

# What do we learn from clitics? The case study of Polish

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*Wiener Linguistische Gazette*  
Institut für Sprachwissenschaft  
Universität Wien  
Special Issue 78A (2014): 128–147

## **Abstract**

Clitics pose a challenge to any linguistic theory that does not abandon the classical stratification of grammar in modules. Halfway between phonology and syntax, clitics have their own morphological features different from both morphemes and syntactically independent elements — words. Revising the described typologies and taking Polish as a case study, our aim is to see whether an on-going process of grammaticalization of these elements in this particular language exists or not. Bearing this in mind we designed a value judgement test that we spread online between target groups from 16 to 64 years old. The obtained data confirmed our hypothesis; as the age of the participants decreased, so did the acceptance of the mobility of clitics as well as their adjunction to non-verbal hosts. A wide range of consequences derive from these results, ranging from the theoretical treatment of these elements to their computational manipulation and the elaboration of teaching materials of Polish as a L2.

**Key words:** clitic, grammaticalization, host, personal markers, Polish.

## **1 Introduction: the Polish verbal clitics**

In recent years, Polish has been the object of research in the area of clitics, not only because of the large quantity of clitics found in the language, but also because of their variety and their atypical behaviour within the Slavic family. At this point we consider a relevant guide the synthesis that Franks & King (2000) developed on the theory of Polish clitics, under the gaze of our practical and theoretical knowledge of the language.

The first distinction that these authors make regarding Polish clitics is based on their functionality; in this sense, they distinguish between verbal, nominal and other clitics, which

	Preterite (clitic form)	Copula (full form)
1st p. sg.	-(e)m	jestem
2nd p. sg.	-(e)ś	jesteś
3rd p. sg.	—	jest
1st p. pl.	-(e)śmy	jestemy
2nd p. pl.	-(e)ście	jesteście
3rd p. pl.	—	są

Table 1 Verbal clitics in Polish

we consider discursive clitics, following the terminology of Spencer & Luís (2012). However, here we will only revise the first group. Table 1, adapted from the same authors, summarises the existing verbal clitics.

There are several points in the above table that must be kept in mind. First of all, the dichotomy between preterite and copula lies in two facts. On the one hand, the clitic forms appear only in correlation with the past tenses of verbs; on the other hand, the similarity between verbal clitics and the conjugated forms of the verb *być* ‘to be’ cannot be mere coincidence. In a general sense, it should be kept in mind that the clitics shown in the table act as person markers, i.e. they introduce information about number and person, except for the third persons, which do not have specific forms. Finally, regarding the *e* in parentheses, it is normally identified as a marker of the masculine gender<sup>1</sup>. This, however, is inaccurate, because the nature of this vowel is epenthetic (Swan, 2002).

- (1) (a) Ja czytał-e=m                      tę                      książkę.  
           [I read:PRF -?M=1.SG            this:ACC                      book:ACC]  
           ‘I read this book’.
- (b) Ja=m czytał-Ø                      tę                      książkę.  
           [I=1.SG read:PRF-M            this:ACC                      book:ACC]  
           ‘I read this book.’
- (c) On czytał-Ø                      tę                      książkę.  
           [He read:PRF-M                      this:ACC                      book:ACC]
- (d) Ona czytał-a                      tę                      książkę.  
           [She read:PRF-F                      this:ACC                      book:ACC]  
           ‘She read this book.’

<sup>1</sup>Polish verbs mark grammatical gender in the past-tense forms. In the singular forms the distinction is threefold: masculine (-Ø), feminine (-a) and neuter (-o); in the plural, in contrast, the distinction is made between animate, personal and virile masculine (-i) and non-virile masculine, feminine and neuter (-y). We will mark the plurals in the glosses with the forms M and F, respectively, but the presented distinction should be kept in mind.

If we compare (1a and b) we realise that, effectively, we find the vowel *e* when there is also a clitic that marks person; yet, when it does not attach itself to the verb, the epenthesis disappears. The third person forms (1c and d) also confirm this fact: the masculine clitics take a phonologically empty form, while marking of the feminine is expressed by the vowel *a*. We will come back to this phenomenon and other phonological considerations later.

What is particular about these verbal clitics is that they can dissociate themselves from the verb and attach themselves to any phonologically strong element, in lineal terms, further to the left than the verb. Franks & King (2000) use (2), from Mikoś & Moravcsik (1986), as a demonstration of this phenomenon: in (2a) the verbal clitic that marks the second person singular is shifted to the first element from which the sentence is formed, while the contrast between (2b and c) demonstrates the impossibility of clitics to appear further to the right than the verb.

