discussion of the 1<sup>st</sup> and 2<sup>nd</sup> person, when prefix-conjugated verbs are used indicatively in the informal register, they tend to appear with free subject pronouns. By contrast, when prefix-conjugated verbs are used indicatively in the formal register and modally regardless of register, they tend to appear without free subject pronouns. Rather than assuming that the 1<sup>st</sup> and 2<sup>nd</sup> person inflectional affixes are non-referential in the former case, and referential in the latter (e.g., Ariel 2007), I would argue that they are referential at all times, and that the presence of the free subject pronouns in the former case represents an instance of double marking via the inflectional person affix and the free subject pronoun. While the specific details of this process require a diachronic corpus-based research, I hypothesize that this double marking pattern was triggered in the formative years of IH by a combination of internal factors, possibly enhanced by external influences (see §5 for a discussion of possible factors).

Up until now, I have tried to establish that the agreement interpretation is unwarranted for the 1<sup>st</sup> and 2<sup>nd</sup> person inflectional affixes in the prefix-conjugation. What about the 3<sup>rd</sup> person affixes? Recall the prevalent assumption in literature on Hebrew according to which 3<sup>rd</sup> person verbs – in contrast to 1<sup>st</sup> and 2<sup>nd</sup> person verbs – are marked for number and gender, but not for person. If one adopts this assumption, the agreement interpretation of the inflectional affixes becomes most plausible precisely in the 3<sup>rd</sup> person. In what follows, I will suggest two lines of reasoning that may have contributed to that assumption, in order to eventually claim each of them is faulty, rendering the resulting assumption fallacious.

First, similarly to the corresponding suffix-conjugated verbs, 3<sup>rd</sup> person prefix-conjugated verbs – *j-STEM* (3SGM verbs), *t-STEM* (3SGF verbs), and *j-STEM-u* (3PL verbs) – have typically been interpreted in the literature on Hebrew as being morphologically unmarked for person. This view appears to be biased towards the diachronic origin of these verb's inflectional suffixes, which similarly to the corresponding suffixes in the suffix-conjugation are derived from the nominal number-gender affixes and thus differ from their 1<sup>st</sup> and 2<sup>nd</sup> person counterparts, which are derived from independent pronouns (Hasselbach 2004a; 2004b). It is also possible that the “unmarked person” assumption was extended from the 3<sup>rd</sup> person suffix-conjugated verbs to the corresponding prefix-conjugated verbs.<sup>17</sup> Nonetheless, according to a synchronic and intra-paradigmatic analysis, the 3<sup>rd</sup> person inflectional affixes in the prefix conjugation are better interpreted as marking person, in addition to number and gender.

Another possible motivation for the claim that 3<sup>rd</sup> person verbs are not marked for person is the fact that the primary referential pattern with 3<sup>rd</sup> person verbs—again similarly to the corresponding suffix-conjugated verbs—involves the presence of a free subject pronoun (see

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<sup>17</sup> That is plausible due to the prominence of the 3SGM suffix-conjugated form compared to other verbal forms, as it constitutes the regular citation form of the verb in grammatical and lexicological treatments of Hebrew. The fact that the regular citation form of the verb lacks an overt inflectional affix might have been mistakenly extended to the entire third person category.

examples (22)–(24) in **Table 8**). The apparent need of an obligatory free pronoun may have been erroneously interpreted as evidence for the ‘zero’ marking of third person verbal forms due to the expectation that a subject referent should normally be represented in a clause only once. In other words, if a free subject pronoun is normally present, it already marks the referent’s person, and therefore the verb is not marked for person. However, this does not have to be the case, and conventional double-marking of the subject referent can be explained differently (see §5).

Finally, in spontaneous conversation we find instances of a secondary referential pattern in which prefix-conjugated verbs are used indicatively without free subject pronouns.

(33) (OCh_sp1_842)
j-aa'le                      o'tanu   b = a = mχir              ʃel = ha = ze
<b>3SGM</b> -will.elevate   us            in = DEF = price    of = DEF = DEM
‘He will let us get on (the bus) in this price.’
(34) (P423_2_sp1_290-291)
az ma   t-aa'se                           az   t-am'ʃiχ                      la'tset    i'to /
so what <b>3SGF</b> -will do            so <b>3SGF</b> -will.continue   to.go.out with.him
‘So what will <b>she</b> do? So <b>she</b> will continue going out with him?’

