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The typology of verbal person/number syncretism in Western Iranic languages

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Abstract

This article studies variability in the internal structure of verbal bound person-number paradigms within a sample of 174 Western Iranic language varieties. Twenty-one patterns of syncretism are found within the sample, highlighting the neutralization of opposition between cells in the inflectional person/number paradigm. The syncretic patterns in these languages range from complete opposition in the person/number paradigm to partial syncretism in certain feature values, diagonal systems, and the complete neutralization of person, attested in the Koçerî variety of Northern Kurdish. The article reflects on the effect of sound change, analogy, and areal and contact factors in developing syncretic person-number patterns within Iranic.

Keywords

analogy – markedness – homophony – neutralization – sound change

1 Introduction

Iranic languages exhibit considerable variation in the internal structure of the verbal person-number paradigm. Many Iranic languages, such as Persian, feature the same argument indices, fully distinguished for all person-number combinations regardless of tense. Yet, a substantial minority of Iranic languages variably show neutralization of opposition between 1SG and 2SG (attested in some Goranî [G] dialects), neutralization between 2PL and 3PL (attested in Central Kurdish [CK]), neutralization between 2SG and 2PL (attested in Bandari and Minabi), and neutralization of all person marking leaving a paradigm only inflected for number (Koçerî variety of Northern Kurdish [NK]). This article studies the typology of syncretism patterns within the Western Iranic languages, reflecting on the effects of sound change, analogy, and social factors, including language contact, in developing these syncretic patterns.

Iranic languages constitute one of the branches of the Indo-European languages. They are currently spoken in a vast geographical expanse in Asia, ranging from the westernmost provinces of China to the southeast of Turkey and northeast of Syria. Traditionally, Iranic languages are classified into two main subbranches: Eastern and Western. Each group is further divided into Northern and Southern subgroups.[1] East Iranic languages are represented by Pashto, Ossetic, and Parachi, and the Western branch by Persian, Kurdish, Balochi, and many others. This article studies variations in the internal structure of the person paradigm within the languages traditionally described as Western Iranic without addressing issues about the coherence of this group, drawing on typological and theoretical studies in Baerman et al. (2005), Cysouw (2003), and Siewierska (2004). See Fig. 1 for the geographic distribution of the languages we have selected for investigation.

We recognize that in this study of syncretism patterns, there are inherently synchronic and diachronic elements. The synchronic study of these languages is concerned with several points: (a) the distribution of syncretism patterns across the Western Iranic languages; (b) the occurrence of multiple (systematic) patterns of syncretism within a language; and (c) the categories that condition person-number syncretism (for example, if it occurs only in the context of another grammatical category such as gender, tense, aspect, mood, etc.). The diachronic study of these languages is concerned with how the

1 Note that the subgrouping of Iranic languages into Northwestern, Southwestern, Northeastern, and Southeastern has long been understood to be problematic (see Bailey, 1933; Cathcart, 2015; Wendtland, 2009) and has largely been rejected (see Korn, 2019).

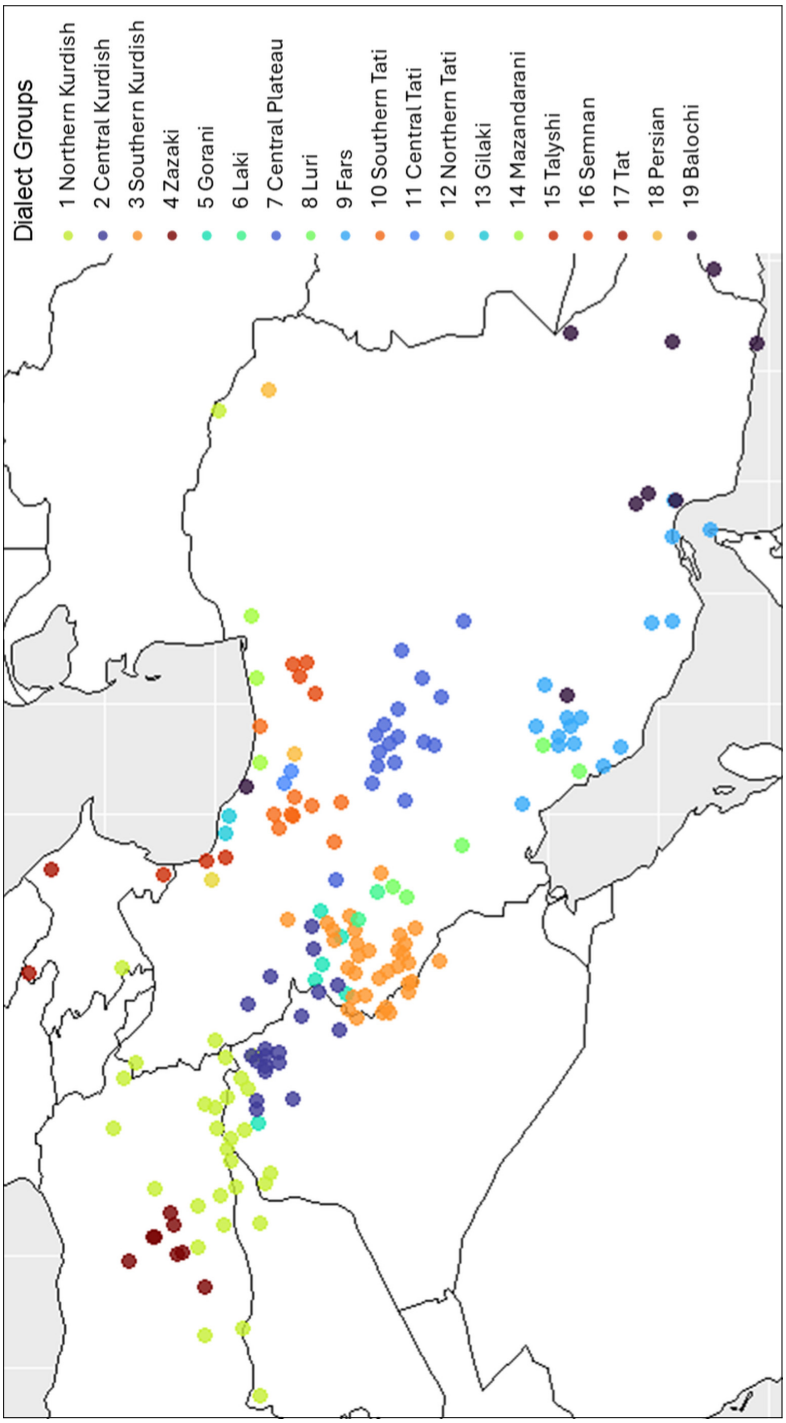


FIGURE 1 Languages investigated in this study

extant patterns developed. To ascertain the probable course of development of the forms, we look at what is currently known about regular phonological developments in these languages in combination with the likely reconstructed forms. For instance, Iranic verbal forms draw from a variety of finite and nonfinite verbal forms to create the rich tapestry of inflectional paradigms observed here (presented in full in the appendix, Table 52). We take the approach that synchrony and diachrony are two independent approaches to language that do not directly interact. As such, there is an inevitable overlap in terminology. For example, a paradigm can be synchronically conditioned by the imperfective aspect, as is the case in Western Gilaki (Stilo, 2001). However, the diachronic cause for this is the reduction of vowel clusters; that is, it is conditioned diachronically by regular sound change. This article is primarily synchronic. To avoid confusion, all terminology should be understood in the synchronic sense unless stated otherwise (for example, in Section 8.1 on diachrony). The reliance on synchronic data, some of which is published here for the first time, allows us to identify broad-scoping tendencies in diachronic change. The sheer number of closely related varieties, particularly within the three Kurdish groups, allows a nuanced reconstruction based on microvariation. Sometimes, every stage in a sequence of relatively ordered changes is attested in concentric circles spanning outward from a core (conservative) group. This approach to reconstruction based on modern varieties should be of broad interest to the diachronic linguist.

The article is structured as follows. Section 2 discusses the theoretical preliminaries behind syncretism and data collection. Section 3 provides an overview of the syncretic patterns found in the surveyed languages. Sections 4, 5, and 6 set out the syncretic patterns in the present indicative, past intransitive, and other TAM categories, respectively; Section 7 summarizes the syncretic patterns in the verbal person/number paradigm of Iranic languages and accounts for generalizations in the syncretic patterns. In Section 8.1, we discuss the diachronic effects of sound change, analogy, and sociolinguistic factors that have created systematic syncretism patterns through Western Iranic. Finally, in Section 9, we place this study within the broader context of the typological study of verbal person-number syncretism.

2 Syncretism: Theoretical preliminaries

To set the stage for our study of syncretism in the Western Iranic world, we must define some of the core principles. Here, we use Baerman et al.'s (2005) definition of *syncretism*:

– There is, in certain contexts, a loss of distinctions between some but not all values of a particular feature F. This loss may depend on the presence of a particular combination of values of one or more other features (the context).
– Other syntactic objects distinguish those values of feature F, and they are, therefore, syntactically relevant.

It has been suggested by Meiser (1992) and Luraghi (2000) that there should be a distinction between *homophony*, the merger of two forms for purely phonological reasons, and *syncretism*, the identity of two forms in a syntactic paradigm for systemic reasons. We have chosen to use these terms interchangeably, as we consider the difference to be essentially diachronic. This terminological distinction is not relevant to the synchronic aspects of this study, that is, the typology of syncretism patterns in Western Iranic languages. As for the description of syncretism/homophony patterns, we employ Cysouw's (2003) terminology to describe the shape of the syncretism and Baerman et al.'s (2005) terminology to describe the systemic effects of said syncretism.

Baerman et al. (2005) describe two systemic effects of syncretism, neutralization and uninflectedness. These should be understood as the impact of syncretism on a language. In other words, if there is syncretism, it will result in one of these two states:

(i) *Neutralization*:
  – In the presence of a particular combination of values of one or more other features (the context), there is a general loss of all values of a particular feature F found elsewhere in the language.
  – No syntactic objects distinguish any values of feature F in the given context, and feature F is, therefore, syntactically irrelevant in that context.

(ii) *Uninflectedness*:
  – There is, in certain lexemes only, a loss of all values of a particular feature F found elsewhere in the language. This loss may depend on the presence of a particular combination of values of one or more other features (the context).
  – Other syntactic objects distinguish values of feature F, either generally or in the given context, and feature F is therefore syntactically relevant.

In Cysouw's (2003) study, there are four major homophony patterns found within person-number paradigms:

(i) *Singular homophony* is characterized by the neutralization or partial neutralization of person marking in the singular. An example is 2SG/3SG homophony in the bound person indices of Dutch (1SG: -∅; 2SG: -t, 3SG: -t).

(ii) *Vertical homophony* refers to the partial or complete neutralization of the person in the plural number. In the Dutch paradigm of bound person indices, the plural inflection *-en* is used for all three persons. In other words, this formative only expresses the number, whereas independent pronouns express the person.

(iii) *Horizontal homophony* concerns the neutralization of opposition between singular and plural categories, exemplified by the homophony in the English second person independent pronoun, which is *you* in both the singular and plural.

(iv) *Diagonal homophony* relates to the neutralization of opposition between, for example 1SG and 3PL. As noted by Siewierska (2004: 97), this pattern is "very rare" crosslinguistically.

Note that Cysouw's (2003) terminology is somewhat problematic. Singular homophony is also vertical when conceptualizing the paradigm as a table. It may be more explicit to refer to singular homophony as "singular (vertical) homophony," and vertical homophony as "plural vertical homophony." We acknowledge this fact here and reject Cysouw's (2003) terminology in favor of *singular* (*vertical*) vs. *plural* (*vertical*), throughout.

According to Baerman et al. (2005), syncretic blocks can be simple, nested, or contrary:

– *Simple syncretism*: A single syncretic block containing two or more cells where different values for a feature are merged.
– *Nested syncretism*: Two syncretic blocks where the merged features of one block represent a subset of the merged features of the other.
– *Contrary syncretism*: Two syncretic blocks where there is no implication between the syncretic patterns.

In our typology, we split nested syncretism further into two subtypes: *partial nested syncretism*, where some but not all values for a feature have been merged and *full nested syncretism*, where the categories neutralized in one block are the same as in another. We will exemplify these kinds of syncretisms in the following sections.

In this article, we discuss the concept of markedness in line with Baerman et al. (2005) and others. However, there are two ways the term is employed in linguistics. It is important that we distinguish between the two.

– *Semantic markedness*: a value crosslinguistically considered to be the non-default in the juxtaposition of two values of a given category.
– *Morphological markedness*: a category signified by overt morphology.

To increase clarity, we specify the type of markedness throughout the article.

3 Overview of the syncretic patterns found in the surveyed languages

This article studies the syncretism in verb agreement person/number suffixes in Western Iranic languages. The bound person indices used in verb agreement are cognate across Western Iranic languages, from several etymological sources. Variations in their paradigmatic structure can offer insight into mechanisms of change in the person paradigm and directions of change between paradigms. Apart from Persian, historical states for most of these languages are unattested. The lack of recorded history makes the diachronic aspects of paradigmatic realignment a matter of principled reconstruction. The method taken here is comparative and typological. We establish interrelations between cognate paradigms and innovations in certain language groups, such as Kurdish, as far as possible by considering factors such as sound change, language contact, and analogy. The main focus here is systematic syncretism in inflectional person morphology. There are cases where the phonological structure of a root results in uninflectedness. These cases may lead to widespread systematic syncretism, that is, neutralization. We address uninflectedness in Section 8.1 on diachrony. Syncretism in verbal person/number marking has not been studied previously in Iranic languages. In Baerman and Brown's (2013) typological overview of syncretism in verbal person/number marking, only Persian within Iranic languages has been mentioned as having no syncretic pattern.

The data for studying person syncretism within Western Iranic languages were generally gathered from the following types of sources: descriptive grammars, article-length descriptions of individual languages, dissertations, and similar sources. The data for some of the languages within the Kurdish group (including the Goranî varieties) come from a questionnaire[2] developed at the University of Cambridge within the ALHOME project[3] for studying phonological, morphosyntactic and lexical variation within the dialects of Kurdish (and Goranî).[4]

2 The questionnaire was developed by Geoffrey Haig and Masoud Mohammadirad in 2022.

3 https://www.ames.cam.ac.uk/research/project/echoes-vanishing-voices-mountains-linguistic-history-minorities-near-east.

4 All the data for this study comes from these sources: Khan et al. (2025); Amān Allāhī Bahārvand and Thackston (1986); Angali (2004); Anonby and Asadi (2014); Atlamaz (2012); Authier (2012); Blau (1975); Borjian (2022); Christensen (1915); Elfenbein (1980); Fattah (2000); Jafarzadeh (2017); Kalbassi (1997); Khan and Mohammadirad (2024); Lazard (1992); Lecoq (2002); MacKenzie (1956, 1962); Mackinnon (2002); Mahmoudveysi and Bailey (2013); Matras and Osman (2024); Mohammadirad (2020, forthcoming); Nourzaei et al. (2015); Öpengin (2016); Paul (1998, 2011); Razaqi (2021); Salami (2004, 2007, 2009, 2014, 2021); Schulze (2000); Skjærvø (1988); Stilo (2001, 2003, 2004, 2007a,b, 2021); Suleymanov (2020); van der Wal Anonby (2015);

We have explored the person-number paradigms of 174 languages, varieties, and "dialects" from 19 different groups (see Fig. 1). From these, we have extracted 423 representative verbal paradigms. They come primarily from the present indicative (182) and past intransitive (186), which show the general patterns observed across the system. Additionally, we have added selected paradigms from the present subjunctive (22), past imperfective (1), and past perfect (32) to illustrate the ways TAM categories can condition syncretism.[5]

Table 1 exhibits the diversity of syncretic types across all 423 paradigms. Different shades represent different syncretic patterns between the cells in the paradigm. For instance, Type XV features 2SG/3SG syncretism on the one hand, which is colored in dark gray, and 2PL/3PL syncretism on the other, colored in light gray. The table merely exposits the number of attested syncretic patterns in New Western Iranic languages, and so some of these syncretic types may be absent in one TAM or gender category. The most common type, Type 0, which contains no syncretic blocks, has been omitted from the table as our focus is on syncretism. Of the paradigms, 186 (that is, 44%) feature Type 0; the percentages in Table 1 are calculated based on the remaining 237 paradigms. We sample multiple paradigms from every variety. Therefore, each variety can have multiple types; for example, Southern Kurdish (SK) from Qurwe has Type IV in the present indicative and past intransitive, but Type V in the past perfect.

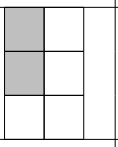
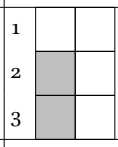
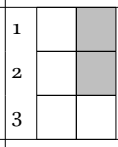
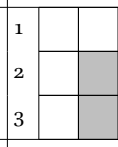
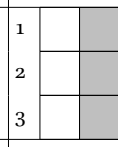
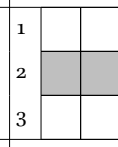
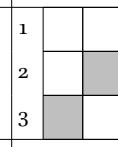
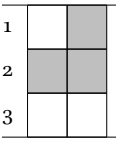
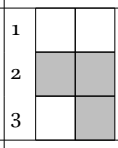
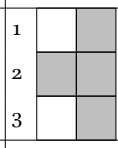
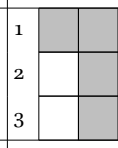
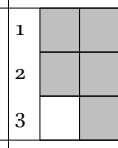
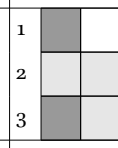
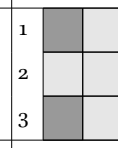
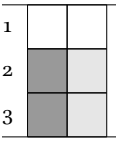
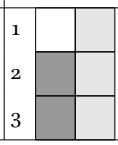
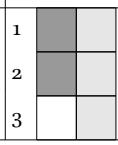
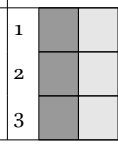
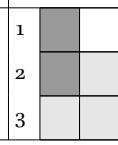
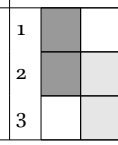
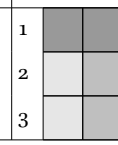
Drawing on a large dataset of syncretic patterns in a family of related languages, we aim to answer the following questions in the paper, which are of interest to typological and theoretical studies on syncretism:

1. What are the most frequent syncretic patterns within Western Iranic?
2. What is the effect of tense on verbal person-number syncretism across Western Iranic?
3. What is the effect of number (singular and plural) on the diversity of syncretic patterns in the dataset?

Windfuhr (1984, 1999); Yarshater (1959, 1964, 1969); Yoshie (1996). See Table 52 in the appendix for the complete list of paradigms and the sources from which they come.

5 We have selected these paradigms based on several factors. We have chosen the additional paradigms based on whether or not they have a different syncretic pattern than that of the present indicative or past intransitive. For instance, only Western Gilaki has a past imperfective form built on the past tense plus the suffix *-i*, causing additional neutralization in the paradigm. Additionally, the selection of the latter paradigms is biased by the availability of data in the relevant sources. All of the sources used in this study have complete paradigms for the present indicative and past intransitive but not always for all TAM categories.

TABLE 1 Overview of syncretism patterns in the surveyed languages

Type I (6%)	Type II (3%)	Type III (1%)	Type IV (46%)	Type V (13%)	Type VI (2%)	Type VII (<1%)
						
Type VIII (1%)	**Type IX (2%)**	**Type X (7%)**	**Type XI (<1%)**	**Type XII (<1%)**	**Type XIII (<1%)**	**Type XIV (<1%)**
						
Type XV (5%)	**Type XVI (5%)**	**Type XVII (3%)**	**Type XVIII (3%)**	**Type XIX (<1%)**	**Type XX (<1%)**	**Type XXI (<1%)**
						

4. Which directional effects are there in the developments of the syncretic patterns? That is, when syncretism occurs, which formative gets extended to the rest of the paradigm?
5. What are the major diachronic themes that lead to the development of syncretism in Iranic (e.g., sound change and morphological analogy)?

Question (1) is concerned with the frequency of homophony patterns. This is interesting in two respects: first, what syncretic patterns are the most frequent in a family of related languages; second, what space do(es) the syncretic pattern(s) occupy in the paradigms? According to Cysouw (2003), crosslinguistically, syncretic patterns tend to occupy adjacent cells in the paradigm. Question (2) seeks to understand which TAM category features the most syncretism within Western Iranic. Question (3) links the syncretism to number. Plural is often considered to be the more morphologically marked category. The typological literature suggests that syncretism is more common in the plural than in the singular (Baerman et al., 2005: 59). Question (4) concerns which person is used to remodel the syncretic paradigms, for example in 1PL/2PL/3PL homophony. Given the default status of the third person as the semantically

unmarked value for person (Bybee, 1985), we would expect an extension of the third person to the other persons for homophony patterns involving third persons. Question (5) tries to answer how sound change and analogy interact in shaping the syncretic paradigms of Western Iranic languages. The most pervasive theme within this synchronic investigation is how semantic and morphological markedness correlate with syncretism.

Note that we use the transliteration script of the text from which examples were sourced, except in cases where the native orthography is Latin-based and the source author has chosen to transcribe the text differently. For these languages, we have returned the transcription to the native orthography out of respect for the speech communities.[6]

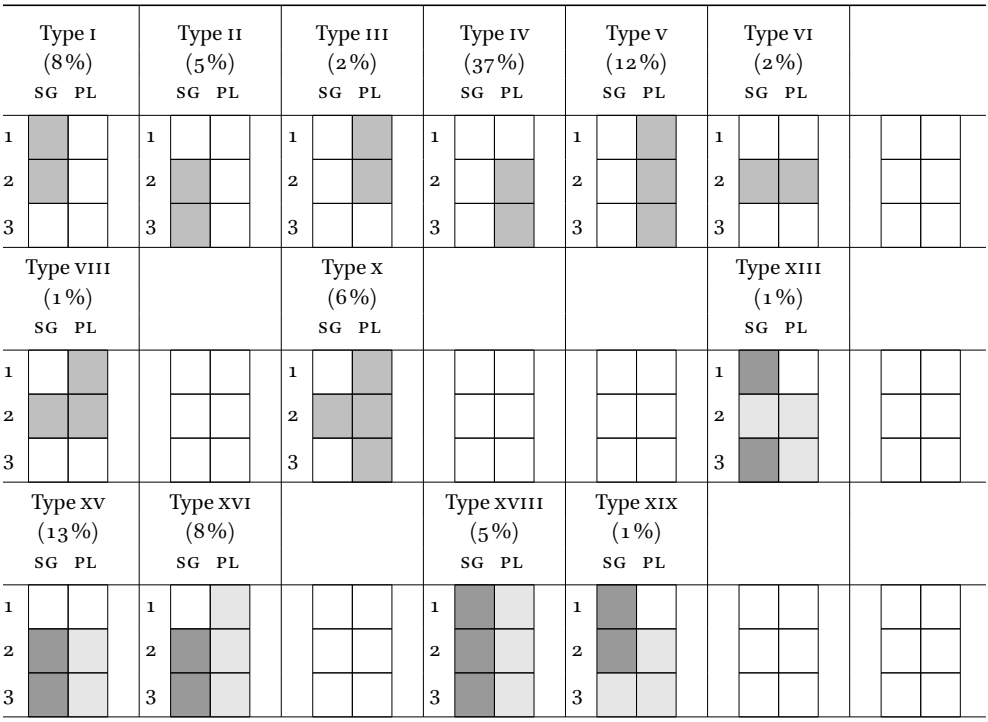
The appendix (Table 52) provides all the data collected for this project. The forms have been gathered from various sources, some of them difficult to access. This appendix will likely be a resource for scholars working on similar questions. Additionally, the maps in Figs. 1, 2, 3, and 4 visualize the distribution and spread of these syncretism patterns as well as the relationship between syncretism patterns and languages subgrouping, drawing special attention to areas with phenomena that warrant further study or are of deeper potential interest to linguists.