- (2) (a) Bliski=ś mi                                      był                                      jak                                      brat.  
           [close:M=2.SG DAT.1.SG    be:PRF:MSC            like                                      brother:NOM]  
           ‘You were as close to me as a brother.’
- (b) Kupili=śmy                                      lustro.  
           [buy:PRF:M=1.PL                                      mirror:ACC]  
           ‘(We) bought a mirror.’
- (c) \*Kupili                                      lustro=śmy  
           [Buy:PRF:M                                      mirror:ACC=1.PL]

Another example that the authors cite from Mikoś & Moravcsik (1986) is (3), in which the capacity of Polish verbal clitics to break constituents is made clear: while in (3a) the clitic takes the second element of the chain as its host, which is definitely the final element of the first constituent, in (3b) the clitic attaches itself phonologically to the first element, thus breaking the constituent.

- (3) (a) Czarnego                                      psa=ś                                      widział?  
           [black:ACC                                      dog:ACC=2.SG                                      see:PRF:M]  
           ‘Did you see a black dog?’
- (b) Czarnego=ś                                      psa                                      widział?  
           [black:ACC=2.SG                                      dog:ACC                                      see:PRF:M]

We have already seen, however, that this mobility of clitics brings about some consequences at the phonological level, such as the appearance of epenthetic vowels in the case of the masculine clitics. Franks & King (2000) bring forward two more phonological phenomena to be considered and that makes them *special* from the perspective of Spencer and Luís. In this way, verbal clitics in Polish count when establishing the end-of-word boundary that determines the phonological process of vowel raising: the phoneme /o/ becomes [u] in the final syllable, orthographically marked *ó*. If we compare the examples of (4), we see that vowel raising is produced with a verb in masculine third person (4a), as both the personal marker and the gender morpheme have a zero realisation and the vowel /o/ ends up blocked in the final syllable. This does not happen in the third person feminine (4b), as the syllable in which we find the vowel /o/ is not final: it is followed by the morpheme of the feminine gender. There is no vowel raising either in first person masculine (4c), because the epenthesis and the clitic have to be taken into account.

- |     |     |        |             |
|-----|-----|--------|-------------|
| (4) | (a) | Mógł   | ‘he could’  |
|     | (b) | Mogła  | ‘she could’ |
|     | (c) | Mogłem | ‘I could’   |

This phenomenon of vowel raising makes the verbal clitics of Polish more similar to affixes, rather than to syntactically independent words or elements. Despite the previously mentioned facts, the phenomenon of vowel alternation indicates the opposite. The following examples, which the authors extract from Rappaport (1988), show how the alternation of *q* with *ɛ*, which is produced when the first vowel is blocked in a non-final syllable (5a contrasted with 5b), is not produced when the final syllable is formed by a clitic and epenthesis (5c)<sup>2</sup>.

- |     |     |         |            |
|-----|-----|---------|------------|
| (5) | (a) | Wziął   | ‘he took’  |
|     | (b) | Wzięła  | ‘she took’ |
|     | (c) | Wziąłem | ‘I took’   |

The second phonological phenomenon that Franks & King (2000) contribute is the distribution of stress. This phenomenon is relevant insofar as Polish is a fixed-stress language: the stressed syllable is always the penultimate. According to the authors, what makes the distribution of stress peculiar is the fact that the clitics that mark singular persons are kept in mind when establishing the syllable count (compare 6a with 6b), while their plural counterparts are not (7a contrasted with 7b).

<sup>2</sup>The authors note that colloquially the form *wziąłem* is common, which would imply an oral tendency towards the regularisation of forms and rules. However, they do not bring forward real data on its use

(6)	(a)	Kiedy	zobaCZYł-e=ś	dokumenty?
		[When	see:PRF-EP=2.SG	documents:ACC]
		‘When did you see the documents?’		
	(b)	Kiedy=ś	zoBaczył	dokumenty?
		[When=2.SG	see:PRF:M	documents:ACC]
(7)	(a)	Kiedy	zobaCZYły=śmy	dokumenty?
		[When	see:PRF:F=1.PL	documents:ACC]
		‘When did we see the documents?’		
	(b)	Kiedy=śmy	zobaCZYły	dokumenty?
		[When=1.PL	see:PRF:F	documents:ACC]

In this way, while the stress changes the syllable in (6b) with regard to (6a) due to the loss of the clitic, this change does not occur in (7b), as, in fact, the stress in (7a) falls on the antepenultimate syllable and not the penultimate, as would be expected.

What these examples show, as with (4) and (5), is that Polish verbal clitics are not taken into consideration in the same way by the hosts that they attach themselves to: in some cases one clitic can enter the syllable count of a word, opening up a particular phonological process, while in other cases this same clitic might not be counted and, therefore, may not trigger phonological processes that are produced at its level. All in all, then, as put forward by Spencer & Luís (2012), Polish verbal clitics have characteristics of both affixes and of words.

