

Nonmanual behaviors in pluractionality: A view from Turkish Sign Language

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Abstract. From the point of typology, the phenomenon of event plurality – pluractionality is a widespread grammatical construction, entailing the notion of multitude of events in so many languages. On the basis of TİD data, this preliminary paper reports the fact that the morphological modification of the verb to express the plurality of event is not restricted to manual markers in sign languages (SLs), and also the semantic portrayal of the nonmanual pluractional forms raised interesting – modality specific – theoretical issues. Firstly, TİD has also a distinctive nonmanual pluractional morpheme (/PC/) that specifies distribution over participants or time in the verbal domain and fits into an overall semantic typology of pluractionality in the spoken modality. Secondly, body-anchored verbs may be inflected with both manual reduplication and a slight body shift to indicate pluractionality as well. Thirdly, the combination of /PC/ with an arc movement in lateral displacement (/PC-ARC/) ties the sub-events to different participants over time. Building on iconic mappings in the signed modality, it can be suggested that the pictorial properties of verb motion must not be limited to manual forms in the visibility of pluractionality. By attempting to define the limitations of nonmanual markers, more semantic description can be obtained to understand the pluractionality phenomena in a cross-linguistic way.

Keywords. pluractionality, event plurality, nonmanual, reduplication, Turkish Sign Language

1. Introduction¹

Cross-linguistically, there are various morphological strategies to mark plurals in the nominal domain. For instance, changing a noun with singular form *kitap* (book) to its plural form *kitaplar* (books) in Turkish. In a great number of languages over the world, verb forms are also known to have linguistic expressions of *event plurality* or *pluractionality*— that is, constructions that broadly include some sort of multiplicity of (i) participants, (ii) time and (iii) location, encoded by pluractional markers (Cusic 1981, Lasersohn 1995, Yu 2003, Wood 2007). Additionally, the morphophonological realization of pluractionals is the reduplication of all or part of a verb, as illustrated in (1) for Hausa.

- (1) a. Taa màm-màaree shì
3sg.f.pf RED-slap him
'She slapped him repeatedly/many times.'
- b. Yaa dad-dàfà àbinci
3SG.M.PF RED-cook food
'He cooked different kinds of food' (Hausa, Součková 2011)

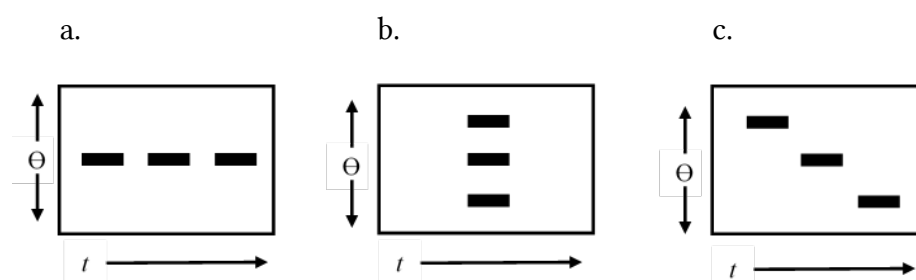
As already noted, the prototypical interpretation of the pluractional morpheme in (1) is that there is a multitude of events and/or the subevents –slapping – that take place again and again in the semantic interpretation of the verb. Thus, the semantics of event plurality is typically about the events themselves having plural inflections contrary to number agreement in verbal the domain (see Corbett 2000: 252-7). From the point of typology, the phenomenon of event

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plurality – pluractionality is a widespread grammatical construction, entailing the notion of multitude of events in many languages except for European languages. But it can also be easily misunderstood as denoting plural agreement in the verbal domain.

Figure (1) yields visual schemas to illustrate the range of pluractional meanings encoded in the form of the verb. Along the x-axis, t indicates time and Θ denotes participants. To make it clear, Figure (1a) portrays a singular iterating event; Figure (1b) describes the event with multiple distribution over participants; Figure (1c) draws the events spread over both participants and time.