4 Syncretic patterns in the present indicative

In this section, we highlight the syncretism patterns of the present indicative. We have examined 182 paradigms and have identified 13 out of the 21 syncretic types; see Table 2, where percentages have been calculated out of 101 syncretic paradigms, that is, without considering non-syncretic patterns. Note that blank boxes correspond to syncretism patterns not found in the context of the present indicative. The 2PL/3PL homophony (Type IV) is the most frequent syncretic pattern in the present indicative (37 paradigms), followed by Type XV featuring syncretism in the 2SG/3SG and 2PL/3PL (13 paradigms).

6 The IPA correspondences for characters that do not match the IPA are as follows. In Northern, Central, and Southern Kurdish, Goranî, and Zazaki—vowels: a [a], e [ɛ], ê [eː], i [ɪ], î [iː], o [oː], u [ʊ], û [uː], ü [yː]; consonants: c [dʒ], ç [tʃ], j [ʒ], ş [ʃ], y [j]. The Orientalist transliteration script used for the other languages differs from the above by these characters: i, ī [iː]; ı [ɪ]; e, ē [eː]; a [æ]; o, ô, ō [oː]; u, ū, û [uː]; ā, â [aː]; ŝ [ʃ]; j, ĵ [dʒ]; ž [ʒ]; x, kh [x]. Note that the Orientalist transliteration script is not perfectly uniform. Although vowels in all varieties are either long or short, the length distinction is not phonemic. In the Kurdish script, the diacritics correspond to vowel quality alone. In contrast, the Orientalist transliteration script uses diacritics to distinguish where length was likely phonemic in the protolanguage.

TABLE 2 Summary of syncretism patterns in the present indicative



The syncretic person-number paradigms attested in the present indicative can be divided into ones featuring one syncretic block—Baerman et al.'s (2005) simple syncretism (e.g., only 1SG/2SG homophony)—and those featuring multiple syncretic blocks (e.g., syncretism in 2SG/3SG on the one hand, and 1PL/2PL/3PL on the other). Paradigms with one syncretic block concern Types I, II, III, IV, V, VI, VIII, and X, while Types XIII, XV, XVI, XVIII, and XIX feature multiple syncretic blocks. Types XIII and XIX are Baerman et al.'s (2005) contrary syncretism and Types XV, XVI, XVIII feature nested syncretism. Note that nested syncretism is much more common (26 or 26% of all paradigms in the present indicative) than contrary syncretism (2 or 2%).

In the rest of this section, we enumerate each type, highlighting which languages feature these syncretic patterns.

4.1 *Present indicative paradigms with no syncretism*

The most widespread pattern across person-number paradigms in the present indicative is the pattern of no homophony. The category of person is fully expressed in these languages. Of the 182 paradigms surveyed here (see Table

TABLE 3 No syncretism in the present indicative: sample paradigms

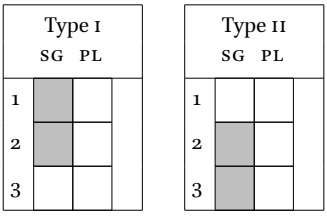
	H. Tekht	SK Kir.	Aleshtar	Badrudi	Angali	Dashti	Chali	Vidar	E. Gilaki	Sari
1SG	*-û*	*-im*	*-im*	*-un/-on*	*-om*	*-em/-om*	*-öm*	*-um(e)*	*-əm*	*-em*
2SG	*-î*	*-îd*	*-î*	*-e*	*-ī*	*-i*	*-i*	*-i*	*-i*	*-i*
3SG	*-o*	*-id*	*-ê*	*-a*	*-e*	*-et*	*-e*	*-e*	*-ı*	*-e*
1PL	*-mê*	*-îmin*	*-îm(o)*	*-im*	*-īm*	*-im*	*-ōm*	*-an(e)*	*-im*	*-im*
2PL	*-dê*	*-în*	*-în(o)*	*-id/-i*	*-īn*	*-id*	*-ā*	*-ia*	*-in*	*-in*
3PL	*-a*	*-in*	*-in*	*-en*	*-en*	*-an*	*-end*	*-en*	*-ən*	*-en*

52), 81 (45%) of them have no syncretism in the present indicative. This pattern is attested in dialects of Persian, Luri-type languages, Şirvan Tat, core Goranî varieties, Mazandarani, and a good many of the Southern Kurdish, Central Plateau, and Fars dialects; for a summary of these patterns, their type frequency, and geographic distribution, see Section 7. A representative sample is presented in Table 3.

4.2 *Present indicative paradigms with one syncretic block*

As mentioned, the person-number paradigms with one syncretic block belong to Types I, II, III, IV, V, VI, VIII, and X (see Table 2). Out of 101 syncretic paradigms, 73 (72%) feature one syncretic block. Examples of these types are as follows.

4.2.1 Singular vertical homophony only



Homophony only in the singular is attested in 13 paradigms, of which eight paradigms exhibit 1SG/2SG homophony, and five paradigms exhibit 2SG/3SG homophony.

1SG/2SG homophony is attested in eight varieties, including in the Goranî varieties of Qeła, Zarda, and Bacelanî; the Central Plateau (CP) varieties Naeini, and Anaraki; the Fars province dialects Davani and Sivandi; and the Sangsari

TABLE 4 Type I: 1SG/2SG homophony in the present indicative

	G. Zarda	Naeini	Davani	Sangsari
1SG	*-î*	*-i*	*-e*	*-i*
2SG	*-î*	*-i*	*-e*	*-i*
3SG	*-o*	*-e*	*-et*	*-ä*
1PL	*-mê*	*-em*	*-u*	*-un*
2PL	*-dê*	*-it*	*-i*	*-in*
3PL	*-an*	*-en*	*-en*	*-an*

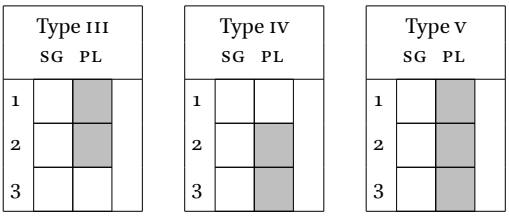
TABLE 5 Type II: 2SG/3SG homophony in the present indicative

	Abyanei	Qohrudi	Johuri Tat
1SG	*-ān*	*-ūn*	*-üm*
2SG	*-e*	*-e*	*-i*
3SG	*-e*	*-e*	*-i*
1PL	*-iman*	*-ēme*	*-im*
2PL	*-iya*	*-ēge*	*-it*
3PL	*-anda*	*-ande*	*-üt*

variety in the Semnan group. For example, the paradigms of Goranî Zarda, Naeini, Davani, and Sangsari are illustrated in Table 4.

2SG/3SG homophony (see Table 5) is attested in five paradigms. The varieties having this homophony pattern include Johuri Tat and the Central Plateau varieties Vidouji (Razaqi, 2021), Qohrudi, Abuzeydabadi, and Abyanei. In all these varieties, the homophony is limited to the present tense.

4.2.2 Plural homophony only



Fifty-one of the paradigms studied here exhibit homophony only in the plural. The relevant homophony patterns are Type III 1PL/2PL homophony (2 paradigms), Type IV 2PL/3PL homophony (37 paradigms), and Type V 1PL/2PL/3PL homophony (12 paradigms).

The 1PL/2PL homophony is only attested in the Semnan group; for example, in Semnani and Dehnamaki. Here, the value plural triggers the syncretism between first and second person. Note that the spread of the *n* component representing plural is common in both the nominal and verbal systems of Iranic languages; see Section 8.1.

Simple (i.e., with a single syncretic block) 2PL/3PL homophony is attested in 12 paradigms, including in the northern varieties of Southern Kurdish, southern and central varieties of Central Kurdish, and southern varieties of Northern Kurdish, spoken in northeast Iraq and neighboring areas in southeastern Turkey. Notably, the Northern Kurdish varieties spoken far from the core Northern Kurdish speech zone close to the Caspian Sea and in Khorasan (northeast Iran) have a 2PL/3PL homophony. 2PL/3PL homophony is also attested in the Alevi variety of Zazaki (Z) and in Western Gilaki. Representative paradigms are represented in Table 7. See Section 8.1 for an account of how this pattern was extended from a particular conjugation class.

Simple 1PL/2PL/3PL homophony is the next vertical pattern. Here, person marking is restricted to the singular. In the context of plural, there is a complete neutralization of the feature person. The formative in the plural set only expresses number; the category of person is encoded only by the independent pronouns. This pattern is attested in most Northern Kurdish varieties, including Northern Kurdish dialects located in the center and north of the Northern Kurdish speech zone and the dialects in Armenia, Azerbaijan, and Iraq close to the Syrian border (e.g., Northern Kurdish Sinjar). Table 8 illustrates a sample of paradigms exhibiting 1PL/2PL/3PL homophony. The homophony pattern attested here may be called unified plural vertical homophony.

TABLE 6 Type III: 1PL/2PL homophony in the present indicative

	Semnani	Dehnamaki
1SG	*-un*	*-ān/-on*
2SG	*-œy*	*-∅*
3SG	*-œ*	*-ə/-u*
1PL	*-in*	*-in*
2PL	*-in*	*-in*
3PL	*-än*	*-ən*

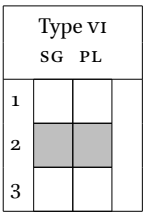
TABLE 7 Type IV: 2PL/3PL homophony in the present indicative

	NK Akre	NK Deregez	CK Suleymanî	SK Malikshay	Z Alevi (M)	W Gilaki
1SG	*-im*	*-im*	*-im*	*-im*	*-∅*	*-əm*
2SG	*-î*	*-î*	*-î(t)*	*-y(t)*	*-a*	*-i*
3SG	*-ît*	*-e*	*-ê(t)*	*-ê(ǧ)*	*-o*	*-ə*
1PL	*-în*	*-inî*	*-în*	*-îmin*	*-me*	*-im(i)*
2PL	*-in*	*-in*	*-in*	*-in*	*-ê*	*-id(i)*
3PL	*-in*	*-in*	*-in*	*-in*	*-ê*	*-id(i)*

TABLE 8 Type V: 1PL/2PL/3PL homophony in the present indicative

	NK Serhed	NK Simêł	NK Kobanî
1SG	*-im*	*-im*	*-me*
2SG	*-î*	*-î*	*-î*
3SG	*-e*	*-êt*	*-e*
1PL	*-in*	*-in*	*-ne*
2PL	*-in*	*-in*	*-ne*
3PL	*-in*	*-in*	*-ne*

4.2.3 Horizontal homophony



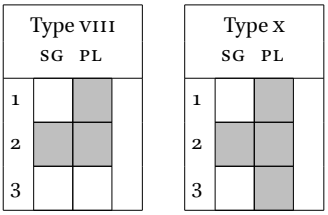
In horizontal homophony, the opposition is neutralized between singular and plural categories. In the Western Iranic languages, simple[7] horizontal syncretism occurs only in the second person, which is attested in two varieties: Bandari and Minabi (grouped in this study under Fars dialects). See Section 8.1 for a discussion of the diachronic factors conditioning this development.

TABLE 9 Type VI: 2SG/2PL syncretism in the present indicative

	Bandari	**Minabi**
1SG	*-om*	*-m*
2SG	*-i*	*-i*
3SG	*-et*	*-e*
1PL	*-ing*	*-im*
2PL	*-i*	*-i*
3PL	*-en*	*-en*

7 Note that there is also an example of 1SG/1PL homophony in our dataset (see Section 6.3), but it only occurs in a language with a complex syncretism, that is, one with multiple syncretic blocks. Additionally, 2SG/2PL syncretism also occurs as a member of larger syncretic blocks; for example, Zazaki has Type X syncretism, with neutralization of 2SG/1PL/2PL/3PL.

4.2.4 Combined horizontal and plural vertical homophony



Some paradigms exhibit a syncretic pattern where one or more singular person indices merge with one or more plural person indices. These patterns are combined horizontal and plural vertical patterns. They concern Types VIII and X in our classification. Six paradigms feature Type X, and one paradigm Type VIII.

Type VIII occurs in the Silopî dialect of Northern Kurdish. Here, there is a syncretism between 2SG and 1PL/2PL. The homophony pattern in this variety of Northern Kurdish radically differs from most other Northern Kurdish varieties, which have either Type V (1PL/2PL/3PL) or Type IV (2PL/3PL) homophony. Not enough is known about this variety to identify definitively the motivations for this development.

TABLE 10 Type VIII: 2SG/2PL/1PL homophony in the present indicative

	NK Silopî	
	SG	PL
1	*-im*	*-î*
2	*-î*	*-î*
3	*-i*	*-in*

Type X features syncretism between 2SG and the plural. This is particular to the masculine indicative paradigms in some Zazaki varieties. Unlike most other Iranic languages, verbs derived from the present stem in Zazaki are inflected for gender in 2SG and 3SG. This is the case because of the nominal origin of the present tense conjugation. The present stem of the verb in Zazaki and some Caspian languages is derived from the Old Iranic active participle, ending in *-ant (Windfuhr, 2009). In other words, the indicative can be understood as the combination of the direct nominal paradigm and the inherited verbal endings. Sample paradigms from Zazaki varieties are listed in Table 11.

TABLE 11 Type X: Combined horizontal and plural vertical one block syncretism (data from Zazaki varieties)

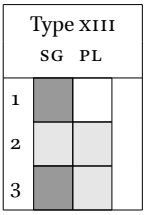
	Piran M.IND	**Eğil, Siverek** M.IND	**Miyaro** M.IND
1SG	*-a*	*-a*	*-∅*
2SG	*-î*	*-ê*	*-î*
3SG	*-o*	*-o*	*-o*
1PL	*-î*	*-ê*	*-î*
2PL	*-î*	*-ê*	*-î*
3PL	*-î*	*-ê*	*-î*

4.3 *Present indicative paradigms with multiple homophonous groups*

The present indicative person-number paradigms with multiple syncretic blocks are XIII, XV, XVI, XVIII, and XIX. Out of 103 syncretic paradigms, 29 (28.16%) feature multiple syncretic blocks. In what follows, we give a brief overview of each type.

The paradigms with multiple syncretic groups can be conceptualized as combinations of the vertical (singular and plural) and horizontal homophonies. In the case of Types VIII and X illustrated in Section 4.2.4, plural vertical and horizontal homophony combined forming simple blocks with multiple neutralized categories. In this section, the different types do not converge but rather form separate blocks. These blocks may be nested or contrary in the terminology of Baerman et al. (2005), as illustrated below.

4.3.1 Type XIII



The first type with multiple syncretic blocks is found in Zazaki, limited in the present indicative to the Şeyxan variety. It consists of the Type IX pattern, featuring 2SG/2PL/3PL homophony; but additionally, the first and third person

TABLE 12 Type XIII: M.PRS.IND

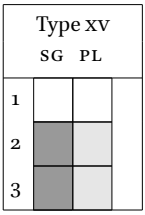
	Z Şeyxan	
	SG	PL
1	*-o*	*-mi*
2	*-ê*	*-ê*
3	*-o*[a]	*-ê*

a Note that the 1SG/3SG syncretism here does not constitute separate blocks. Rather, it is a form of singular vertical homophony that looks separate due to the (arbitrary) ordering of persons: 1, 2, 3 not 3, 1, 2.

PAUL, 1998: 178

singular have merged into a second block. This is an example of what Baerman et al. (2005) have termed contrary syncretism as neither block can be understood as a subset of the other.

4.3.2 Type XV

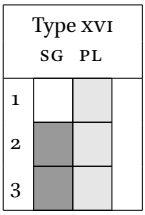


This syncretic pattern is found in 13 paradigms, including in the Central Kurdish varieties of the Erbil region and its neighboring Northern Kurdish varieties, in the feminine indicative of certain Zazaki varieties, and in the Caspian variety Kelardasht. It consists of the Type II 2SG/3SG homophony and the Type IV 2PL/3PL homophony. This is full nested syncretism, where the categories neutralized in the context of plural are identical to those in the singular.

TABLE 13 Type XV: 2SG/3SG and 2PL/3PL homophony in the present indicative

	Z. Alevi (F)	**CK Ranye**	**NK Mergasur**	**Kelardasht**
1SG	*-∅*	*-im*	*-im*	*-me*
2SG	*-a*	*-î*	*-î*	*-e*
3SG	*-a*	*-î*	*-î*	*-e*
1PL	*-me*	*-în*	*-în*	*-mi*
2PL	*-ê*	*-in*	*-in*	*-ne*
3PL	*-ê*	*-in*	*-in*	*-ne*

4.3.3 Type XVI

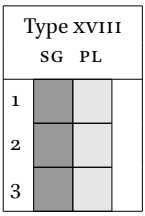


This syncretic type is found in eight paradigms, including in the Northern Kurdish varieties Efrînî, Mardin, Ẍerbî, Midyat, Aşîtî, and Semsur. This pattern is also found in the feminine indicative of the neighboring Zazaki varieties of Miyaro and Palu-Bingöl. It consists of Type V full plural vertical homophony in the plural, combined with the Type II 2SG/3SG homophony. This is a partial nested syncretism, where the categories neutralized in the singular are a subset of those neutralized in the plural.

TABLE 14 Type XVI: 2SG/3SG and 1PL/2PL/3PL homophony in the present indicative

	NK Aşîtî	**NK Midyat**	**Z. Palu-Bingöl**	**Z. Miyaro**
1SG	*-im*	*-im*	*-∅*	*-o*
2SG	*-e*	*-e*	*-a*	*-a*
3SG	*-e*	*-e*	*-a*	*-a*
1PL	*-in*	*-in*	*-î*	*-î*
2PL	*-in*	*-in*	*-î*	*-î*
3PL	*-in*	*-in*	*-î*	*-î*

4.3.4 Type XVIII

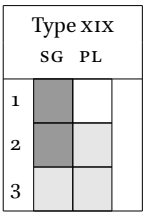


Full vertical syncretism in both the singular and plural can be observed in five paradigms including in the Koçerî variety of Northern Kurdish and the feminine indicative of four Zazaki varieties. This system exhibits only number distinction on verbs, leaving them completely unspecified for person, and is full nested syncretism.

TABLE 15 Type XVIII: 1SG/2SG/3SG and 1PL/2PL/3PL homophony in the present indicative

	Z. Siverek (F)	**Z. Pîran (F)**	**NK Koçerî**
1SG	*-a*	*-a*	*-e*
2SG	*-a*	*-a*	*-e*
3SG	*-a*	*-a*	*-e*
1PL	*-ê*	*-î*	*-(i)n*
2PL	*-ê*	*-î*	*-(i)n*
3PL	*-ê*	*-î*	*-(i)n*

4.3.5 Type XIX



Type XIX is limited to Dehle from the Fars group. It consists of the Type I 1SG/2SG homophony and another block consisting of 3SG and 2PL/3PL. This latter block is not attested anywhere else in the Western Iranic languages. Very

TABLE 16 Type XIX: 1SG/2SG and 3SG/2PL/3PL homophony in the present indicative

	Dehle	
	SG	PL
1	*-a*	*-u*
2	*-a*	*-i*
3	*-i*	*-i*

little can be said about the convergence between the first and second person singular forms, although it is likely that these forms are related to the historical subjunctive. This is a contrary syncretism: the two groups do not neutralize the same categories.

4.4 *Summary of syncretic patterns in the present indicative*

In this section, we have given an overview of the syncretic patterns in the present indicative. Overall, 13 patterns were found. Figure 2 highlights the distribution of these patterns per language variety and dialect group. There are some salient areal patterns in the distribution of homophony patterns in Fig. 2. Type III (1PL/2PL homophony) only occurs in the Semnan group. Type IV (2PL/3PL homophony) is particularly concentrated in the Kurdish zone, with a limited spread to Zazaki. It is shared by the southernmost varieties of Northern Kurdish, central and southern varieties of Central Kurdish, and half of the varieties in the Southern Kurdish group (see Table 17 for the distributions per dialect group). The northernmost varieties of Central Kurdish add 2SG/3SG homophony to this pattern, resulting in Type XV. Type V (1PL/2PL/3PL homophony) is particular to the northern and central varieties of Northern Kurdish. Goranî varieties are split between Types O and I, with the latter being widespread in the peripheral varieties. Types XVI (2SG/3SG and 1PL/2PL/3PL homophony) and XVIII (1SG/2SG/3SG and 1PL/2PL/3PL homophony) are concentrated in Zazaki and Western varieties of Kurmanji, making them candidates for areal convergence. Type VI (2SG/2PL) only occurs in the southernmost varieties in the Fars group, namely, Bandari and Minabi. Type X (2SG/1PL/2PL/3PL) occurs solely in the masculine indicative paradigm of some Zazaki varieties.