Other data contributed by Franks & King (2000) concerning Polish verbal clitics make reference to omission. To this end, the authors cite (8) from Mikoś & Moravcsik (1986), as a prototypical example: the person markers appear only once and are recovered from context in the rest of the cases. Yet, they do not make remarks as to whether the omission presents restrictions of any kind. The only consideration they make about this point is the possibility that no personal marker appears (9), from Pruska (1991), provided that the personal pronoun does not appear in the nominative case: this would result in ungrammaticality.

(8)	Czytali=śmy,	pisali	i	studiowali.
	[Read:PRF:M=1.PL	write:PRF:M	and	study:PRF:M]
	‘We read,(we) wrote and (we) studied.’			



- (11) (a) ZmęCZEni=ście  
 [tired:M=2.PL]  
 ‘You are tired.’
- (b) JeSTEście zmęczeni  
 [be:PRS:2.PL tired:M]

Nevertheless, when we find the person-marking clitic without the copula, the authors note that in the first and second plural person the suppletive form of the verb *być* (corresponding to the third person of the plural) must be added. They put forward the example in (12), from Pruska (1992). Nevertheless, despite indicating that the singular form is impossible, they do not offer further information. They just hypothesise that the use of the copula might have something to do with the notion of plural. In other words, the form ‘jest’ would be used with singular subjects, whereas the form ‘są’ would appear in plural subjects.

- (12) ... my,            którzy=śmy    są/\*jest                    sługami            bożymi...
- [...1.PL:NOM, which:M=1.PL be:PRS:3.PL/be:PRS:3.SG servant:INS.PL of.God:INS.PL...]
- ‘... We, who are servants of God...’

Thus, having provided this typology of phenomena and examples, the authors come to the following conclusions: a) that the person-marking verbal clitics are enclitics, (b) that the person-marking singulars are adjunct inflections with the verb and clitics elsewhere, (c) that the person-marking plurals are inflections or clitics wherever they are, (d) that the verbal clitics can break constituents, up to the point where the elements of the constituent may not be adjacent.

All in all, these conclusions suggest that the system of clitics in Polish is found in a state of flux; in other words, we can identify in them characteristics found both in affixes and syntactically independent elements. This brings to the fore the idea that Polish clitics are undergoing a process that will eventually turn them into purely inflective elements. This would actually be the most logical result if we keep in mind that these elements correspond to functional categories.

## 2 Methodology

With the aim of checking the conclusions drawn by Franks & King (2000), and of putting to test our hypothesis (namely, that Polish clitics are in a process of grammaticalisation), an experiment has been designed that gathers a large part of the theoretical framework described in (§1). The experiment is made up of two tasks: firstly, deciding whether a number of provided phrases are

natural or not, and secondly, deciding which the stressed syllable is in one of the words of a sentence. Both tasks are found mixed throughout the experiment, although the first one has a more significant weight within the experiment as a whole: 37 value judgements along with 6 stress judgements. There is a reason behind this: deciding the stressed syllable in a word only sheds light on one of the phenomena that are produced when attaching a clitic to a word.

In this way, the value judgements have allowed for the inclusion of a more extensive examination of cases of the described phenomena. These cases have been divided into six blocks, the six entries in the corpus of annexes. The first one (i) holds the phenomenon of vowel alternation ( $\text{ą} > \text{ę}$ ), in relation to the displacement of clitics. The second and third blocks (ii-iii), in contrast, try to shed light on the acceptability of clitics outside of the verb, as well as the possibility of them breaking constituents. The fourth and the fifth ones (iv-v) present their possibility to break constituents, and the sixth (vi) deals with the dichotomy between these elements and the copula.

The instructions used when carrying out the tasks were clear and concrete. It was not asked whether something was grammatically correct or not: rather, it was the naturalness of the provided phrases that was to be evaluated. The options to choose from as value judgements were “yes, this sounds natural” and “no, this does not sound natural”. So as to leave the door open to the considerations of the speakers themselves, a third option was also included: “other” with an empty box to fill up. This third option seemed relevant to include so as to gather impressions that the experiment could have suggested at some points. It must be kept in mind that, in fact, a large portion of the phrases that were included in the task are examples brought forward in (§1) by Franks & King (2000). The aim was to contrast the assertions of the authors, bring forward data of the phenomena they did not offer and shed light on the phrases which do not depend on the consideration of the speaker. This third option allowed, thus, for the gathering of reflections on the non-naturalness of some phrases that were not related to clitics.