Figure 1: Event types in pluractionality



Notice that, a single language holds various pluractional markers that allow distribution over participants, time etc. (Boas 1974, Aaron 1996/1997, Wood 2007). Moreover, pluractional markings usually contain several additional interpretations. Mostly, these additional interpretations are seen to be ‘large number of events’, ‘high individuation/ diversification’ and ‘intensification (or other degree-like readings)’ (Součková 2011:3). That is to say, pluractionals characteristically attribute to events that can be classified as multitude of event semantics rather than simply plural markings in the verbal domain.

This phenomenon has also recently received a lot of attention within the field of SL linguistics, both from a descriptive and formal point of view (e.g. Kuhn & Aristodemo 2017 for LSF; Quer 2018, 2019 for LSC). Although there are some formal approaches to pluractionality, categorization of pluractionals is often based on the manual reduplication of signs in verbal domain. The available studies to date reveal that manual reduplicative morphemes fit into an

overall semantic typology of pluractionality in spoken modality. However, compared to spoken language, SL typology on pluractionality is still an objectively young research field.

The available studies reveal that body movements and facial expressions – nonmanuality – organize the different levels of grammatical structure or signed texts such as prosody, discourse (e.g. Wilbur 2000, Sandler 2012, Lackner 2017). Also, different nonmanual elements have been specified to morphosyntactic phenomena in terms of their functions (e.g. Pfau & Quer 2010; Herrmann & Pendzich 2014). That is to say, nonmanual elements can be regarded as the prosodical features of spoken languages. Although there are so many overlapping ways in both modalities, it is not easy to describe nonmanual element because of their multifunctional appearance (see Pfau & Quer 2010; Puupponen et al. 2014). The challenge of this multi-functionality has also generated interest among sign linguists. Turning now to the role of nonmanual markers in plurality mechanism, the morphological modification of the verb to express the plurality of event is not restricted to manual markers. In other words, it can be suggested here for TİD that the nonmanual reduplication should be categorized as a pluractional marker in line with manual ones. Also, pluractional interpretations marked with nonmanual modification would change the perspective of pluractional phenomena in natural language.

It is worth mentioning here that the iconic relationships between meaning and form are far more prevalent in SLs, where the visual-manual modality holds many more devices for non-arbitrary mappings (e.g. Taub 2001, Perniss et al 2010, Occhino 2017, Meir & Tkachman 2018). That is, iconic motivation can be easily found in many signs (Klima & Bellugi 1979). Obviously, SL lexicons contain partly or mostly iconic contrary to spoken languages having limitation on acoustic iconicity. Boyes Braem (1986) estimates that at least a third of lexical signs in DSGS have iconic (motivated) relations. Recent studies in SLs shows that productive and pervasive iconicity should not basically be defined as a similarity between language form of sign and its real-world referent, and that it also displays an important role in its both semantic and morphological forms (see Schlenker 2014, 2018). Taking into account the iconic motivation,

one of the central questions in the plurality mechanism in sign language is the interaction of the iconicity and pluractionality in signed modality. There is a growing body of literature suggested that the manual reduplication of verb having pluractional aspects commonly shows iconic properties (i.e. Kuhn & Aristodemo 2017). Following this perspective, this paper argues that the examining the characteristics of iconic motivation in both manual and nonmanual reduplication provides a new window into verbal plurality.

The paper is organized as follows: Section 2 introduces the study of plurality mechanism in signed languages through the panoramic description; in Section 3 outlines the pluractional categories attested (Section 3.1 describes manual pluractionals and Section 3.2. nonmanual pluractional markers). In section 4 final conclusions are drawn.