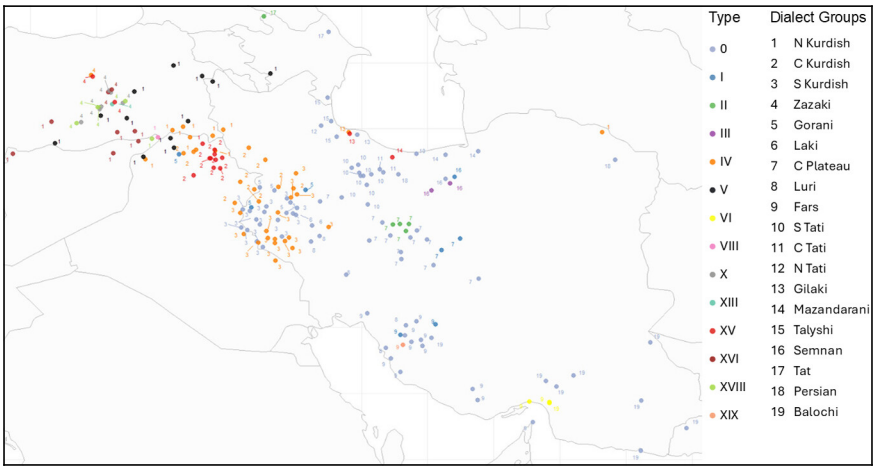


FIGURE 2 Distribution of syncretic patterns in the present indicative

TABLE 17 Trends in the present indicative

	Language	0	I	II	III	IV	V	VI	VIII	X	XIII	XV	XVI	XVIII	XIX
1	N Kurdish					30%	40%		3%			3%	20%	3%	
2	C Kurdish					53%						47%			
3	S Kurdish	50%				50%									
4	Zazaki					6%				38%	6%	12%	12%	25%	
5	Goranî	50%	50%												
6	Laki	100%													
7	C Plateau	65%	12%	24%											
8	Luri	100%													
9	Fars	69%	12%					12%							6%
10	S Tati	100%													
11	C Tati	100%													
12	N Tati	100%													
13	Gilaki	50%				50%									
14	Mazani	67%										33%			
15	Talyshi	100%													
16	Semnan	25%	25%		50%										
17	Tat	50%		50%											
18	Persian	100%													
19	Balochi	100%													

5 Syncretic patterns in past intransitive

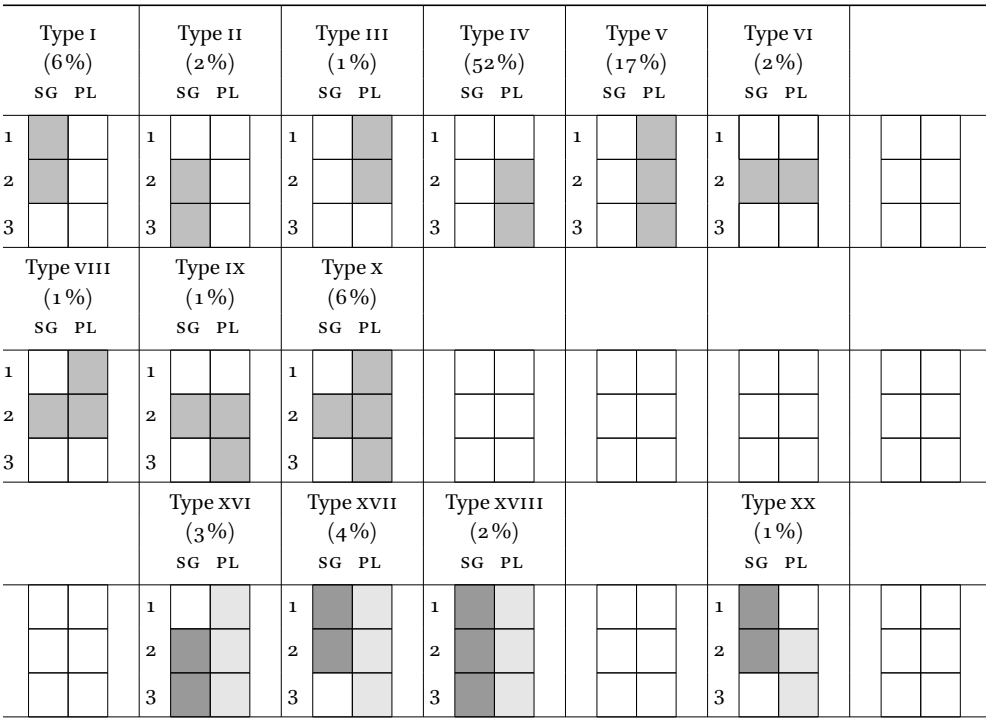
This section highlights the syncretism patterns in the past intransitive. Historically, there were shifts in the verbal morphology, and the finite past tense verb stems were lost in all varieties sampled here; the participle became the sole way to express the past tense. The participle was a nominal form that expressed perfective aspect, and the copula added person-number indexation. Most Iranic languages feature similar paradigms in the past and present tenses, except in the third person singular, effectively morphologizing the null copula. Many of the differences between the past and present paradigms stem from this null form. For instance, the 2SG/3SG homophony in the present tense may fail to reach the past intransitive, as the third person singular is a zero suffix in the latter (see below; nevertheless, in some varieties 2SG/3SG occurs due to analogy with the 2PL/3PL homophony in the present tense or as a result of convergence). In terms of agreement, past tense verbs index S and O, while A agreement is marked (morphologically) by historically oblique pronominal clitics.[8] We have focused on intransitive verbs here to eliminate the effect of (ergative) alignment on the verbal paradigms (for notes on alignment in Iranic, see Haig, 2008).

Overall, 186 paradigms were investigated for past intransitive, 94 of which show syncretic paradigms. There are 13 syncretic types in the past intransitive out of the 21 attested ones (see Table 18; note that blank boxes correspond to syncretism patterns not found in the context of the past intransitive). Like the present indicative, 2PL/3PL homophony (Type IV) is the most frequent syncretic pattern in the past intransitive (49 paradigms), though the number of paradigms with Type IV is higher in the latter. The next most frequent pattern is Type V, featuring plural vertical homophony (16 paradigms).

Paradigms with one syncretic block concern Types I, II, III, IV, V, VI, VIII, IX, and X, and paradigms with multiple syncretic blocks are XVI, XVII, XVIII, and XX. Within the latter, Type XX is "contrary," and Types XVI, XVII, and XVIII are nested.

8 This split-ergative system has been lost in Persian, Luri, Mazandarani, and Gilaki (among others), but reflexes of it are still operative in Iranic languages.

TABLE 18 Summary of syncretism patterns in the past intransitive



5.1 *Past intransitive paradigms with no syncretism*

Like in the present indicative, the most widespread pattern across person-number paradigms in the past intransitive is the pattern with no homophony. Of the 184 paradigms surveyed here, 92 (or 49%) of the paradigms have no syncretism in the present indicative; see Table 19 for sample paradigms.

TABLE 19 No syncretism in the past intransitive

	Chali	**Vidari**	**Khalkhal**	**E Gilaki**	**Ziarat**	**Asalem**	**Aftari**
1SG	*-im*	*-um*	*-(ə)m*	*-əm*	*-em*	*-im*	*-ī*
2SG	*-iş*	*-i*	*-i*	*-i*	*-i*	*-iš*	*-a*
3SG	*-∅*	*-∅*	*-∅*	*-∅*	*-e*	*-∅*	*-∅*
1PL	*-imōn*	*-iān*	*-am*	*-im*	*-im*	*-imun*	*-īm*
2PL	*-iōn*	*-iā*	*-a*	*-in*	*-in*	*-irun*	*-īn*
3PL	*-end*	*-ien*	*-inde*	*-ən*	*-en*	*-in*	*-en*

5.2 *Past intransitive paradigms with one syncretic block*

As mentioned, the past intransitive paradigms with one syncretic block belong to Types I, II, III, IV, V, VI, VIII, IX, and X. Out of 92 syncretic paradigms, 84 feature one syncretic block, yielding 89% of the syncretic patterns. Examples of each of these types are as follows.

5.2.1 Singular vertical homophony only

Homophony only in the singular is attested in eight paradigms, of which six paradigms exhibit Type I 1SG/2SG homophony and two paradigms exhibit Type II 2SG/3SG homophony. In both patterns, there is less syncretism than in the present indicative, where there are eight paradigms featuring 1SG/2SG homophony and five paradigms featuring 2SG/3SG homophony. The reason, as discussed, lies in the different source construction for the formation of past intransitive constructions (see Sections 5.3.3 and 5.4).

The 1SG/2SG homophony is attested in Fars (Davani and Sivandi), Semnani (Sangsari), Central Plateau (Naeini and Anaraki), and Goranî (Qeła). In the past intransitive, the Goranî varieties of Zarda and Bacelanî do not feature the 1SG/2SG syncretism that they have in the present tense since the historical copula paradigm in the past intransitive has a different inflection than the present tense. The 1SG/2SG homophony is illustrated in Table 20; the Zarda forms are provided for comparison.

TABLE 20 Type I: 1SG/2SG homophony in the past intransitive

	Anaraki	**Naeini**	**Davani**	**G. Zarda**	
				PRS	**PST**
1SG	*-i*	*-i*	*-e*	*-î*	*-anê*
2SG	*-i*	*-i*	*-e*	*-î*	*-î*
3SG	*-∅*	*-∅*	*-et*	*-o*	*-∅*
1PL	*-em*	*-em*	*-u*	*-mê*	*-îmê*
2PL	*-it*	*-it*	*-i*	*-dê*	*-îdê*
3PL	*-en*	*-en*	*-en*	*-an*	*-î(n)*

The 2SG/3SG homophony occurs in Central Kurdish Rojbeyanî and in the feminine paradigm of Qohrudi. Interestingly, the Central Kurdish Rojbeyanî pattern is limited to the past intransitive, while most others either have it in only in the present or in both past and present. In Section 8.2, we argue that convergence with neighboring Northern Kurdish varieties has brought about this pattern

TABLE 21 Type II: 2SG/3SG homophony in the past intransitive

	CK Rojbeyanî	Qohrudi	
		PST.3SG.F	PST.3SG.M
1SG	*-im*	*-ūn*	*-ūn*
2SG	*-∅*	*-e*	*-e*
3SG	*-∅*	*-e*	*-∅*
1PL	*-man*	*-ēme*	*-ēme*
2PL	*-tan*	*-ēge*	*-ēge*
3PL	*-in*	*-ande*	*-ande*

in Central Kurdish Rojbeyanî. For Qohrudi, the syncretism is limited to the third person singular feminine. The other Central Plateau dialects that exhibit 2SG/3SG in the present indicative, including Abuzeydabadi, Vidouji, Abyanei, and Tat Johuri, feature no syncretism in the past, as the third person singular form is zero. In Table 21, both paradigms of Qohrudi are illustrated for ease of comparison.

5.2.2 Plural homophony only

Sixty-six past intransitive paradigms studied here exhibit homophony only in the plural. The relevant homophony patterns are Type III 1PL/2PL homophony (one paradigm), Type IV 2PL/3PL homophony (49 paradigms), and Type V 1PL/2PL/3PL homophony (16 paradigms).

The only paradigm exhibiting Type III 1PL/2PL homophony is Semnani. Note that the Semnani variety Dehnamaki also shows 1PL/2PL homophony in the present indicative, but the past intransitive paradigm is partially inflected by the historical oblique clitic pronouns; see Table 22.

Type IV 2PL/3PL homophony in the past intransitive is attested in the entirety of Central Kurdish (except the varieties which have Goranî substrate, namely Central Kurdish Rojbeyanî and Central Kurdish Kalakchi; see Section 8.2), neighboring Bahdini Northern Kurdish varieties, southern and northern varieties of Southern Kurdish, Alevi and Şeyxan varieties of Zazaki, Western Gilaki, and Kelardasht. Note that there are more paradigms with the 2PL/3PL homophony in the past intransitive (viz. 49) than in the present indicative (viz. 37). This is mainly because in the present indicative of Central Kurdish varieties spoken around Erbil, 2PL/3PL homophony combines with another homophony pattern, 2SG/3SG homophony, to yield Type XV (see Section 4.3.2).

TABLE 22 Type III: 1PL/2PL homophony in the past intransitive

	Semnani	Dehnamaki	
		PRS	PST
1SG	*-iun*	*-ān, -on*	*-ān*
2SG	*-œi*	*-∅*	*-āt*
3SG	*-ā*	*-ə/-u*	*-∅*
1PL	*-in*	*-in*	*-mon*
2PL	*-in*	*-in*	*-ton*
3PL	*-an*	*-ən*	*-šon*

TABLE 23 Type IV: 2PL/3PL homophony in the past intransitive

	NK Marinus	CK Kalar	SK Bijar	SK Ilam	Z Şeyxan (F)	Kelardasht
1SG	*-im*	*-im*	*-im*	*-im*	*-o*	*-me*
2SG	*-î*	*-î*	*-îd*	*-î*	*-a*	*-e*
3SG	*-∅*	*-∅*	*-∅*	*-∅*	*-i*	*-∅*
1PL	*-în*	*-în*	*-îman*	*-îm(in)*	*-îmi*	*-mi*
2PL	*-in*	*-in*	*-in*	*-in*	*-ê*	*-ne*
3PL	*-in*	*-in*	*-in*	*-in*	*-ê*	*-ne*

Type V 1PL/2PL/3PL homophony in the past intransitive is attested in northern and central varieties of Northern Kurdish and in the feminine past of Zazaki Miyaro (see Table 24). That the distribution of this pattern is solely specific to the most northwesterly varieties in our sample study may point to the effect of mutual contact between these varieties or contact effects from neighboring languages (see Section 8.2).

TABLE 24 Type V: 1PL/2PL/3PL homophony in the past intransitive

	Z Miyaro (F)	NK Serhed	NK Simêł	NK Agrî
1SG	*-o*	*-im*	*-im*	*-im*
2SG	*-a*	*-î*	*-î*	*-î*
3SG	*-∅*	*-∅*	*-∅*	*-∅*

TABLE 24 Type V: 1PL/2PL/3PL homophony in the past intransitive (*cont.*)

	Z Miyaro (F)	**NK Serhed**	**NK Simêł**	**NK Agrî**
1PL	*-îˆ*	*-in*	*-in*	*-in*
2PL	*-îˆ*	*-in*	*-in*	*-in*
3PL	*-îˆ*	*-in*	*-in*	*-in*

5.2.3 Horizontal homophony

Like in the present indicative, horizontal homophony concerns only Type VI, featuring the neutralization of number distinction in the second person. This occurs in two paradigms in the past intransitive similar to the present indicative, both in Fars varieties: Bandari and Minabi (see Table 25).

TABLE 25 Type VI: 2SG/2PL syncretism in the past intransitive

	Bandari	**Minabi**
1SG	*-om*	*-m*
2SG	*-i*	*-i*
3SG	-∅	-∅
1PL	*-ing*	*-im*
2PL	*-i*	*-i*
3PL	*-en*	*-en*

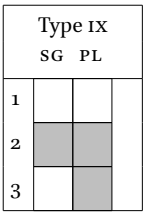
5.2.4 Combined horizontal and plural vertical homophony

As discussed, combined horizontal and plural vertical homophony concerns syncretism between one or more singular person indices with one or more plural person indices. In the past intransitive, this pattern is attested in eight paradigms, featuring Types VIII (1 token), Type IX (1 token), and Type X (6 tokens).

Type VIII occurs in the Silopî variety of Northern Kurdish, featuring homophony between 2SG and 1PL/2PL. Note that Silopî features the same homophony pattern in the present indicative. Therefore, the syncretism is not conditioned by the TAM of the clause.

TABLE 26 Type VIII: 2SG/1PL/2PL homophony in the past intransitive

	NK Silopî	
	SG	PL
1	*-im*	*-î*
2	*-î*	*-î*
3	-∅	*-in*



Type IX is specific to the past intransitive paradigm in the Şeyxan variety of Zazaki. Here, the 2SG merges with the 2PL/3PL. The only difference between this type of homophony and Type X is that the latter features full plural vertical syncretism.

TABLE 27 Type IX: 2SG/2PL/3PL homophony in the past intransitive

	Z Şeyxan	
	SG	PL
1	*-o*	*-îmi*
2	*-ê*	*-ê*
3	-∅	*-ê*

Type X is different from Type IX in extending the homophony with 2SG to the entire plural set. This type of homophony is specific to Zazaki. The same varieties that feature this homophony pattern in the present indicative also have it in the past intransitive.

TABLE 28 Type X: Combined horizontal and plural vertical one block syncretism

	Piran, Eğil M	**Miyaro** M
1SG	*-a*	*-o*
2SG	*-î*	*-î*
3SG	-∅	-∅
1PL	*-î*	*-î*
2PL	*-î*	*-î*
3PL	*-î*	*-î*

5.3 *Past intransitive paradigms with multiple homophonous groups*

Out of 94 syncretic paradigms in the past intransitive, ten exhibit multiple homophonous groups. This concerns Types XVI (3 paradigms), XVII (4 paradigms), XVIII (2 paradigms), and XX (1 paradigm).

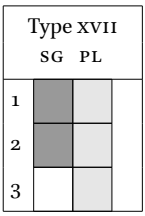
5.3.1 Type XVI

In this type of homophony, there is a partial nested syncretism featuring two blocks: 2SG/3SG constitutes one syncretic block, and 1PL/2PL/3PL constitutes the other. In the past intransitive, this homophony pattern is exclusive to the westernmost Kurmanji varieties, including Northern Kurdish Ẍerbî, Northern Kurdish Mardin, and Northern Kurdish Efrînî.

TABLE 29 Type XVI: 2SG/3SG and 1PL/2PL/3PL homophony in the past intransitive

	NK Ẍerbî, NK Mardin	**NK Efrînî**
1SG	*-im*	*-im*
2SG	-∅	*-î*
3SG	-∅	-(*î*)
1PL	*-in*	*-in*
2PL	*-in*	*-in*
3PL	*-in*	*-in*

5.3.2 Type XVII

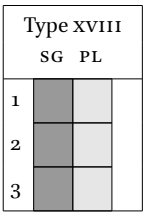


Type XVII is unique to feminine paradigms in the past intransitive within a section of the Zazaki group. This type shows partial nested syncretism with two blocks: the first features the partial neutralization of person between 1SG and 2SG on the one hand, and complete neutralization of person in the plural on the other. It differs from Type XVIII (see below) in that full neutralization of person is blocked in the singular due to distinct 3SG feminine form.

TABLE 30 Type XVII: 1SG/2SG and 1PL/2PL/3PL homophony in the past intransitive

	Z. Siverek (F)	**Z. Palu-Bingöl (F)**	**Z. Piran (F)**
1SG	*-a*	*-a*	*-a*
2SG	*-a*	*-a*	*-a*
3SG	*-i*	-∅	*-i*
1PL	*-î*	*-î*	*-î*
2PL	*-î*	*-î*	*-î*
3PL	*-î*	*-î*	*-î*

5.3.3 Type XVIII



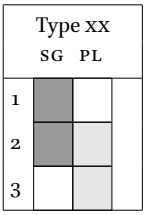
In the past intransitive, Type XVIII is limited to the Northern Kurdish Koçerî paradigm, which exhibits full nested syncretism, completely neutralizing per-

TABLE 31 Type XVIII: 1SG/2SG/3SG and 1PL/2PL/3PL homophony in the past intransitive

	NK Koçerî	
	SG	PL
1	-∅	*-n*
2	-∅	*-n*
3	-∅	*-n*

son in the singular and plural. Essentially, the paradigm only expresses a number distinction.

5.3.4 Type XX



The Type XX pattern is specific to the past intransitive paradigm of Dehle in the Fars group. It is the same as Type XIX in the present indicative except for the fact that the third person singular has a unique -∅ ending, making it not part of the same block as 2PL/3PL. This is essentially a combination of Type I and Type IV systems. This is a contrary syncretism in the terminology of Baerman et al. (2005). In other words, the syncretism in the context of plural is not predictive of the syncretism in the singular.

TABLE 32 Type XX: 1SG/2SG and 2PL/3PL homophony in the past intransitive

	Dehle	
	SG	PL
1	*-a*	*-u*
2	*-a*	*-i*
3	-∅	*-i*

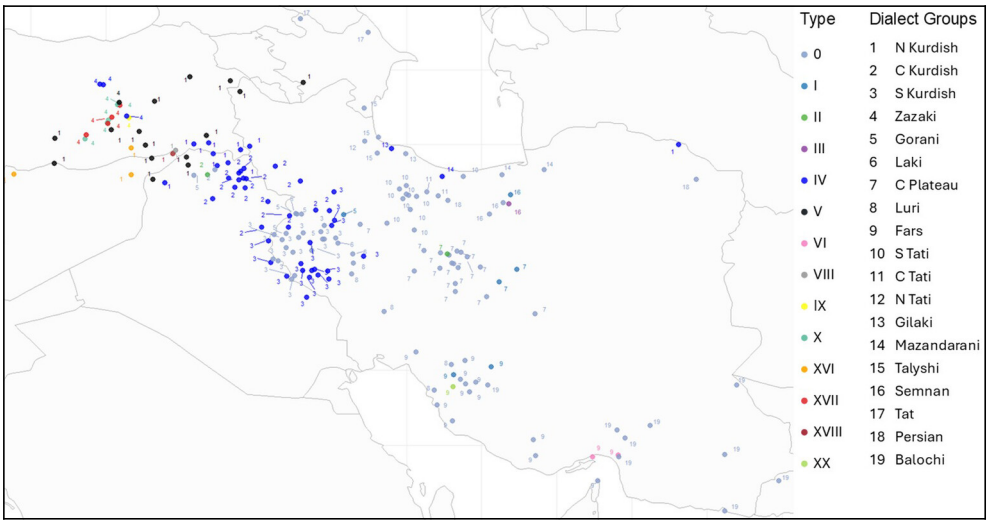


FIGURE 3 Distribution of syncretic patterns in the past intransitive

5.4 *Summary of syncretic patterns in the past intransitive*

This section highlighted the syncretism in the past intransitive. As seen, the past intransitive paradigms feature 13 syncretic patterns in our sample. Of these, ten syncretic paradigms overlap with the syncretic patterns in the present indicative, three are specific to the past intransitive (including Types IX, XVII, XX), and three are specific to the present indicative (Types XIII, XV, and XIX). Note that both these types only differ from their present tense counterparts in the third person singular due to a zero ending, an idiosyncrasy of Iranic past tense verbs. Similar areal patterns emerge in the past intransitive as were seen in the present indicative. Type III (1PL/2PL homophony) only occurs in the Semnan group. Type IV is again limited to the three branches of Kurdish, but extends partially to the neighboring Zazaki varieties (see Table 33 for distributions). Type V occurs primarily in Northern Kurdish and with a limited distribution in neighboring Zazaki. Type XVI (2SG/3SG and 1PL/2PL/3PL homophony) and Type XVIII (1SG/2SG/3SG and 1PL/2PL/3PL homophony) are concentrated in Zazaki and Western varieties of Kurmanji, making them candidates for areal convergence.