**Table 12:** Indicative (“future”) use of prefix-conjugated verbs: informal register, secondary pattern.

We can see that in each of the clauses in **Table 12**, the subject referent is indexed solely by the inflectional prefixes of the corresponding verbs. Thus, based on the referential patterns exemplified in **Tables 10–12**, I conclude that 3<sup>rd</sup> person inflectional affixes are referential elements, and that the presence of the free subject pronouns with 3<sup>rd</sup> person verbs represents an instance of a grammaticalized double marking via the inflectional person affix and the free subject pronoun.

Concluding the discussion in this section, I argue that the agreement interpretation of the inflectional affixes in the prefix-conjugation should be rejected, both for 1<sup>st</sup>/2<sup>nd</sup> person and the 3<sup>rd</sup> person. Instead, I suggest that the inflectional affixes of the entire prefix-conjugation constitute referential elements, “bound pronouns” (Kibrik 2011), as illustrated in **Table 13**.

Accordingly, I propose to describe the variation in pronominal subject reference with prefix-conjugated verbs as a system of alternations between a primary and a secondary patterns depending primarily on the meaning of the verb (indicative vs. modal) and secondarily on the register (informal vs. formal; relevant only for 1<sup>st</sup> and 2<sup>nd</sup> person indicative uses). **Table 14** schematically illustrates the proposed system with respect to informal register.

1SG	2SGF(CIRC)	2SGM/3SGF	3SGM	1PL	2PL(CIRC)	3PL(CIRC)
$\emptyset$ ~ <i>j-STEM</i>	<i>t-STEM-i</i>	<i>t-STEM</i>	<i>j-STEM</i>	<i>n-STEM</i>	<i>t-STEM-u</i>	<i>j-STEM-u</i>

Table 13: PNG prefixes/circumfixes in prefix-conjugated verbs.<sup>18</sup>

Domain		Modal	Indicative
Primary pattern	A	Bound pronoun	Free pronoun + Bound pronoun
Secondary pattern	B	Free pronoun + Bound pronoun	Bound pronoun
Examples	A	t-iχtov 3SGF/2SGM-will.write 'Write!'	ata t-iχtov 2SGM 3SGF/2SGM-will.write 'You will write.'
		je y-iχtov that 3SGM-will.write 'Let him write!'	hu y-iχtov 3SGM 3SGM-will.write 'He will write!'
	B	ata t-iχtov 2SGM 3SGF/2SGM-will.write 'You write!'	t-iχtov 3SGF/2SGM-will.write '(You) will write.'
		je hu y-iχtov that 3SGM 3SGM-will.write 'Let him write!'	y-iχtov 3SGM-will.write '(He) will write.'

Table 14: Variation in pronominal subject reference with prefix-conjugated verbs – informal register.

## 5 Discussion

In the previous section, I proposed a re-assessment of the analysis of verbal agreement inflectional affixes of person-inflected paradigms in IH, according to which the inflectional affixes are agreement markers that are marked either for person, number, and gender (in the 1<sup>st</sup> and 2<sup>nd</sup>

<sup>18</sup> In Semitic scholarship, one encounters the assumption that the prefix of the prefix-conjugated verb indicates the person, and the suffix (or the lack thereof) indicates the number and gender. However, attempting to implement that assumption on particular Semitic languages often leads to a synchronically-incoherent description of the prefix-conjugation. Applying it to IH would lead to the following inconsistencies: (1) the *t-* prefix presumably indicates the 2<sup>nd</sup> person, but it also appears in 3SGF verbs; (2) the *j-* prefix presumably indicates the 3<sup>rd</sup> person, but it does not appear in 3SGF verbs; (3) there is no candidate for 1<sup>st</sup> person marking as 1SG and 1PL verbs have different prefixes; (4) the *-i* suffix presumably indicates SGF, but it does not appear in 3SGF verbs; (5) the *-u* suffix presumably indicates PL, but it does not appear in 1PL verbs; (6) an absence of a suffix presumably indicates the SG, but 1PL verbs also have no suffix. Consequently, from a synchronic-paradigmatic perspective it would be more coherent to analyze the inflectional affixes of each verbal form as a circumfix that indicates person, number, and gender.

persons), or for number and gender but not for person (in the 3<sup>rd</sup> person). Based on previous corpus investigations and on synchronic intra-paradigmatic considerations, I argued that this analysis is unsubstantiated and therefore unwarranted. I suggested instead that all inflected verb forms are predicative complexes consisting of a stem and inflectional affixes, which should be interpreted as referential elements (bound pronouns or person indexes) that are uniformly marked for person. My analysis is summarized in **Table 15**.