2. Plurality mechanism in sign languages

The SL literature assumes that the verb system traditionally depends on morphosyntactic criteria and verbs agree with the referential indices of arguments by means of modulation of a sign's movement. The claim for verbal plurality is that there are four possible types for the marking of number: singular, dual, exhaustive and multiple (Klima & Bellugi 1979, Padden 1983, Aranoff, Meir & Sandler 2005): (i) singular marking by single path movement, (ii) dual marking by a single reduplication on the horizontal plane, (iii) distributive or exhaustive marking by means of multiple sideward reduplication, (iv) multiple marking by means of a horizontal arc. Historically speaking, from the early stages of SL literature (cf. Fischer 1973, Klima & Bellugi 1979 for ASL), the reduplicative and arc morphemes in verbal morphology have been identified in a variety of different meanings (e.g. distributional aspect). However, recently varying descriptions and analyses of this phenomenon in the semantics of the verb itself have revealed that reduplicative morphemes in the verbal domain fit into an overall semantic typology of pluractionality in spoken modality (see. Kuhn & Aristodemo 2017 for LSF; Quer 2018, 2019 for LSC). Pluractionality in SLs is marked by distinct reduplicative markers exact repetition /REP/, alternating repetition /ALT/ and repetition with arc movement /REP-ARC/ (only discussed for LSC) (Kuhn &

Aristodemo 2017, Quer 2018, 2019). However, there are differences in some aspects between the LSF and LSC : /REP/, realized as an exact repetition of the sign on the vertical midsagittal axis, entails that sub-events with the same participants are distributed over time; /ALT/, articulated as a repetition alternating among the dominant and the non-dominant hand, entails that the subevents are distributed over participants; /REP-ARC/, realized as a repetition of the sign with horizontal arc in space, entails that subevents with the different participants are distributed over time. Despite the similarities in the form of the pluractional markers between the two SLs, there are striking cross-linguistics differences in the categorization of pluractionality (2) in LSC: /ARC/ denotes also (a) variation over the locative argument and (b) variation over the internal argument.

- (2) a. SUPERVISOR SCHOOL GO-rep-arc, SOME NOT
'The supervisor went to several schools, some other he didn't.'
 b. JOHN PASS-rep-arc
'Joan passed several subjects.'

To date, verbal plurality has received little attention in the sign language literature, even though this category – reduplication – is found in numerous sign languages (e.g. Kubuş 2008, Dikyuva, Makaroğlu & Arık 2017 for TİD; Johnston & Schembri 2007 for AUSLAN; Klima & Bellugi 1979 for ASL). The main goal of this paper is therefore to describe and analyze the distribution of verbal pluractional markers using TİD and to discuss modality specific theoretical issues raised by semantic portrayals of the nonmanual pluractional form. The following chapter provides a brief overview of manual pluractional forms and then discusses the role of nonmanual markers in pluractional context depending on their morphological and semantic categories.

3. Pluractionality in Turkish Sign Language

3.1 Manual pluractional markers

The notion of verbal reduplication commonly indicates verbal pluractionality that is also found in several spoken languages (Corbett 2000, Hurch 2003, Inkelas 2006, Součková 2011). However, there is remarkable variation in morphological modification of verbs, mostly seen as a reduplication of the full or partial form of the verb. Also depending on the morphological typology, the reduplication in spoken languages may be seen in various morphological operations: affixation, suppletion, reduplication, particles or in other ways. Again, because of modality specific aspects, signed languages have a strong tendency for simultaneous presentation of distinct units in morphology (see Aronoff, Meir & Sandler 2005). That is to say that, it is also expected that they possibly differ from each other due to the modality effects. Similar to LSF and LSC, the sentence in (3) describes subevents with the same participant (MY FRIEND) are distributed over time. Thus, the exact repetition of the verb /VERB-REP/ conveys only possible (a) interpretation (several subevents on which one person asks the same person repeatedly).

- (3) FRIEND IX-1 TELEPHONE NUMBER POSS ASK-REP ✓(a) *(b) *(c)
'My friend repeatedly asked me my phone number.'

Figure 2: ASK marked for /REP/ in TİD



It is necessary to point out that body shifts (BS) as pluractuals are also available in TİD. In the repetition of body-anchored signs, the signers' body has a decisive role in the morphological operation of pluractional markings. As exemplified in Figure (3), the signer uses the slight shift of the upper body from left to right. The function of this marker is for the signer to denote a multiplicity of events in which subevents with the same participant (TICKET) are distributed over time (4) and the slightly shifting of the body possibly helps to differentiate the verb inflected with the pluractional marker from the repetition of internal movement of the sign in a systematic way. But this does not entail that it is a separate morpheme in verbal pluractionality. That is to say, this study suggests that it is a phonologically conditioned allomorph of /REP/ for body-anchored signs.