TABLE 33 Trends in the past intransitive

	Language	0	I	II	III	IV	V	VI	VIII	IX	X	XVI	XVII	XVIII	XX
1	N Kurdish					33%	50%		3%			10%		3%	
2	C Kurdish	5%		5%		89%									
3	S Kurdish	47%				53%									
4	Zazaki					19%	6%			6%	38%		25%	6%	
5	Goranî	86%	14%												
6	Laki	100%													
7	C Plateau	85%	10%	5%											
8	Luri	100%													
9	Fars	69%	12%					12%							6%
10	S Tati	100%													
11	C Tati	100%													
12	N Tati	100%													
13	Gilaki	50%				50%									
14	Mazani	67%				33%									
15	Talyshi	100%													
16	Semnan	50%	25%		25%										
17	Tat	100%													
18	Persian	100%													
19	Balochi	100%													

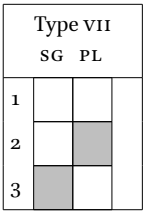
6 Syncretic patterns in other TAM categories

Typologically speaking, several factors condition syncretism in verbal person/number marking. These include number, gender, tense, aspect, and mood, negation, and voice (Baerman et al., 2005). While investigating the effect of all these factors in conditioning person syncretism within Iranic awaits further detailed research, there are a few things that can be said provisionally.

In the previous sections, we have focused on the most common paradigms in the languages surveyed. Generally in Central Kurdish, for instance, there are a minority of verbs like *kirdin* 'to do/make' with a present stem *ke-* that combines idiosyncratically in the third person singular to form *e-k-a*(*t*) [IPFV-do.PRS-3SG]. In this class, the third person singular suffix -*a*(*t*) differs from the more common -*ê*(*t*). If there were, hypothetically, another person marker with the form -*a*(*t*), then there would be syncretism in this minority of verbs. In some of the languages surveyed, this type of syncretism is not limited to a small subset of verbs but rather is conditioned by the verbal formatives indicating particular TAM categories. Suppletion in TAM categories other than the present indicative and past intransitive are discussed here.

In the present indicative and past intransitive, there were 16 types of syncretism attested. As most Iranic languages share the same pattern of syncretism in all tenses, most of these are attested in other TAM combinations. Here, we focus on the types of syncretism that only occur in the subjunctive, past perfect, or imperfective. There are five of these remaining types: Types VII, XI, XII, XIV, and XXI.

6.1 *Perfect*



Diagonal homophony is rare crosslinguistically (Siewierska, 2004: 97). Within the 174 Western Iranic languages investigated here, it is only truly attested in the perfect tense of Kumzari, where there is a homophony between 3SG and 2PL. In Kumzari, the split separates the perfect tense from all other TAM categories. This syncretism is likely the result of sound change and initial conditions (see Section 8.1).

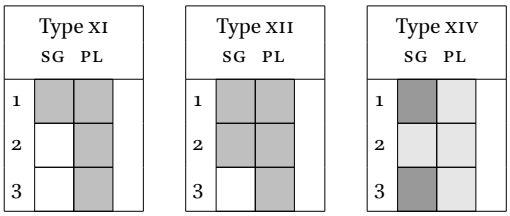
TABLE 34 Type VII: past perfect

	Kumzari	
	SG	**PL**
1	*-sum*	*-sim*
2	*-si*	*-sē*
3	*-sē*	*-sin*

6.2 *Subjunctive*

All other patterns with single syncretic blocks occur only in Zazaki. Zazaki provides a rich source for syncretism. Zazaki features multiple stem types with different historical features. The subjunctive stem of Zazaki is cognate with the present indicative stem in most of the other languages surveyed here. Zazaki's present indicative has its roots in the old active participle in *-ant-, while the subjunctive reflects the original finite verbal stem.

6.2.1 Types XI, XII, and XIV



The first pattern of syncretism unique to Zazaki (Type XI) is that found in the present subjunctive feminine paradigm in the variety spoken in Palu-Bingöl. Recall that the Zazaki subjunctive is the only remaining vestige of the Old Iranic finite verbal conjugation. The subjunctive did not originally have gender marking. However, the gender distinction now occurs in some varieties, as seen in the second person singular in Table 35. This homophony consists of a single formative marking the plural and the same formative in the first person singular, providing 1SG/1PL/2PL/3PL homophony.

The second pattern of syncretism unique to Zazaki (Type XII) is that found in the present subjunctive masculine paradigm in the variety spoken in Palu-Bingöl (see Table 35). This has the same history as Type XI in the feminine subjunctive. However, the gender component has not affected the masculine, with the original 2SG ending being retained. This is the pattern with the most syncretism in the Iranic world. Effectively, this is the same as the English present tense system where there is a single form for third person singular, and the rest of the cells are identical.

The third pattern of syncretism is also unique to Zazaki (Type XIV; see Table 35). It consists of the Type X pattern, featuring 2SG/1PL/2PL/3PL homophony. Additionally, the first and third person singular have merged into a second block. This is nearly identical to Type XIII except that the first person plural ending has merged with the rest of the plural. This is a partial nested syncretism.

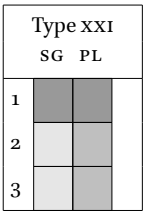
TABLE 35 Types XI, XII, and XIV: present subjunctive

	Z Palu-Bingöl F.SBJV	**Z Palu-Bingöl M.SBJV**	**Miyaro M.SBJV**
1SG	*-î*	*-î*	*-o*
2SG	*-a*	*-î*	*-î*
3SG	*-o*	*-o*	*-o*

TABLE 35 Types XI, XII, and XIV: present subjunctive (*cont.*)

	Z Palu-Bingöl F.SBJV	**Z Palu-Bingöl** M.SBJV	**Miyaro** M.SBJV
1PL	*-îˆ*	*-îˆ*	*-îˆ*
2PL	*-îˆ*	*-îˆ*	*-îˆ*
3PL	*-îˆ*	*-îˆ*	*-îˆ*

6.3 *Past imperfective*



The final pattern of syncretism consists of three separate homophonous blocks. This is a full nested syncretism consisting of two blocks: a Type II merger between 2SG and 3SG and a Type IV merger between 2PL and 3PL (a combined Type XV), and an otherwise unattested horizontal contrary syncretism in the first person. This pattern only occurs in the Western Gilaki past imperfective.

TABLE 36 Type XXI: past imperfective

	W Gilaki	
	SG	**PL**
1	*-im(i)*	*-im(i)*
2	*-i*	*-id(i)*
3	*-i*	*-id(i)*

In Western Gilaki, the formative *-i* is added to the stem to form the imperfective/progressive stem. The regular person-number suffixes combined with this derived form cause syncretism between first person singular and plural, as well as second and third person singular only in the imperfective. Western Gilaki's typical syncretism pattern, Type IV, is replaced by Type XXI in the imperfective.

7 Summary of paradigmatic structures

Within the 174 languages and varieties surveyed here, there are 21 different syncretism patterns attested; see Table 37 for the distribution of syncretic patterns across all tenses. Despite the richness in syncretism patterns, the most common paradigm type is that with no syncretism. Of the paradigms surveyed, 44% (186 out of 423) have no syncretism. The 21 syncretic types are illustrated in Table 1, and these are plotted on the map in Fig. 4 according to where these varieties are spoken. Note that for language varieties with more than one type, only the more rare type is represented. This choice deliberately draws attention to the development of typologically rare syncretism patterns at the expense of the larger systemic tendencies which received greater representation in the maps in Figs. 2 and 3 in Sections 4 and 5, respectively. In Fig. 4, we show the geographic distribution of languages presented in Fig. 1, further subdivided by their syncretism patterns.

The verbal person-marking paradigms with no syncretism are attested in varieties of Southern Kurdish, Goranî, Laki, Central Plateau, Luri, Fars, Southern Tati, Northern Tati, Gilaki, Mazandarani, Talyshi, Semnani, Tat, Persian, and Balochi, and two varieties within Central Kurdish (see below). Within language groups, the syncretism patterns form an important isogloss distinguishing subvarieties. In Goranî, the core Hewramî dialects on the Iran-Iraq border exhibit no homophony between person categories, whereas in the more peripheral dialects, 1SG and 2SG have the same exponent. Within the Central Plateau group, the default pattern is no homophony, as seen, for example, in northwestern dialects (Delijani, Mahalati, etc.) and southwestern dialects (Gazi). Similarly, no homophony is the most common pattern in the Fars group: most northern, southern, and central dialects feature a fully distinguished person-number paradigm (see the surveys in Salami 2007, 2009, 2014, 2021). It is notable that the only two groups that do not have any varieties of Type 0 are Northern Kurdish and Zazaki, which are spoken, sometimes in the same towns and villages, in eastern Anatolia (Turkey). These two groups have converged over the course of history in many aspects of their nominal and verbal systems (see Karim, 2024).

Languages with Type 0 paradigmatic structure are assumed to be more conservative, having retained the opposition in the person-number paradigm observed in Old Iranic (without the dual). In terms of the theory of person marking, we might say the category of person is fully "expressed" in these languages.

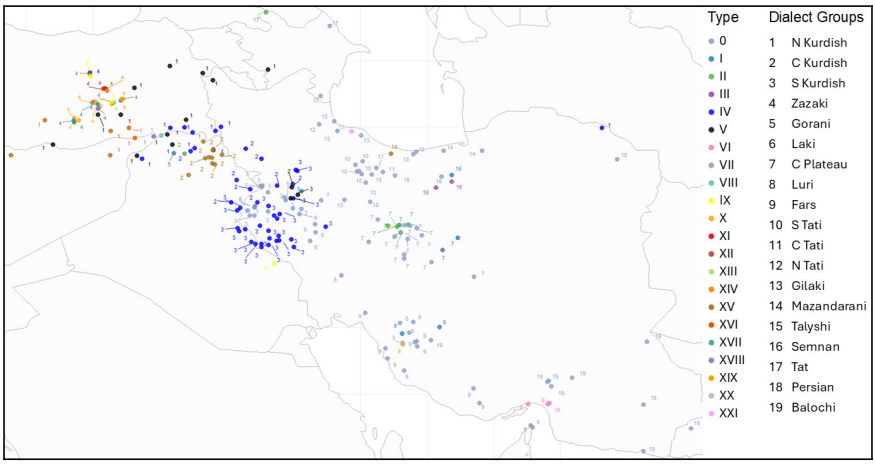


FIGURE 4 Homophony patterns in investigated Western Iranic languages

The remaining languages have innovated homophony in the person categories. Overall, then, the groups of varieties involve the following types of syncretism (with the most common type in **boldface**):

1. Northern Kurdish: IV (2PL/3PL), **V (1PL/2PL/3PL)**, VIII (2SG/1PL/2PL), XV (2SG/3SG/2/3/PL), XVI (2SG/3SG/1PL/2PL/3PL), and XVIII (1SG/2SG/3SG/1PL/2PL/3PL).
2. Central Kurdish: 0, II (2SG/3SG), **IV (2PL/3PL)**, V (1PL/2PL/3PL), and XV (2SG/3SG/2/3/PL).
3. Southern Kurdish: 0, **IV (2PL/3PL)**, V (1PL/2PL/3PL), and IX (2SG/2PL/3PL).
4. Zazaki: IV (2PL/3PL), V (1PL/2PL/3PL), IX (2SG/2PL/3PL), **X (2SG/1PL/2PL/3PL)**, XI (1SG/1PL/2PL/3PL), XII (1SG/2SG/1PL/2PL/3PL), XIII (1SG/3SG + 2SG/2PL/3PL), XIV (1SG/3SG + 2SG/1PL/2PL/3PL), XV (2SG/3SG + 2PL/3PL), XVI (2SG/3SG + 1PL/2PL/3PL), XVII (1SG/2SG + 1PL/2PL/3PL), and XVIII (1SG/2SG/3SG + 1PL/2PL/3PL).
5. Goranî: 0 and I (1SG/2SG).
6. Laki: 0.
7. Central Plateau: 0, I (1SG/2SG), and II (2SG/3SG).
8. Luri: 0.
9. Fars: 0, I (1SG/2SG), VI (2SG/2PL), VII (3SG/2PL), XIX (1SG/2SG + 3SG/2PL/3PL), and XX (1SG/2SG/2PL/3PL).
10. Southern Tati: 0.
11. Central Tati: 0.
12. Northern Tati: 0.
13. Gilaki: 0, **IV (2PL/3PL)**, XV (2SG/3SG + 2PL/3PL), and XXI (2SG/3SG + 2PL/3PL + 1SG/1PL).

14. Mazandarani: 0, IV (2PL/3PL), and XV (2SG/3SG + 2PL/3PL).
15. Talyshi: 0.
16. Semnani: 0, I (1SG/2SG), and **III (1PL/2PL)**.
17. Tat: 0 and II (2SG/3SG).
18. Persian: 0.
19. Balochi: 0 and VI (2SG/2PL).

Type IV is the most common type in Central and Southern Kurdish and the second most common type in Northern Kurdish. The Northern Kurdish style Type V, on the other hand, only occurs in one Central Kurdish variety and is absent from Southern Kurdish (except in the past perfect). The Type VIII pattern is limited to a single variety, Silopî, and does not provide any greater generalizations. In contrast, the XVI and XVIII patterns are confined to Northern Kurdish and Zazaki, making them an areal development. To this, we may add XV, which occurs in some Central Kurdish and one Zazaki paradigm. Moving south through the Southern Kurdish zone, Type IV is the most common, and varieties in the core region that show Type 0 often have Type IV in the past perfect. The second most common type in Southern Kurdish, Type 0, is also the most common among Goranî varieties spoken in the Southern Kurdish zone.

Within the Central Plateau dialects, person homophony is a feature of northeastern and southeastern dialects—the former concerns Abuzeydabadi, Qohrudi, Abyanei, and Vidouji, featuring 2SG/3SG homophony; the latter concerns Naeini and Anaraki, both featuring 1SG/2SG homophony. 1SG/2SG homophony is also a feature of some neighboring Zoroastrian vernaculars spoken around Yazd. These language varieties with 1SG/2SG homophony are characterized by having *-i* or *-e* as the 1SG verbal affix (Krahnke, 1976: 192). Person homophony is likewise a feature of Western Gilaki, the Semnan group, and languages from the Fars group in the south of Iran (Bandari, Kumzari, and Minabi). Within Iranic, the Kurdish zone features the most homophony in the person categories. Barring a few dialects in the Southern Kurdish zone, all major Kurdish groups (Southern, Central, and Northern) exhibit syncretism at least between 2PL and 3PL. Zazaki and Goranî varieties also exhibit syncretic patterns. In the following section (Section 8.1), we discuss the diachronic factors leading to the rise of syncretism and the resulting synchronic person paradigms.

TABLE 37 Trends across paradigms

	Language	0	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI
1	N Kurdish					32%	45%			3%							2%	15%		3%			
2	C Kurdish	3%		3%		69%	3%										23%						
3	S Kurdish	37%				60%	2%				1%												
4	Zazaki					9%	2%				7%	36%	2%	2%	2%	2%	4%	7%	16%	11%			
5	Goranî	69%	31%																				
6	Laki	100%																					
7	C Plateau	76%	11%	14%																			
8	Luri	100%																					
9	Fars	67%	12%					12%	3%												3%	3%	
10	S Tati	100%																					
11	C Tati	100%																					
12	N Tati	100%																					
13	Gilaki	40%				40%																	20%
14	Mazani	67%				17%											17%						
15	Talyshi	100%																					
16	Semnan	38%	25%		38%																		
17	Tat	75%		25%																			
18	Persian	100%																					
19	Balochi	100%																					

TABLE 38 Transitive and intransitive paradigms in Goranî Qeła and Bacelanî

Variety	1SG	2SG	3SG	1PL	2PL	3PL	Gloss
Goranî Qeła M	*wut-î*	*wut-î*	*wut*	*wut-îmê*	*wut-îdê*	*wut-ê*	'slept'
Goranî Qeła	*ward=im*	*ward=it*	*ward=iş*	*ward=man*	*ward=tan*	*ward=şan*	'ate it (M)'
Goranî Bacelanî	*ward=im*	*ward=it*	*ward=iş*	*ward=man*	*ward=tan*	*ward=şan*	'ate it'
Goranî Bacelanî	*hut-î-m*	*hut-î-t*	*hut*	*hut-î-man*	*hut-î-tan*	*hut-î-şan*	'slept'

8 Notes on diachrony and convergence

Here, we discuss aspects of language change and areal patterns of convergence across the language varieties surveyed. There are two parts to this line of inquiry: (a) the diachronic study of how the syncretism patterns observed here came to be; and (b) the patterns that have converged in specific geographic areas.

8.1 *Notes on the diachrony of homophonous person paradigms*

Although each individual development within the surveyed languages is interesting in its own right, we have chosen to focus on some of the major patterns of change that served to reorganize the paradigmatic structure of these language varieties.

As discussed in Section 7, within Western Iranic, the most common pattern in the paradigmatic structure of the person paradigm is to fully distinguish for person and number. This was said to be the more conservative pattern, attested in earlier stages of Iranic. However, it also arises secondarily as different formatives are recruited as person markers. For example, (Goranî) Bacelanî developed past tense person markers from the oblique pronominal clitics. Table 38 gives two words from Bacelanî and the corresponding forms from Qeła. The Qeła word *wut* 'sleep' reflects syncretism in the past intransitive endings. Both Qeła and Bacelanî mark transitive agents with pronominal clitics. The Bacelanî past intransitive construction has adopted the same clitic series for S arguments as well. The reinvigoration of fully expressed paradigms is always possible, given these other paradigmatic sources.

In addition to analogy from other paradigms within a single language, the sources of syncretism also include regular processes of sound change. Here, we explicitly address the broader themes of these diachronic developments.

TABLE 39 The development of 1SG/2SG homophony in Goranî dialects

	Hewramî	**Kendule**	**Zarda**	**Qeła**	**Bacelanî**
1SG	*-û*	*-ü*	*-î*	*-î*	*-î*
2SG	*-î*	*-î*	*-î*	*-î*	*-î*
3SG	*-o*	*-o*	*-o*	*-û*	*-o*

8.1.1 Theme 1: Sound change can lead to homophony

Regular sound changes in a language can lead to homophony between two cells in a paradigm. The Type I merger of first and second person singular has come about in some Goranî varieties through sound change alone. For instance, the inherited first person singular present tense person marker in common Goranî was *-û*, and still is in most varieties. However, there are varieties, like Kendule,[9] where *û* was fronted (û → ü). Further in the periphery, varieties like Zarda and Bacelanî merged *ü* and *î*, eliminating the difference between first and second person singular; see Table 39.

8.1.2 Theme 2: Homophony may be conditioned only in a subset of paradigms

Sound change can result in homophony where the formatives marking person and number combine with those marking another category such as gender, TAM, a conjugation class, and so on. The syncretism created by this change can then be extended to other conjugation classes or TAM categories. Here, we present three examples of syncretism developing in a single category. In Western Gilaki, sound change alone has caused syncretism only in the past imperfective. In Qohrudi, sound change has caused syncretism only in a single conjugation class, which was subsequently extended to all paradigms as is clear from historical documents. In Kumzari, syncretism developed in a certain conjugation class including the verb 'stand.' This verb was recruited in a periphrastic perfect construction bringing the syncretism into the perfect paradigm of all verbs.

9 It is interesting to note that in Mann and Hadank's (1930) description of Goranî Kendule, both *-û* and *-ü* are listed for the 1SG verb suffix. However, our recent questionnaire survey in Kendule, only the form *-ü* occurred as the 1SG formative. This is yet more evidence of the development of *-û* [u] to *-î* [i], suggesting that it might have been a recent development in Goranî Zarda, Qeła, and Bacelanî.

TABLE 40 Western Gilaki *kəft* 'fall'

TAM	1SG	2SG	3SG	1PL	2PL	3PL
PRS	*kəf-əm*	*kəf-i*	*kəf-e*	*kəf-im*	*kəf-id*	*kəf-id*
PST	*kəft-əm*	*kəft-i*	*kəft-ə*	*kəft-im*	*kəft-id*	*kəft-id*
IPFV	*kəft-i-m*	*kəft-i-∅*	*kəft-i-∅*	*kəft-i-m*	*kəft-i-d*	*kəft-i-d*

8.1.2.1 *Sound change results in syncretism only in the past imperfective in Western Gilaki*

Western Gilaki provides us a clear example of how the formative marking a TAM category (past imperfective) combines with person-number markings, creating syncretism only in that category. This system features three syncretic blocks. The first is a Type II second and third person singular homophony. The second is a Type IV second and third person plural homophony. The third exhibits homophony in the first person. This development is limited to the past imperfective in Western Gilaki. Here, the imperfective formative *-i* attaches to the past stem of the verb. When the normal person markers *-əm* [-1SG] and *-ə* [-3SG] combine with the imperfective stem, the result is the loss of the schwa: ə → ∅ / V_ (hiatus resolution). The resulting forms *-im* [-1SG] and *-i* [-3SG] are homophonous with *-im* [-1PL] and *-i* [-2SG]; see Table 40.

8.1.2.2 *Generalization of a conjugation class in Qohrudi*

The Type II merger of second and third person singular in Qohrudi is a result of generalization, and historical attestation gives us an insight into how this process took place. In a late nineteenth-century text (Mann & Hadank, 1926: 244, citing Žukovskij, 1888: 115), the Qohrudi 3SG and 2SG formatives are distinct in most conjugation classes but merge when combined with the class of verbs that includes 'give.' By the twenty-first century, this morphologically conditioned allomorphy (as well as variation in the conjugation of 1PL and 2PL) was regularized to include the syncretism in all paradigms, extending the 3SG to the 2SG (Lecoq, 2002); see Table 41. The accident of attestation tells us that this phonologically conditioned pattern from one conjugation class was extended to all paradigms.

TABLE 42 Kumzari verbal endings

	1SG	2SG	3SG	1PL	2PL	3PL
PRF	*-s-um*	*-s-ī*	*-s-ē*	*-s-im*	*-s-ē*	*-s-in*
PST	*-d-um*	*-d-ī*	*-d-∅(iš)*	*-d-im*	*-d-ē*	*-d-in*
PRS	*-um*	*-ī*	*-a*	*-im*	*-ē*	*-in*

TABLE 41 Qohrudi paradigm throughout attestation

	Late 19th century				21st century
	'eat'	**'give'**	**'see'**	**'stand'**	
1SG	*axor-um*	*hôad-um*	*âün-um*	*vatüšt-ûm*	*-ūn*
2SG	*axor-î*	*hôad-î*	*âün-î*	*vatüšt-î*	*-e* [ə]
3SG	*axor-i* [ə]	*hôad-î*	*âün-i* [ə]	*vatüšt-e*	*-e* [ə]
1PL	*axor-îm*	*hôad-imâ*	*âün-îm*	*vatüšt-ēmä*	*-ēme*
2PL	*axor-ît*	*hôad-îgä*	*âün-ît*	*vatüšt-īgä*	*-ēge*
3PL	*axor-än*	*hôad-än*	*âün-änd*	*vatüšt-ändä*	*-ande*

8.1.2.3 *A verb that developed syncretism was recruited in a periphrastic perfect construction creating bringing syncretism into the perfect*

If the source paradigm for a periphrasis is already syncretic, it would of course bring that syncretism with it into the incipient inflectional category. The 3SG/2PL homophony in the Kumzari perfect tense is a likely example of this. The perfect construction in Kumzari employs the auxiliary 'stand,' attested in some Fars dialects (i.e., *-sē* < *ēstēd), where 3SG and 2PL were syncretic by Middle Persian, that is, *šud=est-ēd* [go.PCPL-3SG/go.PCPL-2PL] (Skjærvø, 2009: 219). Sound change and initial conditions caused syncretism; see the Kumzari forms in Table 42. The introduction of this syncretism into all paradigms through the periphrastic perfect was neither sound change nor analogy, but rather the process of univerbation.

