THE ROLE OF GENDER IN THE RISE OF NUMERALS AS A SEPARATE CATEGORY*

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ABSTRACT The paper presents evidence concerning the trigger of numeralization of Polish higher numerals based on diachronic facts pertinent to their development. We focus on the reasons behind this process and argue that it resulted from a combination of two historical facts: (i) the development of the category of *animacy/personhood/masculinity*, in particular *masculine personal*, and (ii) its grammaticalization via the introduction of a new Acc/Gen syncretism into the paradigms of masculine animate and masculine personal nouns. We propose that the developing new gender distinction in the plural constituted the trigger for numeralization of the nominal numerals which shifted from NP to NumP and as lexicalizations of NumP they began spelling out the gender information it introduced. As a result of this process, numerals have lost their own nominal properties (ϕ-features: number, gender), and formed a separate category with its own new declension.

1 INTRODUCTION

This paper presents a proposal concerning the background of and the trigger for the grammaticalization of Polish higher numerals based on diachronic facts pertinent to their development. Historical evidence shows that the nominal numerals 5-10[1], which originally belonged to feminine *i*-stem nouns (a status they inherited from Proto-Slavic and carried on having in Old Polish), changed their nominal status into a numeral one and became a separate part of speech with their own declension and specific syntactic properties, shedding their nominal ϕ-features in the process (Siuciak 2008, Miechowicz-Mathiasen 2012a, 2012b). Here, we concentrate

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1 Subsequently, the changes also affected their compounds, i.e. combinations with bases to create tens, hundreds and thousands (multiplications), as well as their further combinations with simplex numerals (additions).

on the reasons behind this change and argue that the shift in category resulted from a combination of two historical facts: (i) the development of the category of *animacy/personhood/masculinity*, in particular *masculine personal*, and (ii) its grammaticalization via the introduction of a new Acc/Gen syncretism into the paradigms of masculine animate and masculine personal nouns. In the plural, which constitutes the relevant environment of numerals, the new syncretism applied solely to the *virile* (masculine personal plural) gender subcategory[2] and thus became its signature property.[3] Crucially, virile nouns initially exhibited the new Acc/Gen syncretism exclusively in the company of numerals – without them, they kept to the old Nom/Acc syncretism. Combining these historical facts with earlier proposals such as Ritter (1993), De Vicenzi (1999), De Vicenzi & Domenico (1999), which show that while number is a projecting category, gender is not and is a category parasitic on number[4], we propose that the need for the morphological exposure of the novel virile gender in the plural triggered numeralization of the nominal numerals. These numerals will be argued to have shifted from their own NP to their complement's NumP, thus becoming lexicalizations of the Num° head.[5] As a result of this change they began spelling out the gender feature of their complement (with the relevant information introduced by Num°), and although this cost them their own nominal properties (i.e., number and gender, which they lost in the process), they became the very first exponents of the virile gender outside the singular.[6]

We used four consecutive translations of the Bible: *Biblia Królowej Zofii* (1455) (BZ), *Biblia Brzeska* (1563) (BB), *Biblia Gdańska* (1632) (BG), and *Biblia Tysiąclecia* (1965) (BT), as well as *Rozmyślanie przemyskie* (mid 15th c.) (Rozm).[7] We selected the

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2 The following genders may be distinguished in Polish (Laskowski 1988: 113): singular — masculine person, masculine animate, masculine inanimate, feminine, neuter; plural — virile (masculine person), non-virile.

3 The Acc/Gen syncretism started in the singular and to begin with was characteristic of animate masculine nouns (thus also including animals), however, it soon began spreading to various other groups of nouns (e.g. names of dances, card games, mushrooms, etc.) and presently it is also characteristic of names of toys, cigarette brands, cars, and many others (see Kucała 1978). Due to this, it can no longer be considered an exclusive property marking animacy and/or personhood in the singular. In the plural, however, the syncretism has always been restricted to masculine persons only, and remains so to this day.

4 This proposal also derives Greenberg's (1978: 74) Universal No. 36: "If a language has the category of gender, it always has the category of number."

5 Lower numerals exhibit adjectival syntax and therefore are assumed to lexicalize the specifier of NumP (see Miechowicz-Mathiasen 2012a).