- (4) IX1 FATHER IX1 TICKET BUY FORGET-REP-BS $\sqrt{(a)}$ $*(b)$ $*(c)$
'My father forgot to buy the ticket again and again.'

Figure 3: FORGET marked for /REP-BS/ in TİD



The analysis of the combination of reduplication with arc movement as pluractional marking can add additional dimensions to the pattern of pluractionality. Note that as shown in (5), further interaction with /ARC/, repetition of pluractional verb does itself extend distribution over both participants and time – it thus entails exhaustive interpretation - (c) reading – under certain conditions.

- (5) WORK INSTITUTION APPLY-REP-ARC $*(a)$ $*(b)$ $\sqrt{(c)}$
'I applied to several institutions for work.'

Figure 4: APPLY marked for /REP-ARC/ in TlD

The reduplicative marker /ALT/ - alternating movement of the two hands – implies the subevents that are distributed amongst participants – (b) interpretation. Example (6) shows that there is a single occasion on which all of them asked the date of meeting. It is also clear that (b) interpretation always requires plural argument for pluractionality marking.

- (6) MEETING DATE? ALL 2ASK1-ALT *(a) ✓(b) *(c)
'All of them asked me when the meeting is?'

Figure 5: ASK marked for /ALT/ in TlD

At the first sight, there are prominent crosslinguistic similarities in terms of manual pluractional markers between TlD and LSF/LSC. Uncontroversially, despite the modality specific differences with spoken languages, findings from pluractionality patterns in SLs have great potential to reanalyze and understand pluractionality phenomenon in human language.

3.2 Nonmanual pluractional markers

Unlike the sign languages previously studied, TlD also conveys pluractionality through nonmanual affixes. Taking inspiration from its

pattern and interpretation in the verbal domain, this study proposes the analysis of treating an exact repetition of breath holding and releasing with puffed cheeks – /PC/ – as a pluractional marker in its own right under the specific term ‘nonmanual pluractional’ in signed modality shown in Figure 6.

Figure 6: Picture of ACHIEVE marked for /PC/ in TİD



Semantically, the repetition of the nonmanual form means that there are sub-events with (i) the same or (ii) different participants distributed over time. The sentence below (7) provides examples of the pluractional interpretations marked with this nonmanual inflection, and changes the perspective of pluractional phenomena in natural language.

- (7) IX-1 FRIEND IX ACHIEVE-PC
 ‘My friend kept achieving it.’ $\sqrt{(a)}$ $\ast(b)$ $\sqrt{(c)}$
 ‘My friend achieved many things on different occasions.’

Here, one can see that there are two different interpretations: (i) it can entail that one person achieved the same thing again and again, or (ii) it can entail that one person achieved multiple things. However, it cannot be applied to depict a single occurrence in which one individual achieved one thing at one single time. Unlike the SLs mentioned above, nonmanual pluractionals in TİD will allow researchers to introduce new visuo-spatial devices that will be used cross-linguistically in the semantic portrayal of the pluractuals.

Although body-anchored verbs are called to have phonological constraints because of their iconic structure (e.g. Meir et al 2007), these verbs can be inflected with /PC/ to indicate pluractionality. Sentence (8) demonstrates this with the body-anchored verb HAIR-GROW having the repetition of the nonmanual form. So this nonmanual inflection appears in a wide variety of verbs, with various phonological

forms. By attempting to define the limitations of this pluractional marker, more semantic descriptions can be obtained to understand the topic of pluractionality in signed modality.

- (8) GARLIC EAT LATER HAIR-GROW-PC $\sqrt{(a)}$ $\ast(b)$ $\sqrt{(c)}$
'After eating garlic, my hair grew.'