8.1.3 Theme 3: The merger of forms can lead to a reanalysis of form-to-meaning correspondences

The vast majority of Kurdish varieties, including representatives from all three groups—Northern, Central, and Southern Kurdish—feature the merger

between second and third person plural (Type IV). The rich diversity of Southern Kurdish gives us insight into just how this likely came to be. The diachronic trajectory suggested here consists of several stages of phonological changes leading to neutralization and uninflectedness, which can then be restored analogically. We present our evidence for this sequence of changes here. Note that this section features a complex chronology of regular sound changes and morphological analogy. Each of the sound changes described in this section is well established and broadly accepted. What is new about out proposal here is the relative chronology that gives all the attested forms in Kurdish. Additionally, this is the first time these data have been put together, showing that each stage in this development is preserved in some Kurdish varieties. These retention zones correspond to known dialect divisions and reflect the geography of the dialect continuum. The most conservative varieties in the far south have preserved something close to the original system. Each subsequent development radiates outward in concentric circles reaching the most innovative in the far north.[10]

To begin, we assume the starting point of common Kurdish based on the reconstructed past tense forms in (1). The forms 2SG and 3PL are robustly attested across Kurdish and reflect similar forms in every subgroup of Western Iranic. Likewise, the 1SG form occurs in every Kurdish variety as well as in 15 of the 19 subgroups (missing in Goranî, Zazaki, Semnani, and Central Plateau). The 2PL form does not commonly have a dental element in Kurdish. However, the reconstruction is warranted for three reasons: (i) the inherited Old Iranic formatives had a dental element; (2) a dental element is preserved in 11 of the 19 subgroups of Iranic examined here, including varieties of Central and Southern Kurdish as a phonologically conditioned allomorph; and (3) Kurdish has undergone a change, where post-vocalic *d were lenited or lost, so that, for example, Central Kurdish *çû-* corresponds to Persian *šod-* (see McCarus, 2009: 597; Mohammadirad & Öpengin, 2024). The 1PL form *-îm is uncommon in Kurdish. However, the *m* forms occur in 17 of the 19 subgroups of Iranic examined here (missing only in Northern Kurdish and Central Tati).

(1)

*-im	*-î	*-∅	*-îm	*-îd	*-in
-1SG	-2SG	-3SG	-1PL	-2PL	-3PL

10 Note that this is not a claim about the overall conservatism of Northern and Southern Kurdish; rather, it is a description of the character of the person-number affixes.

After the well-documented post-vocalic lenition of *d*, the 2PL form *-îd would have become *-î. Note that 2PL *-î is only attested in one Kurdish variety.[11] However, given the reconstruction of 2PL *-îd, one must accept *-î due to regular sound change. Note that this regular sound change (d → ∅ / V_) is attested through copious examples: Central Kurdish *çû*, Southern Kurdish *çî* vs. Persian *šod*; Southern Kurdish *dî* vs. Persian *dīd*; Central Kurdish *sta* vs. Persian *istod*; and so on. The resulting system, shown in (2), had horizontal syncretism in the second person, neutralizing the category of number in all paradigms.

(2)

*-im	*-î	*-∅	*-îm	*-î	*-in
-1SG	-2SG	-3SG	-1PL	-2PL	-3PL

The category of number was restored in the second person due to analogy with the third person. The inherited third person singular ending in the past tense is -∅. Given this form, the inherited plural ending was parsable in two ways: (i) *-in* [-3PL]; or (ii) -∅-*in* [-3-PL], treating singular as a semantically unmarked category. At this point, there is a clear four-part analogy that spreads the plural *n* to the second person plural, as seen in 3.

(3)

-∅	:	-∅-(*i*)*n*	::	-*î*	:	X
-3		-3-PL		-2		2-PL

In 3, X equals -*î*-*n* [-2-PL]. The resulting system, seen in (4), is attested in nine varieties in the Southern Kurdish group.

(4)

-*im*	-*î*	-∅	-*îm*	-*î*-*n*	-∅-*in*
-1SG	-2(SG)	-3(SG)	-1PL	-2-PL	-3-PL

The reanalysis proposed here, -*in* [-3PL] > [-PL], is supported by a similar development in the first person plural. In varieties with -*îm* [-1PL], such as Qesri Šîrîn and Kirmanşa, first person singular and plural merge with -*î*-final stems including the past perfect for all paradigms; see (5).

(5)

bîm	*bî*	*bî*	*bîm*	*bîn*	*bîn*
be.PST.1SG	be.PST.2SG	be.PST.3SG	be.PST.1PL	be.PST.2PL	be.PST.3PL (SK Kirmanşa)

11 The form -*î* only occurs in one Kurdish variety (Silopî). However, this is a somewhat divergent variety, and we do not claim that this is a retention.

This sets up a four-part analogy, shown in 6.

(6)

-∅	:	-∅-(*i*)*n*	::	-*m*	:	Y	
-3		-3-PL		-1		1-PL	
-*î*	:	-*î*-*n*	::	-*m*	:	Y	
-2		-2-PL		-1		1-PL	

In 6, Y is -*m*-(*i*)*n* [-1-PL] in analogy with both the second and third person, where the first formative marks person, singular being morphologically unmarked, and the second marks plural. This paradigm structure, exemplified in (7), occurs in 21 varieties in the southern part of Southern Kurdish. In 14 of these varieties, the analogical form is limited to the tenses and stems where the ambiguity occurs.

(7)

-*im*	-*î*	-∅	-*îm*-*in*	-*î*-*n*	-∅-*in*
-1SG	-2(SG)	-3(SG)	-1PL-PL	-2-PL	-3-PL

Note that in the same context that merges first person singular -*im* and first person plural -*îm*, second and third person plural also merge -*în*/-*in* (Fattah, 2000: 569–570). Just like in Qohrudi, the merger spreads from one conjugation class to the rest of them in most varieties.[12] This Type IV homonymy is the dominant Kurdish pattern. The dominant first person plural marker in Kurdish is -*în* not -*îmin*; see the paradigm in (8). When the form -*îmin* was followed by a vowel-initial word, suffix, or clitic, the consonants *m* and *n* are in contact: -*îmn*(=*ê*). One could speculate that this form underwent a cluster reduction (*mn > *n*), resulting in the suffix -*în*. The loss of the vowel *i* that allows for this speculation is broadly accepted. According to McCarus (1997: 698), "[t]he vowel *i* is elided when it occurs unstressed between two single consonants if the second of these two consonants is followed by a vowel." He gives the example *nizim* 'low' [nizim] combined with =*e* 'is' becomes [nizme] *nizime. This is also the case in Southern Kurdish varieties with the form -*îmin*, when produced before a clitic; for example, Southern Kurdish Melikşay *xist-îmn=ê* 'we threw it' (Fattah, 2000: 281, 560). The reason this remains speculative is that there is a paucity of post-vocalic *mn clusters in the varieties with -*îmin* that could be compared with varieties with -*în*.

12 The class that conditions the merger between second and third person plural, verbs ending in *î*, becomes the productive past tense-forming suffix in Northern and Central Kurdish as evidenced by leveled paradigms like Central Kurdish Suleymanî *bîn-/dî(t)- > *bîn-/bînî-* [see.PRS-/see.PST-].

TABLE 43 Proposed diachrony of Type IV and Type V syncretism in Kurdish

	(1)	(2)	(4)	(7)	(8)	
1SG	*-im*	*-im*	*-im*	*-im*	*-im*	*-im*
2SG	*-î*	*-î*	*-î*	*-î*	*-î*	*-î*
3SG	-∅	-∅	-∅	-∅	-∅	∅
1PL	*-îm*	*-îm*	*-îm*	***-îm(i)n***	***-în***	***-in***
2PL	*-îd	***-î***	***-în***	***-in***	*-in*	*-in*
3PL	*-in*	*-in*	*-in*	*-in*	*-in*	*-in*

(8) *-im* *-î* -∅ *-în* *-in*
-1SG -2(SG) -3(SG) -1PL -2PL/3PL

We might assume a similar process created full plural vertical homophony in Northern Kurdish. The *î*-final verbs neutralize the difference between *-în* and *-in*. All the attested Northern, Central, and Southern Kurdish varieties that have the first person plural marker *-în* merge that marker with the 2PL/3PL *-in* when preceded by *î* in Northern and Central Kurdish and any high vowel in Southern Kurdish; see the past tense of 'be' in (5). However, contact could also be a factor. Full plural vertical homophony is a feature of most neighboring Zazaki varieties; see Section 8.2. A summary of these changes is presented in Table 43, where the numbers above refer back to the example numbers corresponding to each stage.

In summary, the was a mixture of one morphological analogy and two sound changes, rooted in active phonology; that is, the sound changes continue till today as part of the active phonology of the languages. These conspired to create the diverse person-number marking systems observed synchronically in Kurdish varieties. Virtually every stage in this process is synchronically observable in retention zones throughout the region. There was an initial analogy resulting in the third person plural marker *-in* being reanalyzed as only a plural marker combined with the third person marker -∅. Subsequently, well-documented sound changes caused ambiguity to arise between singular and plural that could be corrected by the addition of the plural marker *-in*. First, the lenition of post-vocalic *d caused *-î to be a marker of second person, regardless of number. Later, vowel deletion, as a hiatus resolution strategy, caused the merger of *-im*/*-îm* 1SG/1PL when combined with *î*-final verbs; the same change merged *-în*/*-in* 2PL/3PL (and later *-in*/*-în* 1PL/2PL/3PL).

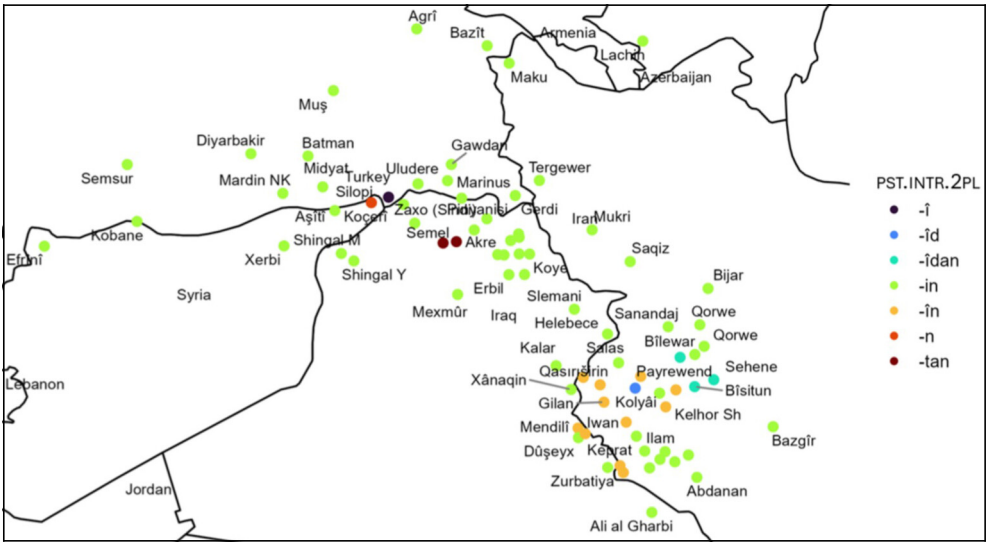


FIGURE 5 Second person plural person-number affixes in the three Kurdish subgroups

Each of these stages affects the three groups Northern, Central, and Southern Kurdish. All stages affect the northernmost part of Northern Kurdish, with the fewest affecting only a portion of Southern Kurdish. In Fig. 5, the second person singular endings of past intransitive verbs are presented. The dark and light blue dots represent varieties that have preserved the original 2PL ending *-îd* (with the addition of *-an*, the plural from the nominal system in the light blue), which is lost in all other varieties (Stage (2)). Moving outward from there, the orange dots have extended the plural marker from -3-PL *-∅-in* (Stage (4)). The green dots represent the varieties that have merged 2PL/3PL based on the conjugation of *î*-final stems, the most common conjugation class. The remaining dots represent subsequent developments not relevant to the current discussion, for example, the extension of forms from the transitive conjugation.

In Fig. 6, the first person singular endings of past intransitive verbs are presented. The dark and light blue dots represent varieties that have preserved the original 1PL ending *-îm* (with the addition of *-an*, the plural from the nominal system in the light blue). Moving outward from there, the green and turquoise dots have extended the plural marker from -3-PL *-∅-in* (Stage (7)). Note that this step is an essential part of the relative chronology of all other varieties. The orange dots represent Stage (8), the shift from *-îmin* to *în* (with an intermediate *-îmn* step). The yellow dots represent the varieties that have merged 1PL/2PL/3PL based on the conjugation of *î*-final stems, the most common con-

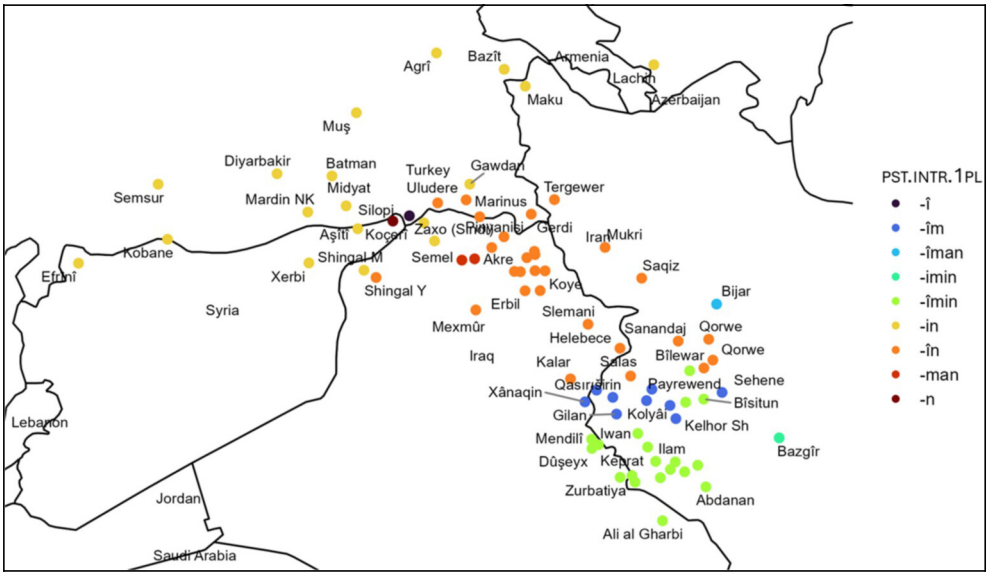


FIGURE 6 First person plural person-number affixes in the three Kurdish subgroups

jugation class. The remaining dots represent subsequent developments not relevant to the current discussion.

8.1.4 Theme 4: Once a category or pattern is introduced into the system, it can spread to other contexts

In Zazaki, the subjunctive form is the last remaining vestige of the old finite verbal system; it did not inherit gender marking. The past tense (like in other Iranic languages) and the present indicative are formed with the past passive and active participles, respectively. These forms have inherited gender marking, which has analogically spread to the subjunctive in some Zazaki varieties. Syncretism developed in the present indicative and past intransitive in Zazaki due to the fact that these forms were built on participle stems combined with the copula. Regular sound changes resulted in the unimorphation of nominal gender-number affixes and the enclitic copula, with many syncretic forms. When these forms were transferred to the subjunctive paradigm, syncretism transferred with it.

TABLE 44 Zazaki gender in the subjunctive

	Zazaki			
	Siverek			Şeyxan
	PRS.IND		SBJV.F	SBJV
	M	F		
1SG	*-a*	*-a*	*-a*	*-î*
2SG	*-ê*	*-a*	*-a*	*-ê*
3SG	*-o*	*-a*	*-o*	*-o*
1PL	*-ê*	*-ê*	*-ê*	*-ê*
2PL	*-ê*	*-ê*	*-ê*	*-ê*
3PL	*-ê*	*-ê*	*-ê*	*-ê*

8.1.5 Theme 5: Category collapse

In a variety where a feature is only distinguished in a minority context, it may drop out of the language entirely. This is clearly the case in Northern Kurdish Koçerî. Almost all of Northern Kurdish has collapsed person marking in the plural. Neighboring Northern Kurdish varieties such as Northern Kurdish Midyat and Northern Kurdish Aşîtî additionally collapsed second and third person singular at least in the present, and some, such as Northern Kurdish Ẍerbî, have extended that to the past tense. The resulting system distinguishes only 1SG as a unique form distinguishing person, while a single form marks the rest of singular and another all of plural. The increasingly marginal category of person is then completely lost, yielding only a number distinction (Type XVIII). This is a type of analogical leveling. The existence of three forms are no longer salient. The marker *-im* [-1SG] is the only form that encodes person. The opposition in the singular becomes *-im* [-1SG] vs. *-ê* [-SG (non-first person)]. This violates Baerman et al.'s (2005) "axiom B" that "Lexical items do not have meanings containing negations, e.g. *'not apple'. By the same token, inflectional markers should not contain negations in their meanings, e.g. *'not past'." In the plural, person is already neutralized with only a single marker *-in* [-PL]. Without commenting any further on the potential motivations, the singular marker is extended to the 1SG form causing a complete neutralization of the category person.

Note that the system found in Northern Kurdish Koçerî is not syncretic by Baerman et al.'s (2005) definition. There has been a loss of distinctions between all values of a particular feature (in this case person), and no other syntactic objects distinguish person; see Table 45. Therefore, person is no longer syntacti-

TABLE 45 Neutralization of person marking in Northern Kurdish

	NK Aşîtî		NK Efrînî		NK Koçerî	
	PRS	PST	PRS	PST	PRS	PST
1SG	*-im*	*-im*	*-im*	*-im*	*-e*	*-∅*
2SG	*-ê*	*-î*	*-ê*	*-î*	*-e*	*-∅*
3SG	*-ê*	*-∅*	*-ê*	*-î*	*-e*	*-∅*
1PL	*-in*	*-in*	*-in*	*-in*	*-e(n)*	*-e(n)*
2PL	*-in*	*-in*	*-in*	*-in*	*-e(n)*	*-e(n)*
3PL	*-in*	*-in*	*-in*	*-in*	*-e(n)*	*-e(n)*

cally relevant. A similar development has occurred in the feminine conjugation of Zazaki, where the development in the singular here is phonologically motivated. This can be understood as syncretic as the category is still relevant in the masculine, subjunctive, and past tense paradigms; see Table 44.

8.1.6 Summary of diachronic developments

The five themes presented above refer to broad systemic effects on the person-number paradigms of Iranic languages. Put in terms of diachronic linguistics, only sound change and morphological analogy play roles in creating the diversity observed here. Of these mechanisms, sound change is primary. Regular sound changes cause syncretism. This can take the form of two similar forms—for example, Common Kurdish *-î [-2SG] and *-îd [-2PL]—that merge due to a change, becoming *-î [-2]. However, it is more likely to occur as the result of the unimorphation of multiple formatives, as in the case of Western Gilaki *-i* [-IPFV] with *-(ə)m* [-1SG] and *-im* [-1PL] as *-im* [-IPFV.1]. The prevalence of the latter type of change explains why Baerman et al. (2005) explicitly included the recognition that "this loss may depend on the presence of a particular combination of values of one or more other features (the context)" in their definition of syncretism. Additionally, it explains Cairns's (1986) assertion that "in a marked member of any given opposition, fewer other oppositions are likely to occur, because, for each further opposition, there would have to be a marked member" (Cairns, 1986: 18). If these marked forms are literally marked, the presence of multiple formatives has more opportunity for internal phonological developments.

Although sound change plays a role in all five themes, Themes 2–5 have additional elements of analogy. Theme 2 (Section 8.1.2) involves the extension of

syncretism developed in a single conjugation class to all classes. This is effectively Baerman et al.'s (2005) "uninflectedness" (syncretism in certain lexemes only) becoming "neutralization" (syncretism in the presence of a particular combination of values). This change can be through a conventional process of leveling, as in Qohrudi: in one paradigm, there is a phonological change that results in syncretism 2SG = 3SG; the 3SG marker becomes a marker of 2SG in another paradigm by analogy, extending the syncretic pattern. However, it can also be introduced into a context through a periphrasis bringing it into a specific context like the Kumzari perfect.

Theme 3 (Section 8.1.3) involves the decoupling of the values of a formative bearing cumulative exponence due to analogy. Wherever a morphologically unmarked form signifies cumulative exponence, ∅ can come to be understood as marking the value not shared by another exponent. Another morphologically marked (nonzero) formative signifying cumulative exponence, including the exponent marked by ∅, will come to be understood as marking the value not marked by ∅. The significance of zero in morphological analogy is apparent throughout the system (see Karim and Salehi, 2022). In the Kurdish person-number paradigm, the result was the reinterpretation of [-3PL] in as *-in* [-PL] in the complex form *-∅-in* [-3-PL]. As shown in Section 8.1.3, this formative then spread throughout the system, especially when ambiguity was created by the changes described in Themes 1 and 2.

Theme 4 (Section 8.1.4) involves forms created by the unimorphation of affixes marking several categories, just like what was described in Theme 2 for the Western Gilaki imperfective. In this theme, the formatives are gender-number affixes, adding gender to the verbal system. Gendered forms from one TAM category can then be extended to other categories. This is not necessarily syncretism being copied, but rather single formatives that may be identical with other formatives in the borrowing paradigm.

Theme 5, category collapse (Section 8.1.5), is the leveling of formatives, sacrificing a marginal category for one that is more robust. In the example of Northern Kurdish Koçerî, the value of person is first eliminated in the plural due to the sound change and morphological analogy as described in Section 8.1.3. Then, sound change merges 2SG and 3SG, further marginalizing person, which is only salient in the first person singular; it is a category with no direct minimal oppositions, for example, 2SG, 3SG, 1PL. The form 1SG is opposed to SG and PL, the former sharing the distinctive value. The remaining meaningful category is leveled.