As for the judgements on stress, the method of response was always a textbox which was to be filled with the syllable that each speaker considered to be the stressed one. This word was always either the verb of the phrase or the interrogative particle, whether or not the word under consideration had a singular or plural person-marker attached as an enclitic. The motive of this was to see whether all the speakers applied the same criteria when establishing word boundaries and whether clitics were part of the syllable count or not.

When establishing the sample used in the study, the only two variables that were taken into considerations were: (a) speaking Polish as L1 and (b) being originally from Poland. However, we tried to cover the largest age range possible in the sample, as checking the identity



of the elements in question in different age groups is necessary in order to shed light on the existence of the on-going process. Finally, although speakers were asked for their level of education, this variable was not seen as decisive when dealing with the results, nor was the gender of the participants considered to be a relevant variable.

The starting number of participants was seventy-four but two of them were excluded for not complying with the basic premises of the study. Of the 72 people interviewed, 22 were men (30.6%) and 50 were women (69.4%). As for the age groups, 11 participants belonged to the 16 to 20-year age range (15.3%); 39 belonged to the 21-25 range (52.8%); 14 to that of 26-30 years (19.4%); 5 participants to that of 31-50 years (6.9%); and 3 were in the range of 51-65 years (4.2%). With respect to education, one of individuals interviewed had gone through primary schooling (1.4%); 32 had gone through post-obligatory secondary schooling (44.4%), and 38 had gone through education at the tertiary level (52.8%). Regarding the geographical origin of those interviewed, the sample gathers quite a wide panorama. Image 1 shows the places of origin of the participants graphically<sup>3</sup>.



Figure 1 Places of origin of those interviewed.

Finally, concerning the procedure used in the collection of the data, it must be said that the experiment was designed with the online platform GoogleDrive and was distributed on the

<sup>3</sup>To be more precise, the places of origin of those surveyed were: Brzesko, Bydgoszcz, Dąbrowa Tarnowska, Elk, Gdańsk, Gdynia, Głogów, Gołuchów, Góra, Grodzisk Wielkopolski, Inowrocław, Jawor, Katowice, Koło, Konin, Kraków, Legnica, Lubin, Łódź, Mielz, Oleśnica, Olsztyn, Ostrów Wielkopolski, Piła, Piotrków Trybunalski, Poznań, Sieraków, Słupca, Słupsk, Strzelno, Szczecin, Śrem, Świętochłowice, Tarnów, Toruń, Tuchów, Turek, Warszawa, Wrocław and Września. The map was created using Mapbox [23.05.2013].

[https://a.tiles.mapbox.com/v4/hartwall.k48e3309/page.html?access\\_token=pk.eyJ1IjoiaGFydHdhbGwiLCJhIjoieQzdEcnk4NCJ9.q57TJvtTvBrGLY-bR4aLMQ#7/52.245/19.748](https://a.tiles.mapbox.com/v4/hartwall.k48e3309/page.html?access_token=pk.eyJ1IjoiaGFydHdhbGwiLCJhIjoieQzdEcnk4NCJ9.q57TJvtTvBrGLY-bR4aLMQ#7/52.245/19.748)

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internet using e-mail and social networks (namely, Facebook). Despite the limitations they offer, we believe that the results obtained contribute quantitatively significant data.

### 3 Results

In this section, the results of the experiment designed (§2) will be presented, the discussion of which being left for the conclusion (§4). Throughout this section we will follow the distribution of blocks that the test was based on. These blocks correspond to the six entries in the corpus of annexes (i-vi).

As for the first block, which dealt with vowel alternation, this alternation is almost never accepted when the person marker is not found attached to the verb and the vowel ends up blocked in final syllable (i.b): of those surveyed only three out of seventy-two found it natural. In contrast, the same context without alternation (i.a) gets more support: 18.2% of those surveyed in the range of 16-30 years, 5.1% of those from 21 to 25 years, and 14.3% of those from 26 to 30 years. This level of acceptance is still low, however. Nonetheless, in both cases one interviewee from the 31-50 age range considered these sentences to be archaic. Finally, the third case within the first block, which brings forth the alternation of the verbal vowel and the person-marking enclitic (i.c), was accepted by the speakers in a higher percentage, namely, 27.3% of the youngest age range, 15.4% of those between 21 and 25 years, 28.6% of those between 26 and 30 years, and 20% in the range from 31 to 50 years. Despite this higher degree of acceptance, it is important to note that three of the participants decided to correct the form offered, with one of them saying that the form found in the test was a terrible error. Compare the results of this block in Table 2.