Figure 7: Picture of HAIR-GROW marked for /PC/ in TìD



Natural languages have qualitative expressions that can be named as semantic classes of degree expressions – used with various lexical categories for degree gradation (see Doetjes 2008). Thus depending on what type of predicate they meet, it reveals different semantic interpretations in nominal systems. Consider now the examples in (9), where different types of degree expressions are used. Although in TìD, MANY ‘a lot’ conveys an increased quantity interpretation with plural count noun – CAR – as in (9a) and a mass noun – RAIN – as in (9b), its meaning in (9c) changes to a qualitative dimension rather than quantitative.

- (9) a. MANY CAR
 'a lot of cars'
 b. MANY RAIN
 'a lot of rain'
 c. MANY PATIENCE
 'a lot of patience'

Turning now to the verbal domain, following the theories of Bach (1986) and Krifka (1996), Doetjes (2008) argue that in terms of degree modification, there are prominent similarities in nominal and verbal domains. Also in the sign language literature, pluractional markers

can also trigger this type of degree interpretation – intensification reading (Quer 2019 for LSC). The TiD example in (10) illustrates how manual pluractional markers /ALT/ and /REP/ convey interpretation that go beyond simple plurality of events and shows additional degree-like interpretations. For example, DRINK in combination with /ALT/ in (10a) illustrates the intensification reading as ‘drinking a large number of beer bottles’. Again, EAT in combination with /REP/ in (10b) can also give rise to a different interpretation, i.e. ‘eating a lot of fishes’ as opposed to than typical pluractionals. On the other hand, the example in (10c) is quite interesting and implies that non-manual pluractional /PC/ can also freely express an additional meaning on its own rather than an accompanying marker to a verbal sign. Notice that VOTE in combination with /PC/ would get an interpretation like ‘giving a lot of votes’. These facts suggest that regardless of type of pluractionals in signed language, there is a potential connection between degree-like readings and plurality of events in the verbal domain.

- (10) a. AHMET LAST NIGHT BEER DRINK-ALT (≈ large number
‘Last night, Ahmet drunk a lot of beer.’ of beer bottles)
- b. IX-1 FISH EAT-REP (≈ a lot of fishes)
‘I ate a lot of fish.’
- c. ASSOCIATION ELECTION VOTE-PC (≈ too many votes)
‘They voted a lot for me in the election of the association.’

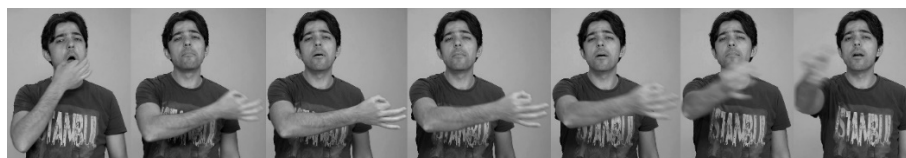
To conclude this brief discussion of degree interpretation in verbal domain, it is very clear that both manual and nonmanual pluractionals in signed languages may play a decisive role in degree expressions.

Combination of puffing cheeks with arc movement

It is somewhat surprising that both manual and nonmanual pluractionals show an unexpected interaction under the light of verbal plurality marking as seen in (11). The combination of /PC/ with an arc in lateral displacement (/PC-ARC/) ties the sub-events to different participants over time.

- (11) IX-1 DEAF ASSOCIATION INFORM-PC-ARC *(a) *(b) √(c)
 'I informed the different deaf associations on different occasions.'

Figure 8: Picture of INFORM marked for /PC-ARC/ in TĪD



The example in (11) refers to more than one informing: the sentence cannot be used if the deaf person informs the deaf associations only once. Second, the combination of /PC/ and /ARC/ shows an unexpected pluractional constraint on the meaning of the verb. That is to say, /PC/ loses the possible (a) reading (several occasions on which one person informs all deaf associations).

Event-internal or event-external pluractionality

One of the most fundamental properties of pluractionality is the rigid division between event-internal and event-external pluractionality. Based on this strict distinction, many scholars argue that event-internal pluractionals include numerous atomic parts in series. These series repetitions also share a common goal (i.e. English verbs *nibble*, *juggle*, *applaud*). For example, biting once on each subsequent occasion does not constitute nibbling.