TABLE 46 CK Kełekçî Goranî in contrast with the paradigm of neighboring varieties

	Present indicative		Past intransitive	
	Kełekçî Goran	**General CK**	**Kełekçî Goran**	**G. Bacelanî**
1SG	*-im*	*-im*	*-im*	*-îm*
2SG	*-î*	*-î*	*-î(t)*	*-ît*
3SG	*-ê*	*-ê*	*-∅*	*-∅*
1PL	*-în*	*-în*	*-man*	*-îman*
2PL	*-in*	*-in*	*-tan*	*-îtan*
3PL	*-in*	*-in*	*-in*	*-îşan*

8.2 *Areal and contact effects*

Some of the patterns in the distribution of syncretic types illustrate areal convergence with contact languages or language shift. In some varieties, a pattern that exists in both the past and present is replaced in one or the other. This change could be explained by reasons including language contact or language shift. An example of this is the Central Kurdish variety of Kełekçî Goran, which exhibits Goranî substrate (see Karim, 2024; Leezenberg, 1992; Mohammadirad, 2024; Mohammadirad & Karim, 2025; among others).[13] Here, the typical Type IV homophony pattern of Central Kurdish has been disrupted in some varieties in the Mosul Plain, whose speakers recently shifted to local Central Kurdish varieties. The person paradigm of Central Kurdish Kełekçî has preserved the Central Kurdish pattern of homophony only in the present tense. In contrast, it has partially replaced the past tense paradigm in analogy to the clitic paradigm, as is the case in the Goranî varieties of the area (e.g., Bacelanî). This reflects that in language shift situations, the present tense, the semantically unmarked tense (Koch, 1995), tends to converge more with the structure of the target language, here Central Kurdish.

The vernacular of Rojbeyanî is another case of a recent shift from Goranî to Kurdish. However, it shows a more complicated picture than Central Kurdish Kełekçî because of its proximity to Northern Kurdish dialects of the Duhok region, on the one hand, and those of Syria, on the other. In line with the former, it limits the 2PL/3PL homophony to the present tense. However, in the past

13 Speakers of varieties such as Kełekçî Goran are known to have shifted recently to Kurdish. It is a fact that they show developments that are shared by the Goranî varieties they have shifted from and not the rest of Kurdish. We do not make any claims about the motivation for this development, only that the convergence is a fact.

TABLE 47 CK Rojbeyani in comparison with the paradigm of neighboring Northern Kurdish varieties

	Present indicative		Past intransitive	
	CK Rojbeyanî	**NK Duhok**	**CK Rojbeyani**	**NK Ẍerbî**
1SG	*-im*	*-im*	*-im*	*-îm*
2SG	*-î*	*-î*	*-∅*	*-∅*
3SG	*-ê/-o*	*-ît*	*-∅*	*-∅*
1PL	*-în*	*-în*	*-man*	*-in*
2PL	*-in*	*-in*	*-tan*	*-in*
3PL	*-in*	*-in*	*-in*	*-in*

tense, it has developed 2SG/3SG homophony, reminiscent of the homophony pattern in the Northern Kurdish dialects of Syria. The copying of the Northern Kurdish model, however, remains partial in the past tense and only affects the singular. Note that there is neither a language-internal source for this analogy nor a sound change that explains the convergence.

Type XVI (2SG/3SG and 1PL/2PL/3PL) and Type XVIII (1SG/2SG/3SG and 1PL/2PL/3PL) patterns are confined to Northern Kurdish and Zazaki, making them an areal development. Type XVI is found in the Northern Kurdish varieties Aşîtî, Midyat, Ẍerbî, and Efrînî. In Zazaki, this is the case with the feminine indicative in Palu-Bingöl and Miyaro (see Table 14). Note that the source constructions are different in the two groups, with the Zazaki one being nominal in origin. Nonetheless, long-standing contact with Zazaki might have induced this change in the Northern Kurdish varieties.

Type XVIII, featuring full nested syncretism and leading to a complete neutralization of person, is found in the Koçerî variety of Northern Kurdish and in the feminine indicative of Zazaki varieties such as Pîran and Siverek (see Table 15), pointing to a shared areal pattern in the region. Note that, additionally, the neighboring Arabic varieties in northeastern Syria feature the full neutralization of the category of person. Compare the copula paradigm in Northern Kurdish Koçerî and neighboring Syrian Arabic varieties in Table 48. In both paradigms, the sole way to express person is through independent personal pronouns. Note that in Arabic, the adjective inflects for gender in the singular, which is not a feature of Northern Kurdish. Another difference is the nonconcatenative expression of gender and number in Arabic against the agglutinative expression of person in Kurmanji.

TABLE 48 The copula paradigm in Koçerî in contrast with neighboring Arabic varieties

	NK Koçerî		Hassakah Arabic	
1SG	*ez baş-e*	[1SG good-SG]	*ana mnih*	[1SG good.SG.M]
2SG	*ti baş-e*		*ənta mnih*	
3SG	*ew baş-e*		*huwa mnih*	
1PL	*em baş-in*	[1PL good-PL]	*nhne mnāh*	[1PL good.PL]
2PL	*hûn baş-in*		*əntu mnāh*	
3PL	*ew baş-in*		*həne mnāh*	

TABLE 49 The development of Type XV in NK Mergasur Barzan

	CK Ranye	NK Mergasur	NK Marinus
1SG	*-im*	*-me*	*-im*
2SG	*-î*	*-î*	*-î*
3SG	*-î*	*-î*	*-ît*
1PL	*-în*	*-în*	*-în*
2PL	*-in*	*-in*	*-in*
3PL	*-in*	*-in*	*-în*

Yet another areal pattern in the person-number paradigm is found in the northernmost varieties of Central Kurdish spoken around Erbil. Here, the homophony pattern in the present indicative is of Type XV, consisting of the default 2PL/3PL homophony and added 2SG/3SG homophony, which is the result of sound change in the 3SG form *-ît* > *-î*. This homophony pattern is specific to the Erbil region within the Central Kurdish speech zone; it is unattested in Southern Kurdish and only occurs in one variety of Northern Kurdish. This homophony pattern has spread to the person-number paradigm in Northern Kurdish Mergasure, spoken in the Barzan region, suggesting language contact as a source. Compare the forms of Northern Kurdish Mergasur in Table 49 with those of the neighboring Northern Kurdish varieties which have retained the full 3SG form.

9 Typological generalizations

Western Iranic languages exhibit considerable variation in the internal structure of the verbal person/number marking paradigms. The patterns that occur within these languages allow us to make some generalizations about the typology of person-number syncretism. The syncretic patterns within the investigated languages can be analyzed using different typological grids. In what follows, we address the research questions given in Section 3.

9.1 *What are the most frequent syncretic patterns within Western Iranic?*

This question addresses the frequency of individual syncretic patterns and general types of syncretism in the 174 Western Iranic varieties. In Table 50, we show the number of paradigms with each type. Note that some varieties have multiple patterns, and as such, the sum total of all the types is more than the 174 varieties. Note that Types XIII and above contain multiple syncretic blocks that can be described in terms of nested or contrary block of Types I–XII. It is notable that nearly all syncretic blocks are more highly represented in the present indicative than in the past intransitive. However, Types IV and V are exceptions to this generalization. The lower count of Type IV in the present indicative is mainly because in the present indicative of Central Kurdish varieties spoken around Erbil, 2PL/3PL combines with another homophony pattern, 2SG/3SG homophony, yielding Type XV. In fact, Type XV only occurs in the present indicative. In the case of Type V, the lower frequency of present indicative, for example in Northern Kurdish varieties, has to do with the fact that some variants, such as Midyat and Aşîtî, have developed, alongside the default 1PL/2PL/3PL homophony, 2SG/3SG syncretism, which makes their syncretic types in the present indicative Type XVI.

The most frequent type in our sample across both TAM categories is Type IV. This has a bipartite explanation. The first reason is that our sample is biased toward Northern, Central, and Southern Kurdish, where the merger of 2PL and 3PL happened in almost all varieties. These three branches constitute 81 of the 174 language varieties sampled here; see trends in Tables 17, 33, and 37. The other reason for the abundance of Type IV is found in the historical Theme 3 (see Section 8.1.3), a mechanism by which the third person plural marker can be reanalyzed as a general marker of plural, not encoding person. This mechanism is also responsible for Type V, the second most common type.

A feature of the syncretic patterns, both in singular and plural vertical homophony, is that they tend to occupy adjacent places in the person paradigm, for example, 1SG/2SG, 2PL/3PL, and so on. Syncretism between first and third per-

TABLE 50 Syncretism types: counts and percentages (non-syncretic Type 0 removed)

Type	All		PRS.IND		PST.INTR	
	N	%	N	%	N	%
I	14	6%	8	8%	6	6%
II	7	3%	5	5%	2	2%
III	3	1%	2	2%	1	1%
IV	109	46%	37	37%	49	52%
V	31	13%	12	12%	16	17%
VI	4	2%	2	2%	2	2%
VII	1	<1%				
VIII	2	1%	1	1%	1	1%
IX	4	2%			1	1%
X	16	7%	6	6%	6	6%
XI	1	<1%				
XII	1	<1%				
XIII	1	<1%	1	1%		
XIV	1	<1%				
XV	13	5%	13	13%		
XVI	12	5%	8	8%	2	2%
XVII	7	3%			4	4%
XVIII	7	3%	5	5%	2	2%
XIX	1	<1%	1	1%		
XX	1	<1%			1	1%
XXI	1	<1%				

son is rare and is only attested in the Zazaki varieties of Şeyxan and Miyaro, Types XIII and XIV, where 1SG/3SG syncretism is attested. These two varieties of Zazaki make up only 1.18% of our sample. Additionally, the merger clearly came about through regular phonological changes. In other words, there is no motivation for the development other than sound change and initial conditions. The rarity of syncretism between the first and third person in Western Iranic conforms to the typological tendencies found elsewhere (Baerman et al., 2005: 59).

TABLE 51 Number of syncretic patterns per TAM category

TAM	No. paradigms	No. syncretisms	%
Present indicative	182	101	55%
Past intransitive	186	94	51%

9.2 *What is the effect of tense on verbal person-number syncretism across Western Iranic?*

This question is concerned with the frequency of syncretic patterns per TAM mood category. Table 51 summarizes the number of syncretic patterns per TAM category. Note that the numbers are indicative of paradigms, not varieties. For instance, in some languages, for example, Zazaki, the present indicative has one syncretic pattern when the paradigm contains third singular masculine, and another when the paradigm contains third singular feminine. The number of syncretic patterns is low for the present subjunctive and past perfect, but this is due to the lack of data on these TAM categories.

According to the data in Table 51, there is a greater percentage of syncretic patterns in the present indicative than the (intransitive) past indicative. To assess whether there is a significant difference between the proportions of syncretism in the present indicative vs. past intransitive, we conducted a two-proportion z test. The p value associated with this z statistic is approximately 0.595, meaning that there is no statistically significant difference between the two TAM categories. Thus although the greater percentage of syncretic patterns in the present indicative is in line with typological tendencies, it is not statistically significant and cannot be seen as a predictor of syncretism. In our case, the more syncretism in the present indicative may also be due to the fact that the past intransitive contains the zero suffix in the 3SG, which precludes the development of syncretic patterns observed in the present indicative that involve the 3SG, such as Types II (2SG/3SG homophony), XV (2SG/3SG and 2PL/3PL), and XIX (1SG/2SG and 3SG/2PL/3PL).

9.3 *What is the effect of number (singular and plural) on the diversity of syncretic patterns in the dataset?*

Another aspect of the study of person syncretism is the rate of syncretism across number values. Typological literature suggests that syncretism is more common in the plural than in the singular (Baerman et al., 2005: 59). The Iranic data reflect the same tendencies. Types III, IV, and V paradigms have a single syncretic block with only homophony in the plural. These types are found in

143 paradigms, making up 60% of our sample. In contrast, Types I and II feature a single syncretic block in the singular. These types number 21 paradigms, making up 9% of our sample. Furthermore, there are 29 paradigms with one syncretic block containing some values of the singular and plural, constituting 12% of our sample. Eighteen of the 29 paradigms with syncretism in both the singular and plural (62%) feature full plural vertical homophony but not necessarily singular, providing further evidence that there is more syncretism in the plural. In total (excluding Type 0), 211 paradigms (89%) have some syncretism in the plural, while only 66 (28%) have some syncretism in the singular (i.e., just over a third of those with vertical syncretism).

The higher level of syncretism in the plural is in line with Cairns's (1986) assertion that "in a marked member of any given opposition, fewer other oppositions are likely to occur, because, for each further opposition, there would have to be a marked member" (Cairns, 1986: 18). According to Baerman et al. (2005: 23), Cairns's (1986) assertion bears out for most of their data. However, its explanatory value is questionable due to an ambiguity of possible interpretations: (a) is the syncretism a property of the conditioning feature value, that is, is syncretism likely to develop in the plural because of an inherent property of plurality, or (b) is syncretism likely to develop in the plural because of sound change and initial conditions created by the morphology that realizes plurality within the paradigm? The current study differs from Baerman et al.'s (2005) large global typological study by focusing on great variation within a single albeit large language subfamily. As such, our data provides good historical comparative evidence for confirming these interpretations. Put another way, by examining differences between closely related varieties that developed syncretism and those that did not, we can clearly distinguish developments due to sound change and initial conditions from those due to innate properties of different conditioning contexts.

9.4 *Which directional effects are there in the developments of the syncretic patterns?*

Yet another aspect worthy of discussion in the syncretic patterns within Western Iranic is the directional effects in the person/number paradigm. That is, when syncretism occurs, which formative gets extended to the rest of the paradigm? Northern Kurdish dialects provide a good example of the extension of the third person form to first and second persons. As laid out in Section 8.1, the 3PL gets extended first to 2PL, a characteristic of the vast majority of Kurdish varieties, and then to 1PL (in northern and central varieties). The 3SG formative replaces the 2SG in the Turʃabdin dialects of Northern Kurdish, and further extends to the 1SG in the Koçerî variety (see Table 15). This leveling of

person in the verbal paradigm based on the third person follows from its default status. This is a reflection of Watkins's law, which holds that the third person is the basis for reorganizing the verbal conjugation (Watkins, 1962). Note that this is not precisely Watkins's law, which involves the reanalysis of a third person singular inflected form as a default morphologically unmarked form. In the spirit of Watkins's law, the default status of third person singular coupled with its morphological unmarkedness (-∅) in the Iranic past tense construction helped to systematically decouple person from the third person plural (-∅-*in*). When the morphologically marked category plural is eliminated due to regular sound change in the second person in all varieties (*-î) and in the first person in most (-*m*), the plural marker from 3PL is extended to restore the morphologically marked status of plural (-*î-n* and -*m-in*).

Note that this is Kuryłowicz's fifth law of analogy: "In order to reestablish a distinction of central significance, the language gives up a distinction of more marginal significance" (Hock, 2021: 245). Hock (2021: 245) gives the example of French, which gives up the distinction of nominal case in favor of preserving the distinction of number.[14] Likewise, the overwhelming tendency in Iranic languages is to preserve the morphologically marked number category plural over the more marginal distinction of person. This is further shown by the fact that horizontal syncretism, a system where person is expressed at the expense of number, only occurs in 18 varieties in our sample (10.59%).

In contrast, when there is syncretism between first person and second person in Types I (in the singular) and III (in the plural), there is no comparable drive to restore a person distinction. The Goranî varieties featuring Type I homophony may (see Section 8.1.1) indicate that sound change alone can be responsible for the syncretism between first and second person, and as such, no directional effects can be assumed here.

9.5 *What are the major diachronic themes that lead to the development of syncretism in Iranic?*

There are five major themes which explain nearly all of the diversity observed in the person-number paradigms across Iranic languages (see Section 8.1 for full details):

1. Sound change leads to the development of homophonous forms. This is the most common explanation for any syncretic block.

14 Note that like French, in many Iranic languages the distinction of case is lost in favor of maintaining the distinction number in the nominal system; compare Middle Persian -∅ [-NOM.SG/ACC.SG/GEN.SG/NOM.PL], -*ān* [-GEN.PL/ACC.PL] with New Persian -∅ [-SG], -*ān* [-PL].

2. Changes can develop in a single conjugation class or in a single TAM/gender category due to unimorphation of inflectional and derivational affixes.
3. Homophony can lead to the decoupling of form-meaning correspondences (see the summary of Kurdish plural marking in the previous subsection).
4. Changes that develop in a single conjugation class or in a single TAM or gender category which develop because of unimorphation of inflectional and derivational affixes can be the basis for analogical leveling, becoming the default paradigm. This pattern is well attested in the history of Iranic languages, for example, in Qohrudi, Zazaki, and Kurdish.
5. When a particular category atrophies to the point where it is only relevant in a single domain or context, and only for a singular value of that category, it may be lost entirely. This is the case with Northern Kurdish Koçerî.

Examining the distribution of these 21 syncretism patterns will likely serve as the basis for further inquiry that is beyond the scope of the current study. For instance, there is a long-standing question about the relationship between the neutralization of a particular person-number category and the prevalence and possibility of pro-drop (Fuß, 2011; Koeneman and Zeijlstra, 2019). We now have localized closely related varieties which feature the partial neutralization of person in the plural, the total neutralization of person in the plural, the partial neutralization of person in the singular and plural, and the total neutralization of person throughout the system. This, among other open questions, can now be explored experimentally thanks to this pioneering study.

In conclusion, the syncretic patterns in verbal person/number marking in New Western Iranic languages are highly diverse. This article has established the types of syncretism patterns observed in these languages, the proportions at which they occur, and their areal distribution. Additionally, we have addressed major themes in diachrony that contributed to the emergence of the attested syncretic patterns within Western Iranic. Furthermore, we have expanded on and confirmed many of the tendencies that guide trends in the typology of person-number syncretism. Specifically, we have shown that in some cases, syncretism is a property of a particular morphosyntactic conditioning feature value, and in other cases, it is a feature of the morphology that realizes that feature. In cases of the former, we predict a crosslinguistically applicable tendency, and for the latter, we predict a family-specific tendency that is locally or partially applicable. We hope that further study into this phenomenon will yield a precise understanding of which features belong to these two categories.

Abbreviations

ACC	accusative
Bal	Balochi
CK	Central Kurdish
CP	Central Plateau (dialects)
F	feminine
G	Goranî
GEN	genitive
IND	indicative
INTR	intransitive
IPFV	imperfective
M	masculine
NK	Northern Kurdish
NOM	nominative
P	Persian
PCPL	participle
PL	plural
PRF	perfect
PRS	present
PST	past
SK	Southern Kurdish
SBJV	subjunctive
SG	singular