	Czarnego psa=ś wziął? (i.a)			Czarnego=ś psa wziął? (i.b)			Czarnego psa wziął-e=m? (i.c)		
	Yes	No	Other	Yes	No	Other	Yes	No	Other
16-20	18.2%	81.8%	—	9.1%	90.9%	—	27.3%	72.7%	—
21-25	5.1%	94.9%	—	2.6%	97.4%	—	15.4%	79.5%	5.1%
26-30	14.3%	85.7%	—	7.1%	92.9%	—	28.6%	71.4%	—
31-50	—	80%	20%	—	80%	20%	20%	80%	—
51-65	—	100%	—	—	100%	—	—	100%	—

Table 2 Results for the vowel alternation

Regarding the second and third blocks, which deal with the breaking of constituents, the mobility of clitics and the relationship between them, the results provide interesting data. On the one hand, no speaker accepts the positioning of the person marker more to the right than the verb (in lineal terms) as natural (ii.d,h; iii.g). In the same way, only one of the seventy-two speakers accepts prepositions as hosts for clitics (iii.b). At the other extreme, the phrases that are most

widely considered natural are those in which the person markers take the verb as their host (ii.c; iii.a): in both cases there is between an 80% and 100% level of acceptance in each age range. These parameters are left by the oldest age range in the example of the third block, since one of the speakers rejects the naturalness of the phrase, along with the 21-25 age group, where the percentage of acceptance of this particular phrase drops to 64.1%. The reason of such a decrease may be found in a comment made by one of the participants in this age group, according to which the phrase would sound more natural if the verb was in the first position.

With regard to the breaking of constituents, the results show that most speakers accept it, especially among the older groups: all of the participants between 31 and 65 years of age accept (ii.f) as natural, while in the three remaining groups the level of acceptance drops to 80%; in the case of (iii.e), on the other hand, we find 80% of favourable judgements in the older groups, whereas the range of acceptedness drop to 30% in the youngest groups. Nonetheless, when this breaking is found in relation with the non-attachment of the person-marker to the verb, there are far fewer judgements in favour: both in (ii.g) and in (iii.f) 80% and 100% of those surveyed are shown to be against it. Again, the age group that goes from 26 to 30 years old does not show a strong preference, with 50% in favour and 50% against in the case of (iii.f), while the results for (ii.g) are 35.7% in favour and 64.3% against. It is important to note the contribution of one speaker in the second-oldest age group, who considers both phrases archaic. The results of the sentences (ii.f,g) and (iii.e,f) can be compared in Table 3.

	Ciekawą kupiła=ś Janowi książkę. (ii.f)			Ciekawą=ś kupiła Janowi książkę. (ii.g)			Do mojego nie przyszła=ś biura. (iii.e)			Do mojego=ś nie przyszła biura. (iii.f)		
	Yes	No	Other	Yes	No	Other	Yes	No	Other	Yes	No	Other
16-20	81.8%	18.2%	—	36.4%	63.6%	—	36.4%	63.6%	—	9.1%	90.9%	—
21-25	79.5%	20.5%	—	15.4%	84.6%	—	30.8%	69.2%	—	17.9%	79.5%	2.6%
26-30	78.6%	21.4%	—	35.7%	64.3%	—	57.1%	42.9%	—	50%	50%	—
31-50	100%	—	—	20%	60%	20%	80%	20%	—	20%	60%	20%
51-65	100%	—	—	—	100%	—	33.3%	66.7%	—	—	100%	—

Table 3 Results for the breaking of constituents

As far as the examples in (ii.b,e) are concerned, the average number of favourable responses is, respective to the total, seven. In (iii.d) the result obtained is identical. The only case where it seems more natural is (iii.c), in which the person marker takes the possessive pronoun that determines the noun of the phrase as a host: here the age range from 26 to 30 gives a divided response, with 50% of them in favour of the naturalness of the phrase and 50% against. This proportion is maintained in the next age group (31-50), even though one of the speakers noted that the phrase sounds archaic.

Regarding the phenomena of omission of the fourth and fifth blocks (iv-v), the results are very clear. Whenever there are two verbs, if the clitic appears, it has to be on both of them. Thus, in block (iv) between the 90% and 100% of those surveyed along all the age groups reject those cases in which the verbal clitic appeared only with one of the two verbs, either the first one or the second one, regardless of the gender form of the verb (iv.b,c,g,h). This percentage appears again in those contexts where, in addition to a verbal personal marker adjunct to one of the verbs, appears as well as the personal pronoun in nominative (iv.d,e). Compare the results obtained for the masculine inflected forms in Table 4.