The second, external pluractionality expresses repetitions of at least two events occurring at separate points. Thus, this is often a symbol of something happening regularly, i.e. an habitual or frequentative reading (Cusic 1981, Wood 2007). Wood (2007) considers cases of pluractionality on the distinction between collective and distributive readings: (i) event-internal plurality is inherently regarded as group events – the plural arguments are seen as being collective, (ii) event-external plurality is regarded as plural events – the plural arguments are treated as true plural forms. The sentence in (12a) describes an event that took place with the same participants repeatedly over time – individual events. Example (12b), on the other hand, refers to repeated set of atomic events within a single event: repeated dividing.

- (12) a. MONEY DIVIDE-REP *event repetition*
'I divided the money into parts again and again.'
- b. MONEY DIVIDE-PC *phase repetition*
'I divided the money repeatedly into many parts.'

Although all the cases discussed so far are of the event-external pluractionality, as shown in (12b) the verb inflected with nonmanual pluractional marker /PC/ can also play a role in the event-internal pluractionality and should be interpreted as denoting an occurrence that involves a series of small allocations, for example to give a small amount of money.

Pluractionality and iconicity

Due to the nature of the visual-gestural modality, sign languages cross-linguistically allow for various iconic expressions compared to spoken languages with auditory-vocal modality (Klima & Bellugi 1979, Taub 2001, Meir 2010). Recent studies in sign language shows that productive and pervasive iconicity should not just be defined as a similarity between language form of sign and its real-world referent, and because it also displays an important role in its both semantic and morphological forms (see Schlenker 2014, 2019). Furthermore, it is stressed that iconicity can be found at the logical core of various signed language constructions (Schlenker 2018). From this perspective, manual reduplication of sign in verbal domain usually shows iconic modification in its morphological operation in some sense. It thus offers another information to contribute to the universal theory of reduplication and to define the nature of pluractionality (Kimmelman 2018). Firstly in LSF, Kuhn & Aristodemo (2017) revealed that the rate of manual reduplication in verbs having pluractional properties is iconically mapped to the overall rate of event repetition over time and also iconic interpretation can interact with logical meaning throughout the composition of a sentence. For example in (13), two forms of the verb GIVE inflected pluractional morpheme – reduplication - in LSF show two different repetition rates: accelerating and decelerating.

(13) LSF

- a. MIRKO CHILD BOOK GAVE-REP-ACCELERATING.
'Mirko gave the child a book at an accelerating pace.'
- b. MIRKO CHILD BOOK GAVE-REP-DECELERATION.
'Mirko gave the child a book at decelerating pace.'

As in (14), one can see that in terms of manual reduplication, TĪD shares similar iconic properties observed in LSF. From a global perspective, ASK-REP, when produced at a slow rate, means that the request took place slowly; ASK-REP when formed at a fast rate, means that the request took place rapidly.

- (14) TĪD
 - a. FRIEND IX-1 TEACHER ASK-REP-ACCELERATING.
'My friend asked the teacher at an accelerating pace.'
 - b. FRIEND IX-1 TEACHER ASK-REP-DECLARATION.
'My friend asked the teacher at decelerating pace.'

Despite the prominent similarities in the manual reduplication form of the verb between LSF and TĪD, it is certainly worthwhile that there is a considerable cross-linguistic variation in terms of nonmanual pluractuals - /PC/. As seen in (15), accelerating or decelerating both puffed cheeks /PC/ and motion of a verb simultaneously can be a signal for the rate of which each individual performed an event. Note that, the manual form of a sign usually tends to be synchronized with nonmanual pluractuals at the same rate. Taken together, these key differences between signed languages highlights the importance of nonmanual modification for our understanding of the mappings between iconicity and pluractionality in the signed modality.