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Appendix

TABLE 52 Raw data

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
1	NK Agrî	PRS	V	*-im*	*-î*	*-e*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Agrî	PST	V	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Akre	PRS	IV	*-im*	*-î*	*-ît*	*-în*	*-in*	*in*	(Khan et al., 2025)
1	NK Akre	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Aşîtî	PRS	XVI	*-im*	*-ê*	*-ê*	*-in*	*-in*	*-in*	(Matras and Osman, 2024)
1	NK Aşîtî	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Matras and Osman, 2024)
1	NK Batman	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Batman	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Bazît	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Bazît	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Deregez	PRS	IV	*-im*	*-î*	*-e*	*-inî*	*-in*	*-in*	(Jafarzadeh, 2017)
1	NK Deregez	PST	IV	*-im*	*-î*	*-∅*	*-inî*	*-in*	*-in*	(Khan et al., 2025)
1	NK Diyarbakir	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Diyarbakir	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Efrînî	PRS	XVI	*-im*	*-ê*	*-ê*	*-in*	*-in*	*-in*	(Matras and Osman, 2024)
1	NK Efrînî	PST	XVI	*-m*	*-î*	*-(î)*	*-in*	*-in*	*-in*	(Matras and Osman, 2024)
1	NK Gawdan	PRS	V	*-im*	*-î*	*-ît(in)*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Gawdan	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Gerdi	PRS	IV	*-im*	*-e*	*-ît*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Gerdi	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Kobanî	PRS	V	*-me*	*-î*	*-e*	*-ne*	*-ne*	*-ne*	(Matras and Osman, 2024)
1	NK Kobanî	PST	V	*-m*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Matras and Osman, 2024)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
1	NK Koçerî	PRS	XVIII	*-e*	*-e*	*-e*	*-e(n)*	*-e(n)*	*-e(n)*	(Matras and Osman, 2024)
1	NK Koçerî	PST	XVIII	*-∅*	*-∅*	*-∅*	*-n*	*-n*	*-n*	(Matras and Osman, 2024)
1	NK Lachin	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Stilo, 2021)
1	NK Lachin	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Maku	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Maku	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Mardin NK	PRS	XVI	*-im*	*-e*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Mardin NK	PST	XVI	*-im*	*-∅*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Marinus	PRS	IV	*-im*	*-î*	*-ît*	*-în*	*-în*	*in*	(Khan et al., 2025)
1	NK Marinus	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Mergesur B.	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Mergesur B.	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Midyat	PRS	XVI	*-im*	*-ê*	*-ê*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Midyat	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Muş	PRS	V	*-im*	*-î*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Muş	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Pinyanisi	PRS	IV	*-im*	*-ê*	*-ît*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Pinyanisi	PST	IV	*-im*	*-ê*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Semel	PRS	V	*-im*	*-î*	*-êt*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Semel	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Semsur	PRS	XVI	*-ime*	*-e*	*-e*	*-in*	*-in*	*-in*	(Atlamaz, 2012)
1	NK Semsur	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Shingal M	PRS	V	*-im*	*-î*	*-ê*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Shingal M	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Shingal Y	PRS	IV	*-im*	*-î*	*-e*	*-în*	*-in*	*-in*	(Blau, 1975)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
1	NK Shingal Y	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Blau, 1975)
1	NK Silopî	PRS	VIII	*-im*	*-î*	*-ê*	*-î*	*-î*	*-in*	(Khan et al., 2025)
1	NK Silopî	PST	VIII	*-im*	*-î*	*-∅*	*-î*	*-î*	*-in*	(Khan et al., 2025)
1	NK Soran	PRS	IV	*-im*	*-e*	*-ît*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Soran	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Tergewer	PRS	IV	*-im*	*-i*	*-ît*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Tergewer	PST	IV	*im*	*-i*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Uludere	PRS	IV	*-im*	*-î*	*-it*	*în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Uludere	PST	IV	*-im*	*-î*	*-∅*	*în*	*-in*	*-in*	(Khan et al., 2025)
1	NK Ẍerbî	PRS	XVI	*-im*	*-e*	*-e*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Ẍerbî	PST	XVI	*-im*	*-∅*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Zaxo	PRS	V	*-im*	*-î*	*-it*	*-in*	*-in*	*-in*	(Khan et al., 2025)
1	NK Zaxo	PST	V	*-im*	*-î*	*-∅*	*-in*	*-in*	*-in*	(Khan et al., 2025)
2	CK Erbil	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Erbil	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Helebece	PRS	IV	*-im*	*-î*	*-ê*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Helebece	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Kalakchi G.	PRS	IV	*-im*	*-i*	*-ê*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Kalakchi G.	PST	O	*-im*	*-î*(*t*)	*-∅*	*-man*	*-tan*	*-in*	(Khan et al., 2025)
2	CK Kalar	PRS	IV	*-im*	*-î*	*-e*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Kalar	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Khoshnaw B.	PRS	XV	*-im*	*-î*	*-î*	*în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Khoshnaw B.	PST	IV	*-im*	*-î*	*-∅*	*în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Koye	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Koye	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
2	CK Masif	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Masif	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Mexmûr	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Mexmûr	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Mukri	PRS	IV	*-im*	*-î*	*-ê(t)*	*-în*	*-in*	*-in*	(Öpengin, 2016)
2	CK Mukri	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Qurwe	PRS	IV	*-im*	*-î*	*-ê*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Qurwe	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Ranye Shawre	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Ranye Shawre	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Salas	PRS	IV	*-im*	*-î*	*-êt*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Salas	PST	IV	*-im*	*-ît*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Sanandaj	PRS	IV	*-im*	*-î*	*-ê*	*-în*	*-in*	*-in*	(Khan and Mohammadirad, 2024)
2	CK Sanandaj	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Saqiz	PRS	IV	*-im*	*-î*	*-ê*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Saqiz	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Khoshnaw	PRS	XV	*-im*	*-î*	*-î*	*în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Khoshnaw	PST	IV	*-im*	*-î*	*-∅*	*în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Rojbayanî	PRS	IV	*-im*	*-î*	*-ê/-o*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Rojbayanî	PST	II	*-im*	*-∅*	*-∅*	*-man*	*-tan*	*-in*	(Khan et al., 2025)
2	CK Slemani	PRS	IV	*-im*	*-î(t)*	*-ê(t)*	*-în*	*-in*	*-in*	(MacKenzie, 1962)
2	CK Slemani	PST	IV	*-im*	*-î(t)*	*-∅*	*-în*	*-in*	*-in*	(MacKenzie, 1962)
2	CK Soran	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Soran	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Surchi	PRS	XV	*-im*	*-î*	*-î*	*-în*	*-in*	*-in*	(Khan et al., 2025)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
2	CK Surchi	PST	IV	*-im*	*-î*	*-∅*	*-în*	*-in*	*-in*	(Khan et al., 2025)
2	CK Qurwe	PRF	V	*-im*	*-î*	*-ê*	*-ün*	*-ün*	*-ün*	(Khan et al., 2025)
3	SK Bîlewar	PRF	V	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-n*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Zurbatiya	PRF	IV	*-î-m*	*-î-t*	*-î-∅*	*-î-min*	*-î-n*	*-î-n*	(Fattah, 2000)
3	Ali al Gharbi	PRF	IX	*-wî-m*	*-wî-n*	*-wî-∅*	*-wî-min*	*-wî-n*	*-wî-n*	(Fattah, 2000)
3	Ali al Gharbi	PRS	IV	*-im*	*-î*	*-ê*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Ali al Gharbi	PST	IV	*-im*	*-î*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Arkwâzi	PRF	IV	*-ü-m*	*-ü*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	Arkwâzi	PRS	IV	*-im*	*-î(t)*	*-î(gy)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Arkwâzi	PST	IV	*-im*	*-î(t)*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Badreh	PRF	IV	*-ü-m*	*-ü-d*	*-ü-d*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	Badreh	PRS	IV	*-im*	*-id*	*-ê(d)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Badreh	PST	IV	*-im*	*-îd*	*-id*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Bazgîr	PRF	IV	*-wî-m*	*-wî-t*	*-wî-∅*	*-wî-min*	*-wî-n*	*-wî-n*	(Fattah, 2000)
3	Bazgîr	PRS	IV	*-im*	*-în*	*-ê*	*-imin*	*-in*	*-in*	(Fattah, 2000)
3	Bazgîr	PST	IV	*-im*	*-în*	*-∅*	*-imin*	*-in*	*-in*	(Fattah, 2000)
3	Dûşeyx	PRF	IV	*-î-m*	*-î-d(in)*	*-î-(g(in))*	*-î-min*	*-î-n*	*-î-n*	(Fattah, 2000)
3	Dûşeyx	PRS	IV	*-im*	*-îd(in)*	*-îg(in)*	*-îmin*	*-in*	*-in*	(Fattah, 2000)
3	Dûşeyx	PST	IV	*-im*	*-îd(in)*	*-∅*	*-îmin*	*-in*	*-in*	(Fattah, 2000)
3	Kolyâi	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	Kolyâi	PRS	IV	*-im*	*-î(d)*	*-ê*	*-îm*	*-in*	*-in*	(Fattah, 2000)
3	Kolyâi	PST	IV	*-im*	*-î(d)*	*-∅*	*-îm*	*-in*	*-in*	(Fattah, 2000)
3	SK Abdanan	PRF	IV	*-ü-m*	*-ü-*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Abdanan	PRS	IV	*-im*	*-î*	*-ê*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Abdanan	PST	IV	*-im*	*-î*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
3	SK Bijar	PRF	IV	*-ü-m*	*-ü-d*	*-ü-(gy)*	*-ü-man*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Bijar	PRS	IV	*-im*	*-îd*	*-î*	*-îman*	*-in*	*-in*	(Fattah, 2000)
3	SK Bijar	PST	IV	*-im*	*-îd*	*-∅*	*-îman*	*-in*	*-in*	(Fattah, 2000)
3	SK Bîlewar	PRS	IV	*-im*	*-î(d)*	*-ê*	*-în*	*-in*	*-in*	(Fattah, 2000)
3	SK Bîlewar	PST	IV	*-im*	*-(d)*	*-∅*	*-în*	*-in*	*-in*	(Fattah, 2000)
3	SK Bîsitun	PRF	O	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-dan*	*-ü-n*	(Fattah, 2000)
3	SK Bîsitun	PRS	O	*-im*	*-î*	*-(d)*	*-îm(in)*	*-îdan*	*-in*	(Fattah, 2000)
3	SK Bîsitun	PST	O	*-im*	*-îd*	*-∅*	*-îm(in)*	*-îdan*	*-in*	(Fattah, 2000)
3	SK Gahware	PRS	O	*-im*	*-î*	*-ê*	*-îm*	*-în*	*-in*	(Khan et al., 2025)
3	SK Gahware	PST	O	*-im*	*-î*	*-∅*	*-îm*	*-îd*	*-in*	(Khan et al., 2025)
3	SK Gilan	PRS	O	*-im*	*-î*	*-ê*	*-îm*	*-în*	*-in*	(Khan et al., 2025)
3	SK Gilan	PST	O	*-im*	*-î*	*-∅*	*-îm*	*-în*	*-in*	(Khan et al., 2025)
3	SK Ilam	PRF	IV	*-î-m*	*-î-*	*-î-(g/d)*	*-î-m(in)*	*-î-n*	*-î-n*	(Fattah, 2000)
3	SK Ilam	PRS	IV	*-im*	*-î*	*-ê(g)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Ilam	PST	IV	*-im*	*-î*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Iwan	PRF	IV	*-ü-m*	*-ü-d*	*-ü-(gy)*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Iwan	PRS	O	*-im*	*-î(d)*	*-ê(gy)*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Iwan	PST	O	*-im*	*-î(d)*	*-∅*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Kelhor Sh.	PRF	IV	*-ü-m*	*-ü-d(in)*	*-ü-(din)*	*-ü-m*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Kelhor Sh.	PRS	O	*-im*	*-î(d(in))*	*-ê(d(in))*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Kelhor Sh.	PST	O	*-im*	*-î(d(in))*	*-∅*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Keprat	PRF	IV	*-ü-m*	*-ü-d(in)*	*-ü-(gy(in))*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Keprat	PRS	O	*-im*	*-îd*	*-êgy(in)*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Keprat	PST	O	*-im*	*-îd(in)*	*-∅*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Kirmanşa	PRS	O	*-im*	*-îd*	*-id*	*-îmin*	*-în*	*-in*	(Fattah, 2000)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
3	SK Kirmanşa	PST	O	*-im*	*-îd*	*-∅*	*-îmin*	*-în*	*-in*	(Fattah, 2000)
3	SK Kirmanşa	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Malikşay	PRF	IV	*-ü-m*	*-ü-t*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Malikşay	PRS	IV	*-im*	*-ît*	*-ê(gy)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Malikşay	PST	IV	*-im*	*-î(t)*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Mendilî	PRF	IV	*-ibî-m*	*-ibî-d*	*-ibî-∅*	*-ibî-min*	*-ibî-n*	*-ibî-n*	(Fattah, 2000)
3	SK Mendilî	PRS	O	*-im*	*-î(d)*	*-id*	*-îmin*	*-în*	*-in*	(Fattah, 2000)
3	SK Mendilî	PST	O	*-im*	*-î(d)*	*-∅*	*-îmin*	*-în*	*-in*	(Fattah, 2000)
3	SK Mihran	PRF	IV	*-î-m*	*-î-t*	*-î-∅*	*-î-min*	*-î-n*	*-î-n*	(Fattah, 2000)
3	SK Mihran	PRS	O	*-im*	*-î(t)*	*-î(gy)*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Mihran	PST	O	*-im*	*-î(t)*	*-∅*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Myexas	PRF	IV	*-ü-m*	*-ü-t*	*-ü-(gy)*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Myexas	PRS	IV	*-im*	*-î(t)*	*-ê(gy)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Myexas	PST	IV	*-im*	*-î(t)*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Payrewend	PRF	O	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-dan*	*-ü-n*	(Fattah, 2000)
3	SK Payrewend	PRS	O	*-im*	*-î*	*-(d)*	*-îm(in)*	*-îdan*	*-in*	(Fattah, 2000)
3	SK Payrewend	PST	O	*-im*	*-îd*	*-∅*	*-îm(in)*	*-îdan*	*-in*	(Fattah, 2000)
3	SK Qasırıširin	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Qasırıširin	PRS	O	*-im*	*-î(d)*	*-(ê)d*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Qasırıširin	PST	O	*-im*	*-î(d)*	*-∅*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Qurwe	PRF	V	*-ü-m*	*-ü-d*	*-ü-(gy)*	*-ü-n*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Qurwe	PRS	IV	*-im*	*-î(d)*	*-ê(d)*	*-în*	*-in*	*-in*	(Fattah, 2000)
3	SK Qurwe	PST	IV	*-im*	*-î(d)*	*-∅*	*-în*	*-in*	*-in*	(Fattah, 2000)
3	SK Sehene	PRF	O	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-m*	*-ü-dan*	*-ü-n*	(Fattah, 2000)
3	SK Sehene	PRS	O	*-im*	*-î*	*-ê(d)*	*-îm*	*-îdan*	*-in*	(Fattah, 2000)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
3	SK Sehene	PST	O	*-im*	*-î*	*-∅*	*-îm*	*-îdan*	*-in*	(Fattah, 2000)
3	SK Senjabî	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Senjabî	PRS	O	*-im*	*-îd*	*-êd*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Senjabî	PST	O	*-im*	*-î(d)*	*-∅*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Serpol	PRF	O	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Serpol	PRS	O	*-im*	*-î(d)*	*-ê(d)*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Serpol	PST	O	*-im*	*-î(d)*	*-∅*	*-îm*	*-în*	*-in*	(Fattah, 2000)
3	SK Zurbatiya	PRS	IV	*-im*	*-î(t)*	*-ê*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Zurbatiya	PST	IV	*-im*	*-î(t)*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Şerwan K.	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-min*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Şerwan K.	PRS	O	*-im*	*-î(d)*	*-ê(d)*	*-îm(in)*	*-în*	*-in*	(Fattah, 2000)
3	SK Şerwan K.	PST	IV	*-im*	*-îd*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Şerwan Z.	PRF	IV	*-ü-m*	*-ü-d*	*-ü-∅*	*-ü-m(in)*	*-ü-n*	*-ü-n*	(Fattah, 2000)
3	SK Şerwan Z.	PRS	IV	*-im*	*-îd*	*-ê(g)*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	SK Şerwan Z.	PST	IV	*-im*	*-îd*	*-∅*	*-îm(in)*	*-in*	*-in*	(Fattah, 2000)
3	Wermizyar	PRF	IV	*-î-m*	*-î-t*	*-î-∅*	*-î-min*	*-î-n*	*-î-n*	(Fattah, 2000)
3	Wermizyar	PRS	O	*-im*	*-ît*	*-ê*	*-îmin*	*-în*	*-in*	(Fattah, 2000)
3	Wermizyar	PST	O	*-im*	*-ît*	*-∅*	*-îmin*	*-în*	*-in*	(Fattah, 2000)
3	Xânaqin	PRF	IV	*-ibî-m*	*-ibî-d*	*-ibî-t*	*-ibî-m*	*-ibî-n*	*-ibî-n*	(Fattah, 2000)
3	Xânaqin	PRS	IV	*-im*	*-î(d)*	*-id*	*-îm*	*-in*	*-in*	(Fattah, 2000)
3	Xânaqin	PST	IV	*-im*	*-î(d)*	*-∅*	*-îm*	*-in*	*-in*	(Fattah, 2000)
4	Zazaki Piran	SBJV.F	XVII	*-a*	*-a*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Piran	SBJV.M	X	*-a*	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Alevi	PRS.F	XV	*-∅*	*-a*	*-o*	*-me*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Alevi	PST.F	IV	*-o*	*-a*	*-e*	*-îme*	*-î*	*-î*	(Paul, 1998)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
4	Zazaki Alevi	PRS.M	IV	-∅	*-a*	*-o*	*-me*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Alevi	PST.M	IV	*-o*	*-a*	-∅	*-îme*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Alevi	SBJV	IX	*-î*	*-ê*	*-o*	*-îme*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Eğil	PRS.F	XVIII	*-a*	*-a*	*-a*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Eğil	PST.F	XVII	*-a*	*-a*	*-i*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Eğil	SBJV.F	XVII	*-a*	*-a*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Eğil	PRS.M	X	*-a*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Eğil	PST.M	X	*-a*	*-î-*	-∅	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Eğil	SBJV.M	X	*-a*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Lice	PRS.F	XVIII	*-a*	*-a*	*-a*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Kulp	PST.F	XVIII	*-a*	*-a*	*-e*	*-î*	*-î*	*-î*	(p.c., Mahîr Dogan)
4	Zazaki Lice	PRS.M	X	*-a*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Kulp	PST.M	X	*-a*	*-î*	-∅	*-î*	*-î*	*-î*	(p.c., Mahîr Dogan)
4	Zazaki Lice	SBJV	X	*-î*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Miyaro	PRS.F	XVI	-∅	*-a*	*-a*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Miyaro	PST.F	V	*-o*	*-a*	-∅	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Miyaro	SBJV.F	XVI	*-o*	*-a*	*-a*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Miyaro	PRS.M	X	-∅	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Miyaro	PST.M	X	*-o*	*-î*	-∅	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Miyaro	SBJV.M	XIV	*-o*	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki P.-B.	PRS.F	XVI	-∅	*-a*	*-a*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki P.-B.	PST.F	XVII	*-a*	*-a*	-∅	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki P.-B.	SBJV.F	XI	*-î*	*-a*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki P.-B.	PRS.M	X	-∅	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki P.-B.	PST.M	X	*-a*	*-î*	-∅	*-î*	*-î*	*-î*	(Paul, 1998)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
4	Zazaki P.-B.	SBJV.M	XII	*-î*	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Piran	PRS.F	XVIII	*-a*	*-a*	*-a*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Piran	PST.F	XVII	*-a*	*-a*	*-i*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Piran	PRS.M	X	*-a*	*-î*	*-o*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Piran	PST.M	X	*-a*	*-î*	*-∅*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Siverek	PRS.F	XVIII	*-a*	*-a*	*-a*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Siverek	PST.F	XVII	*-a*	*-a*	*-i*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Siverek	SBJV.F	XVII	*-a*	*-a*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Siverek	PRS.M	X	*-a*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Siverek	PST.M	X	*-a*	*-î*	*-∅*	*-î*	*-î*	*-î*	(Paul, 1998)
4	Zazaki Siverek	SBJV.M	X	*-a*	*-ê*	*-o*	*-ê*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Şeyxan	PRS.F	XV	*-o*	*-a*	*-a*	*-mi*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Şeyxan	PST.F	IV	*-o*	*-a*	*-i*	*îmi*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Şeyxan	PRS.M	XIII	*-o*	*-ê*	*-o*	*-mi*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Şeyxan	PST.M	IX	*-o*	*-ê-*	*-∅*	*-îmi*	*-ê*	*-ê*	(Paul, 1998)
4	Zazaki Şeyxan	SBJV	IX	*-î*	*-ê*	*-o*	*-(ê)mi*	*-ê*	*-ê*	(Paul, 1998)
5	Goranî Bacelanî	PRS	I	*-î*	*-î*	*-o*	*-mê*	*-ê*	*-an*	(MacKenzie, 1956)
5	Goranî Bacelanî	PST	O	*-îm*	*-ît*	*-∅*	*-îman*	*-îtan*	*-îşan*	(MacKenzie, 1956)
5	Goranî Bizlana	PRS	O	*-û*	*-î*	*-a*	*-ma*	*-yê*	*-o*	(Khan et al., 2025)
5	Goranî Bizlana	PST	O	*-û*	*-î*	*-∅*	*-îma*	*-yê*	*-y*	(Khan et al., 2025)
5	Goranî Kendule	PRS	O	*-ü*	*-î*	*-O*	*-im*	*-dê*	*-an*	(Khan et al., 2025)
5	Goranî Kendule	PST	O	*-an*	*-î*	*-∅*	*-mê*	*-dê*	*-ê(nê)*	(Khan et al., 2025)
5	Goranî Tekht	PRS	O	*-û*	*-î*	*-o*	*-mê*	*-dê*	*-a*	(Mohammadirad, 2020)
5	Goranî Tekht	PST.F	O	*-a*	*-î*	*-e*	*-mê*	*-dê*	*-ê*	(Mohammadirad, 2020)
5	Goranî Tekht	PST.M	O	*-a*	*-î*	*-∅*	*-mê*	*-dê*	*-ê*	(Mohammadirad, 2020)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
5	Goranî Qeła	PRS	I	*-î*	*-î*	*-û*	*-îme*	*-îye*	*-e*	(Mohammadirad, 2020)
5	Goranî Qeła	PST	I	*-î*	*-î*	*-∅*	*-îme*	*-îta*	*-îye*	(Mohammadirad, 2020)
5	Goranî Zarda	PRS	I	*-î*	*-î*	*-o*	*-mê*	*-dê*	*-an*	(Mahmoudveysi and Bailey, 2013)
5	Goranî Zerda	PST	O	*-anê*	*-î*	*-∅*	*-îmê*	*-îdê*	*-î(n)*	(Mahmoudveysi and Bailey, 2013)
6	Laki Aleshtar	PRS	O	*-im*	*-î*	*-ê*	*-îm(o)*	*-în(o)*	*-in*	(Lazard, 1992)
6	Laki Aleshtar	PST	O	*-im*	*-î(n)*	*-∅*	*-îm(o)*	*-în(o)*	*-in*	(Lazard, 1992)
6	Laki Kakavand	PRS	O	*-im*	*-în*	*-ê*	*-îm(in)*	*-în(an)*	*-in*	(Mohammadirad, 2020)
6	Laki Kakavand	PST	O	*-im*	*-în*	*-∅*	*-îm(in)*	*-în(an)*	*-in*	(Mohammadirad, 2020)
7	CP Abuzeydabadi	PRS	II	*-ō*	*-ē*	*-ē*	*-ēm(ä)*	*-iyä*	*-än(ä)*	(Lecoq, 2002)
7	CP Abuzeydabadi	PST.F	O	*-ō*	*-ē*	*-ä*	*-ēm(ä)*	*-iyä*	*-än(ä)*	(Lecoq, 2002)
7	CP Abuzeydabadi	PST.M	O	*-ō*	*-ē*	*-∅*	*-ēm(ä)*	*-iyä*	*-än(ä)*	(Lecoq, 2002)
7	CP Abyanei	PRS	II	*-ān*	*-e*	*-e*	*-iman*	*-iya*	*-anda*	(Lecoq, 2002)
7	CP Abyanei	PST.F	O	*-ān*	*-i*	*-a*	*-iman*	*-iya*	*-anda*	(Lecoq, 2002)
7	CP Abyanei	PST.M	O	*-ān*	*-i*	*-∅*	*-iman*	*-iya*	*-anda*	(Lecoq, 2002)
7	CP Anaraki	PRS	I	*-i*	*-i*	*-e*	*-em*	*-it*	*-en*	(Lecoq, 2002)
7	CP Anaraki	PST	I	*-i*	*-i*	*-∅*	*-em*	*-it*	*-en*	(Lecoq, 2002)
7	CP Ardestani	PRS	O	*-õ*	*-ē*	*-e*	*-em*	*-eyn/-in*	*-en*	(Lecoq, 2002)
7	CP Ardestani	PST	O	*-õ*	*-oy/-ey*	*-∅*	*-em*	*-oyn/-eyn/-in*	*-ān*	(Lecoq, 2002)
7	CP Badrudi	PRS	O	*-on/-un*	*-e*	*-a*	*-im*	*-i(d)*	*-en*	(Mohammadirad, 2020)
7	CP Badrudi	PST	O	*-on/-un*	*-e*	*-∅*	*-im*	*-i(d)*	*-en*	(Mohammadirad, 2020)
7	CP Delijani	PRS	O	*-on*	*-i*	*-a*	*-imon*	*-iyon*	*-e/ande*	(Mohammadirad, 2020)
7	CP Delijani	PST	O	*-on*	*-i*	*-∅/f:-e*	*-imon*	*-iyon*	*-e/ande*	(Mohammadirad, 2020)
7	CP Gazi	PRS	O	*-ān*	*-i/-e*	*-u*	*-im/-em*	*-id*	*-end*	(Stilo, 2007b)
7	CP Gazi	PST	O	*-ān*	*-y*	*-∅*	*-ym*	*-yd*	*-nd/-ynd*	(Stilo, 2007b)
7	CP J Isfahan	PRS	O	*-un*	*-e/-i*	*-u/u(v)*	*-im*	*-id/-it*	*-end/-ent*	(Stilo, 2007a)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
7	CP J Isfahan	PST	O	*-un/-wn*	*-y/-e*	*-∅*	*-im/-ym*	*-yd/-yt/-id*	*-end/-ent*	(Stilo, 2007a)
7	CP Khunsari	PRS	O	*-on/-an*	*-e*	*-u*	*-emin*	*-idi*	*-ende*	(Mohammadirad, 2020)
7	CP Khunsari	PST	O	*-on/-an*	*-e*	*-∅*	*-emin*	*-idi*	*-ende*	(Mohammadirad, 2020)
7	CP Meyme	PRS	O	*-on*	*-e*	*-u*	*-ima*	*-ida*	*-enda*	(Mohammadirad, 2020)
7	CP Meyme	PST	O	*-on*	*-e*	*-∅*	*-ima*	*-ida*	*-enda*	(Mohammadirad, 2020)
7	CP Naeini	PRS	I	*-i*	*-i*	*-e*	*-em*	*-id/-it*	*-en*	(Lecoq, 2002)
7	CP Naeini	PST	I	*-i*	*-i*	*-∅*	*-em*	*-id/-it*	*-en*	(Lecoq, 2002)
7	CP Qohrudi	PRS	II	*-ūn*	*-e*	*-e*	*-ēme*	*-ēge*	*-ande*	(Lecoq, 2002)
7	CP Qohrudi	PST.F	II	*-ūn*	*-e*	*-e*	*-ēme*	*-ēge*	*-ande*	(Lecoq, 2002)
7	CP Qohrudi	PST.M	O	*-ūn*	*-e*	*-∅*	*-ēme*	*-ēge*	*-ande*	(Lecoq, 2002)
7	CP Tari	PRS	O	*-õ*	*-e*	*-a*	*-īm*	*-īd*	*-and*	(Lecoq, 2002)
7	CP Tari	PST	O	*õ*	*-e*	*-∅*	*-īm*	*-īd*	*-and*	(Lecoq, 2002)
7	CP Varzaneh	PRS	O	*-on(e)*	*-i(ye)*	*-u(ve)*	*-im(e)*	*-i(ye)*	*-in(e)*	(Lecoq, 2002)
7	CP Varzaneh	PST	O	*-on/-n*	*-e/-y*	*-∅*	*-im/-yim*	*-i/-id/-yid*	*-ind/-nd*	(Lecoq, 2002)
7	CP Vidouji	PRS	II	*-ō*	*-ē*	*-ē*	*-ēma*	*-iya*	*-än*	(Razaqi, 2021)
7	CP Vidouji	PST	O	*-ō*	*-ē*	*-∅*	*-ēma*	*-iya*	*-än*	(Lecoq, 2002)
7	J Hamadan	PRS	O	*-ān*	*-i*	*-u(t)*	*-im*	*-id*	*-end*	(Stilo, 2003)
7	J Hamadan	PST	O	*-ān*	*-i*	*-∅*	*-im*	*-id*	*-end*	(Stilo, 2003)
7	Yazdi (Zor.)	PRS	O	*-a*	*-e*	*-ā*	*-im*	*-i*	*-en/-an*	(Mohammadirad, 2020)
7	Yazdi (Zor.)	PST	O	*-a*	*-e*	*-∅*	*-im*	*-i*	*-en/-an*	(Mohammadirad, 2020)
8	Bakhtiari M.S.	PRS	O	*-om*	*-i*	*-e*	*-im*	*-in*	*-en*	(Anonby and Asadi, 2014)
8	Bakhtiari M.S.	PST	O	*-om*	*-i*	*-e*	*-im*	*-in*	*-en*	(Anonby and Asadi, 2014)
8	Luri Angali	PRS	O	*-om*	*-ī*	*-e*	*-īm*	*-īn*	*-en*	(Angali, 2004)
8	Luri Angali	PST	O	*-om*	*-ī*	*-∅*	*-īm*	*-īn*	*-en*	(Angali, 2004)
8	Luri Bala Griva	PRS	O	*-(a)m*	*-î*	*-a*	*-im*	*-it*	*-(a)n*	(Amān Allāhī Bahārvand and Thackston, 1986)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
8	Luri Bala Griva	PST	O	*-(a)m*	*-î*	*-o*	*-im*	*-it*	*-(a)n*	(Amān Allāhī Bahārvand and Thackston, 1986)
8	Luri Khorram A.	PRS	O	*-(e)m*	*-ī*	*-æ*	*-Im*	*-It*	*-æn*	(Mackinnon, 2002)
8	Luri Khorram A.	PST	O	*-(e)m*	*-ī*	*-∅*	*-Im*	*-It*	*-æn*	(Mackinnon, 2002)
8	Luri Mamasani	PRS	O	*-om*	*-i*	*-e*	*-im*	*-it*	*-en*	(Salami, 2004)
8	Luri Mamasani	PST	O	*-om*	*-i*	*-∅*	*-im*	*-it*	*-en*	(Salami, 2004)
9	Fars Ardakani	PRS	O	*-am*	*-e*	*-t/-e*	*-ūm*	*-it*	*-en*	(Windfuhr, 1999)
9	Fars Ardakani	PST	O	*-am*	*-e*	*-∅*	*-ūm*	*-it*	*-en*	(Windfuhr, 1999)
9	Fars Behbahani	PRS	O	*-am*	*-e/-a*	*-d*	*-im*	*-i*	*-en*	(Mohammadirad, 2020)
9	Fars Behbahani	PST	O	*-am*	*-e/-a*	*-∅*	*-im*	*-i*	*-en*	(Mohammadirad, 2020)
9	Fars Buringuni	PRS	O	*-am*	*-a(i)*	*-i*	*-um*	*-ī(t)*	*-en*	(Windfuhr, 1999)
9	Fars Buringuni	PST	O	*-am*	*-a(i)*	*-∅*	*-um*	*-ī(t)*	*-en*	(Windfuhr, 1999)
9	Fars Dashti	PRS	O	*-em/-om*	*-i*	*-et*	*-im*	*-id*	*-an*	(Mohammadirad, 2020)
9	Fars Dashti	PST	O	*-em/-om*	*-i*	*-∅*	*-im*	*-tu*	*-an*	(Mohammadirad, 2020)
9	Fars Davani	PRS	I	*-e*	*-e*	*-et*	*-u*	*-i*	*-en*	(Salami, 2004)
9	Fars Davani	PST	I	*-e*	*-e*	*-et*	*-∅*	*-i*	*-en*	(Salami, 2004)
9	Fars Dehle	PRS	XIX	*-a*	*-a*	*-i*	*-u*	*-i*	*-i*	(Salami, 2004)
9	Fars Dehle	PST	XX	*-a*	*-a*	*-∅*	*-u*	*-i*	*-i*	(Salami, 2004)
9	Fars Delvari	PRS	O	*-om/am*	*-i*	*-t*	*-im*	*-itu*	*-en*	(Mohammadirad, 2020)
9	Fars Delvari	PST	O	*-om/am*	*-i*	*-∅*	*-im*	*-itu*	*-en*	(Mohammadirad, 2020)
9	Fars Kozergi	PRS	O	*-am*	*-e*	*-et*	*-um*	*-i*	*-en*	(Salami, 2004)
9	Fars Kozergi	PST	O	*-am*	*-e*	*-∅*	*-um*	*-i*	*-en*	(Salami, 2004)
9	Fars Masarmi	PRS	O	*-am*	*-ēi*	*-at*	*-ūm*	*-īn*	*-en*	(Windfuhr, 1999)
9	Fars Masarmi	PST	O	*-am*	*-ēi*	*-∅*	*-ūm*	*-īn*	*-en*	(Windfuhr, 1999)
9	Fars Papuni	PRS	O	*-am*	*-āi/-ēi*	*-at*	*-ūm*	*-ī*	*-en*	(Windfuhr, 1999)
9	Fars Papuni	PST	O	*-am*	*-āi/-ēi*	*-∅*	*-ūm*	*-ī*	*-en*	(Windfuhr, 1999)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
9	Fars Sivandi	PRS	I	*-i*	*-i*	*-e*	*-ime*	*-ike*	*-une*	(Mohammadirad, 2020)
9	Fars Sivandi	PST	I	*-i*	*-i*	*-∅*	*-ime*	*-ike*	*-une*	(Mohammadirad, 2020)
9	Kumzari	PRS	O	*-um*	*-ī*	*-a*	*-im*	*-ē*	*-in*	(van der Wal Anonby, 2015)
9	Kumzari	PST	O	*-d-um*	*-d-ī*	*-d-(iš)*	*-d-im*	*-d-ē*	*-d-in*	(van der Wal Anonby, 2015)
9	Kumzari	PRF	VII	*-s-um*	*-s-ī*	*-s-ē*	*-s-im*	*-s-ē*	*-s-in*	(van der Wal Anonby, 2015)
9	SE Bandari	PRS	VI	*-om*	*-i*	*-et*	*-ing*	*-i*	*-en*	(Mohammadirad, 2020)
9	SE Bandari	PST	VI	*-om*	*-i*	*-∅*	*-ing*	*-i*	*-en*	(Mohammadirad, 2020)
9	SE Bastaki	PRS	O	*-em*	*-eş*	*-e*	*am*	*-i*	*eng*	(Mohammadirad, 2020)
9	SE Bastaki	PST	O	*-em*	*-eş*	*-∅*	*am*	*-i*	*-eng*	(Mohammadirad, 2020)
9	SE Lari	PRS	O	*-em*	*-eş*	*-e*	*am*	*-i*	*en*	(Mohammadirad, 2020)
9	SE Lari	PST	O	*-em*	*-eş*	*-∅*	*am*	*-i*	*-en*	(Mohammadirad, 2020)
9	SE Minabi	PRS	VI	*-m*	*-i*	*-e*	*-im*	*-i*	*-en*	(Mohammadirad, 2020)
9	SE Minabi	PST	VI	*-m*	*-i*	*-∅*	*-im*	*-i*	*-en*	(Mohammadirad, 2020)
10	S Tati Chāli	PRS	O	*-öm*	*-i*	*-e/-e*	*-ōm*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Chāli	SBJV	O	*-öm*	*-ā*	*-i*	*-ōm*	*-ā*	*-ind*	(Yarshater, 1969)
10	S Tati Chāli	PST	O	*-im*	*-iš*	*-∅/-a*	*-imōn*	*-iōn*	*-end*	(Yarshater, 1969)
10	S Tati Dānesfāni	PRS	O	*-em*	*-i*	*-e/-ía*	*-om*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Dānesfāni	PST	O	*-em*	*-iš*	*-∅/-a*	*-imon*	*-iā*	*-end*	(Yarshater, 1969)
10	S Tati Dānesfāni	SBJV	O	*-em*	*-āš*	*-i*	*-om*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Ebrāhim Ā.	PRS	O	*-em*	*-iš*	*-e/-ía*	*-ēm/-ōm*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Ebrāhim Ā.	PST	O	*-im*	*-iš*	*-∅/-a*	*-iēm*	*-iā*	*-end*	(Yarshater, 1969)
10	S Tati Ebrāhim Ā.	SBJV	O	*-em*	*-āš*	*-i*	*-ēm/-ōm*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Esfarvarini	PRS	O	*-em*	*-i*	*-e/-e*	*-om*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Esfarvarini	PST	O	*-em*	*-iš*	*-∅/-a*	*-imo*	*-io*	*-end*	(Yarshater, 1969)
10	S Tati Esfarvarini	SBJV	O	*-em*	*-āš*	*-i*	*-om*	*-ā*	*-end*	(Yarshater, 1969)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
10	S Tati Eshtehārdi	PRS	o	*-em*	*-iš*	*-a/-a*	*-un*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Eshtehārdi	PST	o	*-im*	*-iš*	*-∅/-a*	*-emun*	*-išin*	*-end*	(Yarshater, 1969)
10	S Tati Eshtehārdi	SBJV	o	*-em*	*-āš*	*-a*	*-un/-ām*	*-āy*	*-end*	(Yarshater, 1969)
10	S Tati Sagz Ābādi	PRS	o	*-em*	*-iš/-i*	*-e/-ía*	*-ām*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Sagz Ābādi	PST	o	*-em*	*-eš*	*-∅/-a*	*-emun*	*-iā*	*-end*	(Yarshater, 1969)
10	S Tati Sagz Ābādi	SBJV	o	*-em/-ām*	*-āš*	*-i*	*-ām*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Tākestāni	PRS	o	*-em*	*-i*	*-e/-ía*	*-om*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Tākestāni	PST	o	*-em*	*-iš*	*-∅/-a*	*-imon*	*-ion*	*-end*	(Yarshater, 1969)
10	S Tati Tākestāni	SBJV	o	*-em*	*-i*	*-e/-ía*	*-om*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Vafsi	PRS	o	*-om(e)*	*-i*	*-e*	*-am(e)*	*-a*	*-end(e)*	(Stilo, 2004)
10	S Tati Vafsi	PST	o	*-om(e)*	*-i*	*-∅*	*-am(e)*	*-a*	*-end(e)*	(Stilo, 2004)
10	S Tati Xiāraji	PRS	o	*-em*	*-i*	*-e/-ía*	*-un*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Xiāraji	PST	o	*-im*	*-iš*	*-∅/-a*	*-imun*	*-iā*	*-end*	(Yarshater, 1969)
10	S Tati Xiāraji	SBJV	o	*-em*	*-āš*	*-i*	*-un/-ām*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Xoznini	PRS	o	*-em*	*-i*	*-e/-ía*	*-ām*	*-ā*	*-end*	(Yarshater, 1969)
10	S Tati Xoznini	PST	o	*-im*	*-iš*	*-∅/-a*	*-imun*	*-iā*	*-end*	(Yarshater, 1969)
10	S Tati Xoznini	SBJV	o	*-em*	*-āš*	*-i*	*-ām*	*-ā*	*-end*	(Yarshater, 1969)
11	C Tati Alviri	PRS	o	*-em(e)*	*-i*	*-a/-ia*	*-un(a)*	*-āyā*	*-enda*	(Yarshater, 1964)
11	C Tati Alviri	PST	o	*-em(e)*	*-i*	*-a/-ia*	*-un(a)*	*-āyā*	*-enda*	(Yarshater, 1964)
11	C Tati Vidari	PRS	o	*-um(e)*	*-i*	*-e*	*-ān(e)*	*-iā*	*-en*	(Yarshater, 1964)
11	C Tati Vidari	PST	o	*-um*	*-i*	*-∅*	*-iān(e)*	*-iā*	*-ien*	(Yarshater, 1964)
12	N Tati Khalkhal	PRS	o	*-(ə)m*	*-i*	*-e*	*-am*	*-a*	*-inde*	(Yarshater, 1959)
12	N Tati Khalkhal	PST	o	*-(ə)m*	*-i*	*-∅*	*-am*	*-a*	*-inde*	(Yarshater, 1959)
13	E. Gilaki	PRS	o	*-əm*	*-i*	*-ɪ*	*-im*	*-in*	*-ən*	(Stilo, 2001)
13	E. Gilaki	PST	o	*-əm*	*-i*	*-ə/-∅*	*-im*	*-in*	*-ən*	(Stilo, 2001)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
13	W. Gilaki	IPFV	XXI	*-i-m(i)*	*-i-∅*	*-i-∅*	*-i-m(i)*	*-i-d(i)*	*-i-d(i)*	(Stilo, 2001)
13	W. Gilaki	PRS	IV	*-əm*	*-i*	*-e*	*-im(i)*	*-id(i)*	*-id(i)*	(Stilo, 2001)
13	W. Gilaki	PST	IV	*-əm*	*-i*	*-ə/-∅*	*-im(i)*	*-id(i)*	*-id(i)*	(Stilo, 2001)
14	Kelardasht	PRS	XV	*-me*	*-e*	*-e*	*-mi*	*-ne*	*-ne*	(Kalbassi, 1997)
14	Kelardasht	PST	IV	*-me*	*-e*	*-o*	*-mi*	*-ne*	*-ne*	(Kalbassi, 1997)
14	Saravi	PRS	O	*-em*	*-i*	*-e*	*-im*	*-in*	*-en*	(Yoshie, 1996)
14	Saravi	PST	O	*-em*	*-i*	*-e*	*-im*	*-in*	*-en*	(Yoshie, 1996)
14	Ziarat	PRS	O	*-em*	*-i*	*-e*	*-im*	*-in*	*-en*	(Shokri et al., 2013)
14	Ziarat	PST	O	*-em*	*-i*	*-e*	*-im*	*-in*	*-en*	(Shokri et al., 2013)
15	Masal Tal South	PRS	O	*-əm*	*-i*	*-ə*	*-am*	*-a*	*-əm*	(Paul, 2011)
15	Masal Tal South	PST	O	*-əm*	*-i*	*-o*	*-am*	*-a*	*-əm*	(Paul, 2011)
15	Tal Central	PRS	O	*-im*	*-iš*	*-i*	*-imun*	*-irun*	*-in*	(Paul, 2011)
15	Tal Central	PST	O	*-im*	*-iš*	*-a*	*-imun*	*-irun*	*-in*	(Paul, 2011)
15	Tal Shuvi	PRS	O	*-(ə)m*	*-š*	*-e*	*-mon*	*-on*	*-n*	(Schulze, 2000)
15	Tal Shuvi	PST	O	*-(ə)m*	*-š*	*-o*	*-mon*	*-on*	*-n*	(Schulze, 2000)
16	Aftari	PRS	O	*-ī*	*-a*	*-e*	*-īm*	*-īn*	*-en*	(Windfuhr, 1984)
16	Aftari	PST	O	*-ī*	*-a*	*-∅*	*-īm*	*-īn*	*-en*	(Windfuhr, 1984)
16	Dehnamaki	PRS	III	*-ān/-on*	*-∅*	*-ə/-u*	*-in*	*-in*	*-ən*	(Borjian, 2022)
16	Dehnamaki	PST	O	*-ān*	*-āt*	*-o*	*-mon*	*-ton*	*-šon*	(Borjian, 2022)
16	Sangsari	PRS	I	*-i*	*-i*	*-ä*	*-un*	*-in*	*-an*	(Christensen, 1915)
16	Sangsari	PST	I	*-i*	*-i*	*-o*	*-un*	*-in*	*-an*	(Christensen, 1915)
16	Semnani	PRS	III	*-un*	*-i*	*-aej*	*-in*	*-in*	*-an*	(Christensen, 1915)
16	Semnani	PST	III	*-iun*	*-aei*	*-ā*	*-in*	*-in*	*-an*	(Christensen, 1915)
17	Tat Johuri	PRS	II	*-üm*	*-i*	*-i*	*-im*	*-it*	*-üt*	(Authier, 2012)
17	Tat Johuri	PST	O	*-üm*	*-i*	*-∅*	*-im*	*-it*	*-üt*	(Authier, 2012)