	Czy poszedł=ś i zobaczył=ś, co się tam stało? (iv.f)			Czy poszedł=ś i zobaczył, co się tam stało? (iv.g)			Czy poszedli zobaczył=ś, co się tam stało? (iv.h)		
	Yes	No	Other	Yes	No	Other	Yes	No	Other
16-20	81.8%	18.2%	—	9.1%	90.9%	—	9.1%	90.9%	—
21-25	92.3%	7.7%	—	—	100%	—	2.6%	97.4%	—
26-30	92.9%	7.1%	—	14.3%	85.7%	—	—	100%	—
31-50	100%	—	—	—	100%	—	—	100%	—
51-65	100%	—	—	—	100%	—	—	100%	—

Table 4 Results for the phenomenon of omission in masculine inflected verbal forms

The block (v), on the other hand, provides very similar data. A number between 90% and 100% of those surveyed in every age group reject the appearance of a single person marker, whether or not this single mark is that of the medial verb (v.e) or that of the final verb (v.f). The percentage of acceptance when this single mark appears adjoined to the first verb (v.d), however, is higher: 12.5% of the total (the highest percentage of acceptance is found in the oldest group, where 33% of those surveyed come out in favour of it). Regarding the context in which the strong form of the personal pronoun appears, but the person marker does not (v.b), between 80% and 100% of the speakers do not consider it natural. Nonetheless, it is interesting to note that within the age group that covers 26 to 30 years 37.5% consider the phrase natural and sounds good, which is quite surprising, given that this context was believed to be ungrammatical.

Finally, it is important to note that the lack of a person marker and strong personal pronoun in a response in a predetermined context (v.c) is accepted by 15.3% of the participants, with the highest level of support being among those in the age range of 26-30 years, at 35.7%. On the other hand, 38.9% of those surveyed perceive phrases with a single enclitic person marker in the pronoun in nominative in initial position (v.a) to be natural. Yet, the differences here become notable when the groups of the study are compared, as there is a greater level of rejection of the phrase observed when the age of the participants is lower: it is considered natural by 66.7%,

60% and 57.2% of the three oldest groups (from oldest to youngest), while the acceptance of the phrase among those between 21 and 25 years of age is 28.2%, and among those between 16 and 21 years of age, 36.4%. However, at least two of the comments made by participants in the survey should be added: although they accepted the naturalness of the response, they think that the question was not well-formed and that the imperfective aspect would be more relevant.

With regard to the block (vi), which deals with the dichotomy between person markers and the copula, the results are quite categorical. Thus, all of the speakers reject cases where the plural person marker appears attached to an adjective and the form of the copula that we find is the singular (vi.b,d). Despite this, the level of naturalness that the speakers find in the contexts in which it is the suppletive plural form of the copula that acts as an auxiliary is very low. More precisely, for (vi.c) only 15.3% of the total come out in favour of it, while for (vi.a) the percentage of positive judgements is 12.5%. It is relevant to note that it is precisely the youngest age group that considers these two phrases to be natural: 36.4% and 18.2%, respectively. Compare the results in Table 5.

	Zmęczeni=ście są? (vi.a)			Zmęczeni=ście jest? (vi.b)			– Jak się macie? – Zmęczeni=ście są. (vi.c)			– Jak się macie? – Zmęczeni=ście jest. (vi.d)		
	Yes	No	Other	Yes	No	Other	Yes	No	Other	Yes	No	Other
16-20	18.2%	63.6%	18.2%	—	100%	—	36.4%	63.6%	—	—	100%	—
21-25	7.7%	92.3%	—	—	100%	—	10.3%	87.1%	—	—	100%	—
26-30	21.4%	78.6%	—	—	100%	—	21.4%	78.6%	—	—	100%	—
31-50	—	80%	20%	—	100%	—	—	80%	20%	—	100%	—
51-65	33.3%	66.7%	—	—	100%	—	—	100%	—	—	100%	—

Table 5 Results for the dichotomy between person markers and the copula

Before finishing this section, the results obtained in the stress judgements should also be discussed. On the one hand, as far as cases in which the stressed syllable of the interrogative pronoun (i) are concerned, the results show that the speakers maintain the stress in the original syllable, even when the interrogative pronoun has a plural person marker as an enclitic. However, differences were observed between the different age groups: the range between 51 and 65 years of age always maintains the stressed syllable, while among the younger groups, such as the range from 21 to 25 years, only 56.5% of those surveyed. On the other hand, when the stressed syllable of the verb was asked for (ii), the non-attachment of the singular person-marking to the verb (ii.b) represents, in all the age groups, a displacement of the stress to the directly anterior syllable with respect to the cases where the singular person marker is found attached to the verb (ii.a).