PNG	1SG	1PL	2SGM	2SGF	2PL	3SGM	3SGF	3PL
<b>Suffix-conjugation</b>	<i>STEM-ti</i>	<i>STEM-nu</i>	<i>STEM-ta</i>	<i>STEM-t</i>	<i>STEM-tem</i>	<i>STEM-Ø</i>	<i>STEM-a</i>	<i>STEM-u</i>
<b>Prefix-conjugation</b>	<i>Ø~j-STEM</i>	<i>n-STEM</i>	<i>t-STEM</i>	<i>t-STEM-i</i>	<i>t-STEM-u</i>	<i>j-STEM</i>	<i>t-STEM</i>	<i>j-STEM-u</i>

**Table 15:** Inflectional affixes as referential elements across suffix- and prefix-conjugation.

The main arguments in support of my claim are: (1) all verbal forms but two are unambiguous with regard to PNG, and two forms in the prefix-conjugation – *Ø~j-STEM* and *t-STEM* – display person syncretism with respect to two PNG options; and (2) all verbal forms but two contain an overt segment that can be assigned the role of marking the relevant PNG combination (“do not posit zero whenever an overt referential device is present that can possibly carry referential function”; Kibrik 2011: 236). The only verbal forms that do not contain any overt segment that can carry the referential function are 3SGM suffix-conjugated verbs (*STEM-Ø*) and 1SG prefix-conjugated verbs (*Ø~j-STEM*) to some extent. Consequently, (morphological) zero should only be assigned to those slots within the respective paradigms (“when no overt referential device is present, posit a free or bound zero in accordance with the language’s dominant pattern”; Kibrik 2011: 236). Crucially, the morphological zero interpretation of the absence of inflection in these two verbal forms is also substantiated by meeting another, stricter criterion for postulating zeroes, according to which a postulated zero sign must have a non-zero sign expressing the same meaning (Haas 1957; Segel 2008). Indeed, 3SGM and 1SG in IH have the following additional overt allomorphs: (1) 3SGM – free (*hu*), bound (*j-* in prefix-conjugated verb), or clitic (= *(n) o/ = av* in attributive syntactic positions); and (2) 1SG – free (*ani*), or clitic (= *i/ = aj* in attributive syntactic positions).

A major objection to my analysis would be that it disregards the degree of gradient transparency of the inflectional affixes, and consequently, that it does not account for the distributional patterns of free subject pronouns with the respective verbal forms that were arguably triggered by the degree of gradient transparency. Notably, Ariel (1990; 1998; 2000; 2007) proposed a classification of person-inflections according to the degree of accessibility they encode. Degree



of accessibility, in turn, is (also) a function of the degree of transparency of the respective forms, as summarized in **Table 16**.<sup>19</sup>

Free pronouns			A 1 <sup>st</sup> /2 <sup>nd</sup> person suffix paradigm	B 1 <sup>st</sup> /2 <sup>nd</sup> person prefix paradigm	C 3 <sup>rd</sup> person both paradigms
<i>ani</i>	‘I’	[1SG]	<i>STEM-ti</i>	$\emptyset \sim j\text{-STEM}$	<i>STEM-\emptyset</i>
<i>anaχnu</i>	‘we’	[1PL]	<i>STEM-nu</i>	<i>n-STEM</i>	<i>STEM-a</i>
<i>ata</i>	‘you <sub>sgm</sub> ’	[2SGM]	<i>STEM-ta</i>	<i>t-STEM</i>	<i>STEM-u</i>
<i>at</i>	‘you <sub>sgf</sub> ’	[2SGF]	<i>STEM-t</i>	<i>t-STEM-i</i>	<i>j-STEM</i>
<i>atem</i>	‘you <sub>pl</sub> ’	[2PL]	<i>STEM-tem</i>	<i>t-STEM-u</i>	<i>t-STEM</i>
<i>hu</i>	‘he’	[3SGM]			<i>j-STEM-u</i>
<i>hi</i>	‘she’	[3SGF]			
<i>hem</i>	‘they’	[3PL]			

**Table 16:** Classification of person-inflections (Ariel 1990; 1998; 2000; 2007).

As can be observed, the inflectional affixes in Group A are phonologically more salient and informationally more transparent – recapitulating part of the corresponding free pronouns more clearly – than are the corresponding affixes in Group B. The inflectional affixes in Group C bear no trace of the corresponding free pronouns, and thus are the least transparent. Ariel (1990) proposed that this diminishing transparency of person marking from A to C corresponds to an increase in the degree of accessibility coded by the respective affixes; In C there are no accessibility markers whatsoever, while the affixes in A encode a lower degree of accessibility than the B affixes. According to Ariel, this assumed difference in accessibility marking accounts for the distribution of free subject pronouns with A (normally absent) and C (normally present) (see **Tables 3** and **7**, respectively). The intermediary status of B is reflected in the fact that, in their indicative use (“future tense”), these forms tend to appear with free subject pronouns in informal registers, but not in formal ones. Ariel (2000: 236–237) proposed that this attests to the “vanishing referentiality” of the affixes in B in informal registers, and indicates that these affixes “are hardly felt as referential anymore”, whereas in formal registers, the referentiality of these affixes is retained. According to this account, the affixes in B are register-sensitive, as they function as high-activation referring expressions in formal registers, and as non-referential elements in informal registers (Ariel 2007).