- (15) TĪD
 - a. IX-1 STUDENT IX SIGN-PC-ACCELERATING
'My student was signing incredibly better at an accelerating pace.'
 - b. WORK ACHIEVE-PC-DECELERATING
'He unexpectedly achieved his works at a decelerating pace.'

There are various studies that analyze the reduplication pattern of the oral parts of a signed form and consider the nonmanual reduplication as a subcategory of manual reduplication (see Bergman 1983). Thus, the nonmanual reduplication marker is not classified as a feature of its own and is simply regarded as the oral component of the sign accompanying the manual reduplication simultaneously. Given the iconicity appearance as mentioned here, although the rate of nonmanual reduplication – puffed cheeks – mostly overlaps the motion of manual component of sign in the phonological realization of pluractional verbs, there is no manual reduplication in each cycle of oral reduplication – at least three puffed cheeks in any pluractuals. Therefore it should be considered as an independent pluractional marker under the specific term ‘nonmanual reduplication’. So, one question that arises in connection with (15) is whether the pictorial properties of /PC/ in TİD exemplify different layered iconic representation, since as shown by Kuhn and Aristodemo (2017), where the repetition of the manual component verb in verbal reduplication represents the rate (roughly speaking, slow to fast or fast to slow) and the number (n) of events in the iconic mapping. Thus, the verb form as a lexical unit directly depicts pictorial properties of events. For example, as in (15b), the repetition of the event is conveyed by only the nonmanual reduplication marker – not the manual part of the verb with single path movement – in the iconic representation. Building on this view, it thus can be concluded that the pictorial properties of verb motion must not be limited to manual forms in the visibility of pluractionality. That is to say, any type motion – manual or nonmanual – can be defined as an executor in these iconic mappings. Therefore, in line with Kuhn (2019), it can be interpreted that the nonmanual pluractional marker /PC/ gives the set of non-atomic V-ing events as in other pluractional morphemes /REP/ and /ALT/. To conclude, it is clear that further researches on verbal pluractionality in the signed modality can benefit from semantic descriptions provided by the various nonmanual pluractional markers mentioned here.

4. Conclusion

Although prior studies on signed languages that have noted the importance of repetition of a verbal form, the most obvious finding to emerge from the present analysis is that the systematic pattern of the nonmanual pluractional morpheme, /PC/ in TĪD fits perfectly into a larger typology of cross-linguistic pluractionality: verbal inflection, through nonmanual markers, denotes a plurality of events. Till now, this is the first analysis of this semantic phenomenon in the verbal domain in TĪD: (i) although this study points out that manual pluractional markers - /ALT/ and /REP/ - portray similar semantic behaviors to LSF and LSC, there is a critical difference in the repetition of body-anchored signs inflected with /BS/ as a pluractional marking, (ii) /PC/ means distribution over time (and also over participants). (iii) (/PC-ARC/) ties the sub-events to different participants over time (see 16. for more detailed summary of pluractional markings in TĪD).

(16) Summary of available readings in pluractional context

/REP/	√(a)	*(b)	*(c)
/ALT/	*(a)	√(b)	*(c)
/REP-ARC/	*(a)	*(b)	√(c)
/REP-BS/	√(a)	*(b)	*(c)
/PC/	√(a)	*(b)	√(c)
/PC-ARC/	*(a)	*(b)	√(c)

Building on iconic mappings in the signed modality, it can be suggested that the pictorial properties of verb motion must not be limited to manual forms in the visibility of pluractionality. Finally, note that despite the striking similarities in the manual pluractionals in SLs, it is certainly worthwhile to consider the more nonmanual data to get typological classifications. The remaining markers of verbal plurality and other productive syntactic means of encoding plurality in the verbal domain are the topics for further research.

5. List of abbreviations

Manual and nonmanual forms:

ALT: Alternating repetition

ARC: Arc movement

BS: Body-shift

PC: Puffed cheeks

REP: Exact repetition

Sign languages:

ASL: American Sign Language

AUSLAN: Australian Sign Language

DGS: German Sign Language

LSC: Catalan Sign Language

LSF: French Sign Language

TİD: Turkish Sign Language

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