In relation to the plural person markers, however, relevant differences according to the study groups are observed. 66.7% of the oldest age range and 40% of the one just below put the stress on the same syllable, whether (ii.c) or not (ii.d) the person marker takes the verb as a host, which indicates that the clitic is not counted when the penultimate syllable of the verb is determined in order to decide where the stress must fall. However, the results obtained for the age group from 26 to 30 years show that 71.6% of those surveyed always stress the penultimate syllable, so a displacement of the stress in cases where the clitics take the verb as a host is found. Among those youngest, this difference is not so prominent: in the sixteen-to-twenty-year-old group only 45.4% count the clitic when establishing the word boundary, while among those between 21 and 26 years of age the percentage rises to 46.1%.

#### **4 Conclusion**

After analysing the results from the experiment, we can assert that our hypothesis remains verified, at least in part. Thus, the data gathered show as a matter of fact that Polish native speakers generally accept the adjunction of clitic personal markers to verbs, whereas the naturalness of the adjunction of these elements to other hosts decreases as the age of the participants does. Therefore, it is patently clear that these elements are becoming rather inflectional morphemes. The lack of more participants in the eldest age group, or even the inclusion of more target groups in the age range, makes it difficult to tell whether this process may have not already finished. Actually, the fact that some of the phenomena described by Franks & King (2000) were not accepted as natural suggests that the loss of properties typical of syntactically independent words is gradual. Thus, the data confirmed that the clitic personal markers cannot be attached to a word that is further to the right than the verb in linear terms. In addition to that, the impossibility for such clitics to take prepositions as hosts was also confirmed. On the other hand, the cases regarded as most acceptable and natural are those, where the clitic personal marker takes personal pronouns in nominative case as a host.

Regarding the phenomenon of omission, the results are clear: none of the groups considered sentences with more than one verb and a single personal marker natural (contra Franks & King (2000)). Accordingly, the contexts in which no clitic personal marker appeared throughout the whole proposition were not regarded as natural either, even if such a proposition was a concise answer to a question that had established a contextual and pragmatic framework. These data again contradict the description of the authors cited. From our results it can only be deduced that omission is only accepted if at least one personal marker appears adjunct to the

personal pronoun in nominative case in sentence initial position. With respect to clitic personal markers and their relationship with the copula, on the other hand, it can be asserted that the co-occurrence of the singular copula with plural personal markers is not acceptable. Surprising as it may seem, it is the younger group that argues more for the naturalness of those cases in which the suppletive form of the copula appears, since such sentences are no longer regarded as natural among the elder groups.

Finally, the results of the stress judgements display a tendency among the youngest to always stress the penultimate syllable of the verb, thus the verbal personal markers are no longer seen as clitics. Nevertheless, this is not true for those cases where the clitic is adjunct to a non-verbal host. Here, the clitics are perceived as such and are not included when establishing the syllable count.

All in all, in order to be critical with our own work, the door should be left open to the pragmatic context, not considered in our study. Actually, considering the contexts presented here as natural does not imply necessarily that they are pragmatically neutral. That notwithstanding, none of the typological descriptions we have referred to has included such a possibility as a possible explanation. Thus, we are positive this variable should be considered in further studies, along with the considerations made here, i.e. the existence of an ongoing process of grammaticalisation of the personal verbal markers.

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## Annexes

The following pages collect the sentences used in the judgement value test, the results of which were presented in (§3). The sentences are grouped in blocks, according to the phenomenon exhibited. A single translation is provided for each block, since the sentences only differ in terms of clitic adjunction.

- |      |     |   |                            |                                   |                              |
|------|-----|---|----------------------------|-----------------------------------|------------------------------|
| (i)  | (a) | Czarnego<br>[black:ACC                        | psa=ś<br>dog:ACC=2.SG      | wziął?<br>take:PRF:M]             |                              |
|      |     | ‘Did you (M) take the black dog?’             |                            |                                   |                              |
|      | (b) | Czarnego=ś<br>[black:ACC=2.SG                 | psa<br>dog:ACC             | wziął?<br>take:PRF:M]             |                              |
|      | (c) | Czarnego<br>[black:ACC                        | psa<br>dog:ACC             | wziął-e=m?<br>take:PRF:M-EP=1.SG] |                              |
| (ii) | (a) | Ciekawą=ś<br>[Interesting:ACC=2.SG            | książkę<br>book:ACC        | kupiła<br>buy:PRF:F               | Janowi.<br>John:DAT]         |
|      |     | ‘(You:F) bought an interesting book to John.’ |                            |                                   |                              |
|      | (b) | Ciekawą<br>[Interesting:ACC                   | książkę=ś<br>book:ACC=2.SG | kupiła<br>buy:PRF:F               | Janowi<br>John:DAT]          |
|      | (c) | Ciekawą<br>[Interesting:ACC                   | książkę<br>book:ACC        | kupiła=ś<br>buy:PRF:F=2.SG        | Janowi.<br>John:DAT]         |
|      | (d) | Ciekawą<br>[Interesting:ACC                   | książkę<br>book:ACC        | kupiła<br>buy:PRF:F               | Janowi=ś.<br>John:DAT=2.SG]  |
|      | (e) | Ciekawą<br>[Interesting:ACC                   | książkę<br>book:ACC        | Janowi=ś<br>John:DAT=2.SG         | kupiła.<br>buy:PRF:F]        |
|      | (f) | Ciekawą<br>[Interesting:ACC                   | kupiła=ś<br>buy:PRF:F=2.SG | Janowi<br>John:DAT                | książkę.<br>book:ACC]        |
|      | (g) | Ciekawą=ś<br>[Interesting:ACC=2.SG            | kupiła<br>buy:PRF:F        | Janowi<br>John:DAT                | książkę.<br>book:ACC]        |
|      | (h) | Ciekawą<br>[Interesting:ACC                   | kupiła<br>buy:PRF:F        | Janowi<br>John:DAT                | książkę=ś.<br>book:ACC=2.SG] |