The analysis proposed in the present paper is not in fact incompatible with the view proposed by Ariel (1990; 1998; 2000; 2007) if we allow for a more nuanced and flexible view of the

<sup>19</sup> Note that according to Ariel, *-u* marks plurality and *-a* marks feminine gender.

referentiality of the person indexes. Combining Ariel's tripartite division of the verbal forms based on the degree of gradient transparency of their inflectional affixes with my claim that all verbal forms are marked for person may lead to the conclusion that the various person indexes differ with respect to their degree of referentiality: (1) 1<sup>st</sup> and 2<sup>nd</sup> person indexes in suffix-conjugation are maximally referential; (2) 1<sup>st</sup> and 2<sup>nd</sup> person indexes in the prefix-conjugation are moderately referential; and (3) 3<sup>rd</sup> person indexes in both conjugations are minimally referential. Specifically, with respect to prefix-conjugated verbs, allowing for a moderate degree of referentiality has the benefit of accounting for the variation in the distribution of free subject pronouns with indicative uses as opposed to modal ones, as well as in formal as opposed to informal registers. Based on this account, the moderate degree of referentiality of 1<sup>st</sup> and 2<sup>nd</sup> person indexes in the prefix-conjugation is sufficient for the purpose of indicative use in formal registers; therefore, a free pronoun is normally not required (see **Tables 8–10**). Conversely, in informal registers, the moderate degree of referentiality is deemed insufficient; therefore, a free subject pronoun is normally required (see **Table 7**). At the same time, it should be acknowledged that the degree of referentiality of person marking is not the only factor that may exert pressure in favor of requiring free subject pronouns, as such pressure can also be exerted by various combinations of language-internal factors and external-linguistic influences (for example, see Kibrik 2013 for spoken Russian). With regard to IH prefix-conjugation, two additional explanations appear to be relevant.

The first explanation for the emergence of the preference for free subject pronouns with indicative uses pertains to the extant semantic ambiguity between the indicative (“future”) meaning and modal (“imperative”/“cohortative”) meanings (see §3.2) of prefix-conjugated verbs in IH. Specifically, the modal use of 2<sup>nd</sup> person prefix-conjugated verbs is fairly well attested in the early decades of the 20<sup>th</sup> century, as evidenced by various written sources (Reshef 2015: 288, 328–329). It has recently been suggested that this use does not have its roots in Biblical Hebrew, but is a continuation of a tendency that was already present in the informal Rabbinic Hebrew of the 18<sup>th</sup> and 19<sup>th</sup> centuries, mediated by factors such as paradigm leveling and a grammaticalization process of subordination, which is speculated to have evolved due to language contact with Yiddish (Ariel 2019). Given that the modal use of 2<sup>nd</sup> person prefix-conjugated verbs appears well-established in early Modern Hebrew, it seems plausible to assume that free subject pronouns were felt as necessary to express the indicative (“future”) meaning of prefix-conjugated verbs unequivocally.

Another factor that may have promoted the use of free subject pronouns with indicative prefix-conjugated verbs involves a possible external-linguistic influence. Such an influence is particularly likely in the context of IH – a language that emerged during the first decades of the twentieth century and of which the first speakers were mainly Yiddish- and Russian-speaking immigrants for whom Hebrew was a second language (Izre'el 2003; Spolsky 2014:

255; Doron 2016). It has repeatedly been demonstrated that many structural aspects of IH may be traced to the influence of the contact with the native languages of first-generation Hebrew speakers (Blanc 1965; Doron et al. 2016; 2019; Reshef 2020; Shor et al. 2022). It is also well known that speakers of languages characterized by an extensive use of free pronouns tend to transfer this property of their native languages when speaking a second language in which the “inflection only” pattern prevails. For example, in the context of second language acquisition, it has been shown that patterns of pronominal usage in the target language (the L2) could be transferred from the speaker’s native language (L1). In other words, speakers of languages with an extensive use of free pronouns tend to transfer this property to their target language, essentially overusing free pronouns in their L2. This tendency has been observed in various bilingual populations, including child bilinguals (Hacohen & Schaeffer 2007; Haznedar 2010), adult L2 learners (Liceras Diaz 1999; Li 2014), and heritage speakers (Montrul 2006; Keating et al. 2011). Similarly, pronominal subject expression in creoles and pidgins is affected by the dominant referential pattern in the substrate languages. Creole and pidgin languages in the Atlantic and the Pacific regions tend to have obligatory subject pronouns due to the substrate influence of West African and Austronesian languages in which subject pronouns are normally obligatory. By contrast, creole and pidgin languages in the Indian Ocean and Asia tend to have optional subject pronouns due to the substrate influence of South and Southeast Asian languages in which subject pronouns tend to be optional (Haspelmath and the APiCS Consortium 2013). In line with these findings, the fact that free subject pronouns were the primary means of pronominal subject reference in the native languages of IH speakers of European origin (notably Yiddish and Russian) may have led to an increased use of free subject pronouns with indicatively used prefix-conjugated verbs.<sup>20</sup>

While the specific details of this process must be confirmed through diachronic corpus-based studies, it would appear that the expression of the future indicative meaning via the construction “free subject pronoun + prefix-conjugated verb” was triggered by a combination of internal factors (the need for the unequivocal expression of the future meaning, coupled with the opaqueness of the person indexes), which was possibly enhanced by external influences, such as the influence of the native languages of the first-generation Hebrew speakers.

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<sup>20</sup> An early attribution of increased free subject pronoun usage to the influence of European languages, particularly of Yiddish, was made by Blanc (1954: 389; my emphasis): “This “Europeanization” has gone further than replica translations of words and phrases. Much of the grammatical structure of Israeli Hebrew has undergone, and is still undergoing, the same process. **The increased use of the personal pronoun with the verb** in the three-tense system, the word order, [...], and many other phenomena are contrary to classical usage and result from European influence.” Moreover, it is possible that the frequent use of free subject pronouns by first-generation speakers contributed to the development of the pattern described in §3.1.2. At this point, however, it is unclear why the pattern was restricted to the third person and not extended to the rest of the paradigm.

## 6 Conclusion

In this paper, I attempted to re-assess the verbal agreement interpretation of the inflectional affixes of the person-inflected paradigms in IH, according to which the inflectional affixes are agreement markers that are marked either for person, number, and gender (in the 1<sup>st</sup> and 2<sup>nd</sup> persons), or for number and gender but not for person (in the 3<sup>rd</sup> person). Based on previous corpus investigations and synchronic intra-paradigmatic considerations, I argued that this interpretation was unsubstantiated and therefore inadequate, suggesting instead that the inflectional affixes in IH should be treated as referential elements that are uniformly marked for person.

An additional reason for rejecting the notion of verbal agreement was proposed. This notion presupposes the primacy (canonicity/naturalness) of a bipartite clausal format in which the lexical subject NP and the predicate are present and morphologically independent; thus, the inflectional affix is assumed to be positioned in an asymmetrical relationship with the corresponding subject NP with which it is assumed to agree. Consequently, the notion of verbal agreement also presupposes the primacy of morphologically independent person markers over inflectional ones (cf. Cysouw 2003). However, these presuppositions are at odds with cross-linguistic data: With the exception of a few highly influential European languages, such as English, German, and French, free subject pronouns are not normally present in the majority of languages that employ person-inflected predicates; thus, inflectional affixes have no concrete element with which to agree. Crucially, these presuppositions are essentially rooted in the Platonic and Aristotelian logico-philosophical analysis of the proposition into subject (corresponding to the noun) and predicate (corresponding to the verb) which the first Greek grammarians later transferred to the grammatical analysis of sentences (Seuren 2013; Izre'el 2018). The primacy of the bipartite clausal format has a logico-philosophical justification: Substance (corresponding to the noun) is presupposed to be prior to attributes, qualities, states, relations, and events (corresponding to the verb) because the latter can only be predicated of the former. From a usage-based linguistic perspective, however, the primacy of the bipartite clausal format is not justified. The adoption of a logico-philosophical perspective instead of a usage-based linguistic perspective has unfortunately resulted in the theoretical interpretation of verbal inflectional affixes as elements that merely agree with free subjects, rather than as referential elements that can fulfill the subject role by themselves. In this respect, it would be preferable to employ alternative terms and concepts, such as “inflectional person marking” (Cysouw 2003; 2011), “bound pronoun” (Kibrik 2011; 2019), or “person index” (Haspelmath 2013), as these are not biased toward a particular clausal configuration or toward the degree of morphological independence of the person marking form.

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## Competing interests

The author has no competing interests to declare.

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