TABLE 52 Raw data (*cont.*)

Group	Variety	TAM	Type	1SG	2SG	3SG	1PL	2PL	3PL	Reference
17	Tat Şirvan	PRS	O	*-um*	*-i*	*-∅*	*-im*	*-ind*	*-und*	(Suleymanov, 2020)
17	Tat Şirvan	PST	O	*-um*	*-i*	*-∅*	*-im*	*-ind*	*-und*	(Suleymanov, 2020)
18	P. Mashhad	PRS	O	*-om*	*-i*	*-a*	*-em*	*-en*	*-an*	(Personal knowledge)
18	P. Mashhad	PST	O	*-om*	*-i*	*-o*	*-em*	*-en*	*-an*	(Personal knowledge)
18	P. Tehran	PRS	O	*-(a)m*	*-i*	*-e*	*-im*	*-id*	*-(a)n*	(Standard variety)
18	P. Tehran	PST	O	*-(a)m*	*-i*	*-o*	*-im*	*-id*	*-(a)n*	(Standard variety)
19	Bal Koroshi	PRS	O	*-ān*	*ay*	*-t*	*-en*	*-et*	*-ant*	(Nourzaei et al., 2015)
19	Bal Koroshi	PST	O	*-ān*	*ay*	*-∅*	*-ēn*	*-et*	*-an(t)*	(Nourzaei et al., 2015)
19	Coastal Balochi	PRS	O	*-ān*	*-e*	*-t*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)
19	Coastal Balochi	PST	O	*-ān*	*-e*	*-∅*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)
19	E Hill Balochi	PRS	O	*-ān*	*-e*	*-e(θ)*	*-un*	*-e(t)*	*-ant*	(Elfenbein, 1980)
19	E Hill Balochi	PST	O	*-ān*	*-e*	*-∅*	*-un*	*-e(t)*	*-ant*	(Elfenbein, 1980)
19	Kečī	PRS	O	*-īn*	*-e*	*-t*	*-an*	*-e(t)*	*-ant*	(Elfenbein, 1980)
19	Kečī	PST	O	*-īn*	*-e*	*-∅*	*-an*	*-e(t)*	*-ant*	(Elfenbein, 1980)
19	Loṭūnī	PRS	O	*-ūn*	*-e*	*-t*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)
19	Loṭūnī	PST	O	*-ūn*	*-∅*	*-t*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)
19	N Baškardi	PRS	O	*-om*	*-i*	*-e/-et(i)*	*-īn*	*-ī(d)*	*-end(i)*	(Skjærvø, 1988)
19	N Baškardi	PRS	O	*-om*	*-i*	*-e/-et(i)*	*-im*	*-id*	*-en*	(Skjærvø, 1988)
19	N Baškardi	PST	O	*om*	*-i*	*-∅*	*-īm*	*-ī*	*-en*	(Skjærvø, 1988)
19	N Baškardi	PST	O	*-om*	*-ī/ĭ*	*-∅*	*-īn/-īm*	*-ī*	*-en(d(i))*	(Skjærvø, 1988)
19	Rāxšāni	PRS	O	*-un*	*-e*	*-(in)t*	*-an*	*-et*	*-ant*	(Elfenbein, 1980)
19	Rāxšāni	PST	O	*-un*	*-e*	*-∅*	*-an*	*-et*	*-ant*	(Elfenbein, 1980)
19	S Baškardi	PRS	O	*-īn*	*-e*	*-et*	*-om*	*-āht*	*-e(h)n*	(Skjærvø, 1988)
19	S Baškardi	PST	O	*-īn*	*-o/-ū*	*-∅*	*-om/-ām*	*-ah(t)*	*-e(h)n*	(Skjærvø, 1988)
19	Sarawānī	PRS	O	*-ān*	*-e*	*-t*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)
19	Sarawānī	PST	O	*-ān*	*-∅*	*-t*	*-in*	*-et*	*-ant*	(Elfenbein, 1980)