(h) Czy poszedł i zobaczył=ś, co tam się stało?  
 [Q go:PRF:M and see:PRF:M:EP=2.SG, what=ACC there REFL happen:PRF:N]

(v) (a) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - My=śmy czytali, pisali i studiowali.  
 [1.PL:NOM=1.PL read:PRF:M write:PRF:M and study:PRF:M]  
 ‘- What did you do yesterday in the library? - We read, wrote and studied.’

(b) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - My czytali, pisali i studiowali.  
 [1.PL:NOM read:PRF:M write:PRF:M and study:PRF:M]

(c) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - Czytali, pisali i studiowali.  
 [read:PRF:M write:PRF:M and study:PRF:M]

(d) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - Czytali=śmy, pisali i studiowali.  
 [read:PRF:M=1.PL write:PRF:M and study:PRF:M]

(e) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - Czytali, pisali=śmy i studiowali.  
 [read:PRF:M=1.PL write:PRF:M and study:PRF:M]

(f) - Co zrobili=ście wczoraj w bibliotece?  
 [what=ACC do:PRF:M=2.PL yesterday PRP library:LOC]  
 - Czytali, pisali i studiowali=śmy.  
 [read:PRF:M write:PRF:M and study:PRF:M=1.PL]

(vi) (a) Zmęczeni=ście są?  
 [Tired:M=2.PL ?AUX/?be:PRS:3.PL]  
 ‘Are (You:M) tired?’

- (b) Zmęczeni=ście                      jest?  
 [Tired:M=2.PL                      ?AUX/?be:PRS:3.SG]
- (c) - Jak                                      się                      macie?  
 [How                                      REFL                      have:PRS:2.PL]  
 - Zmęczeni=śmy                      są.  
 [Tired:M=1.PL                      ?AUX/?ser:PRS:3.PL]  
 ‘- How are you? - (We:M) are tired.’
- (d) - Jak                                      się                      macie?  
 [How                                      REFL                      have:PRS:2.PL]  
 - Zmęczeni=śmy                      jest.  
 [Tired:M=1.PL                      ?AUX/?ser:PRS:3.SG]

Finally, the ensuing sentences are those used in the stress judgement test. Regarding the first two sentences, the speaker was asked to consider which the stressed syllable of the interrogative pronoun was. On the other hand, the remaining sentences were used to ask inquire about the stressed syllable of the verb.

- (i) (a) Czego                                      nie                                      zrobili=ście?  
 [what:GEN                                      not                                      do:PRF:M=2.PL]  
 ‘What did not (M) you do?’
- (b) Czego=ście                                      nie                                      zrobili?  
 [what:GEN=2.PL                                      not                                      do:PRF:M]
- (ii) (a) Gdzie                                      zobaczyte=ś                                      te                                      dokumenty?  
 [where                                      see:PRF:M:EP=2.SG                                      these:ACC                                      documents:ACC]  
 ‘Where did you (M) see these documents?’
- (b) Gdzie=ś                                      zobaczył                                      te                                      dokumenty?  
 [where=2.SG                                      see:PRF:M:EP                                      these:ACC                                      documents:ACC]
- (c) Gdzie                                      zobaczyły=ście                                      te                                      dokumenty?  
 [where                                      see:PRF:F=2.PL                                      these:ACC                                      documents:ACC]
- (d) Gdzie=ście                                      zobaczyły                                      te                                      dokumenty?  
 [where=2.PL                                      see:PRF:F                                      these:ACC                                      documents:ACC]