6 In the singular, masculine personal had other initial morphological exponents: pronouns, substantivised adjectives and participles (Łoś 1927, Kuraszkiewicz 1961, Kucała 1978, Laskowski 1988). In the dual/plural this role was also taken on by numerals. As opposed to the gendered pronouns, nouns did not express the newly introduced gender distinctions morphologically and thus the Acc/Gen syncretism was sanctioned only if the noun was accompanied by a pronoun or a numeral (Kucała 1978: 137). The first adjectives using Acc/Gen were not attributive; they were substantivised adjectives referring exclusively to masculine persons, e.g.: *widzę sprawiedliwych/ślepych/ubogich/wiernych*ACC/GEN 'I see the innocent/just/blind/poor/faithful.'

7 *Rozmyślanie przemyskie* was written at about the same time as *Biblia Królowej Zofii* and is a compi-

15 most frequent virile nouns and performed exhaustive searches of the accusative case contexts.[8] We counted the forms in which Acc was syncretic with Nom (the so-called *old Acc*, which we refer to as **1Acc**), and those in which it was syncretic with Gen (the *new Acc*, which we refer to as **2Acc**). We selected the 6 most numerous nouns to be used in examples throughout the article. Table 1 below enumerates all of the nouns and gives the overall number of instances we extracted from the 4 selected texts (we provide detailed information with respect to each text in the sections devoted to them).

The paper is organized as follows: section 2 discusses the role of gender in the grammaticalization of higher numerals '5 and above' (hence ≥ 5)[9]; it is divided into two main subsections, the first of which (2.1) provides some historical background concerning the relationship between virile gender and the Acc/Gen case syncretism, and the second one (2.2) provides a substantial amount of empirical data from the selected primary sources illustrating the progress of the Acc/Gen syncretism (these data constitute evidence supporting our forthcoming proposal). Section 3 concentrates on how the changes affected numerals themselves, i.e. what happened to their morphology (3.1), and their syntax (3.2 and 3.3). The last subsection (3.3) presents a proposal according to which it is the need for the morphological exposure of the novel virile/non-virile gender distinction (expressed via Acc/-Gen syncretism) that triggers numeralization of higher numerals in Polish. Section 4 concludes the paper.

2 THE ROLE OF GENDER IN THE GRAMMATICALIZATION OF HIGHER NUMERALS

2.1 *Case syncretisms and gender distinctions*

The appearance of the Acc/Gen syncretism has been argued by many to have arisen for functional reasons, namely to distinguish the grammatical functions of subject and object in a sentence (Meillet 1924, Laskowski 1988, Mindak 1990; contra Klenin 1983). Proto-Slavic exercised the inherited (Proto-Indo-European, hence PIE)

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lation of various original texts translated from Latin (the only surviving copy is from ca. 1500); we use it here because it is the only text based on sources written in Latin; *Biblia Królowej Zofii* is a translation from Czech, and the remaining texts are all translations from the original languages (Hebrew and Aramaic). We are aware that translations, and in particular translations of religious texts, may be more conservative, however see Table 8 in section 3.1 and notice that the forms of numerals suggested in Mesgnien's grammar book were the ones we found one century earlier in *Biblia Brzeska*, and they were no longer present in the 17th c. translation (i.e. *Biblia Gdańska*) contemporaneous with Mesgnien's grammar.

8 We provide quantitative data for all the texts apart from BT. As there are no instances of 1Acc in this text (thus nothing to compare the data with), counting instances of 2Acc in this text would not contribute anything to the investigation. All the viriles in accusative contexts use 2Acc.

9 A word of explanation concerning terminology is in order here: we use the term *numerals* to refer to a new part of speech with a paradigm specific only to it; we oppose numerals so defined to nouns denoting numbers (or numeral nouns) from which they derive historically, but which were not a homogenous group (e.g. 5-10 were *i*-stem nouns, 100 was an *o*-stem neuter).

	Noun		1Acc	2Acc	Sum
1	*syny*	'sons'	542	181	723
2	*męże*	'men, husbands'	261	60	321
3	*sługi*	'servants'	157	39	196
4	*proroki*	'prophets'	108	30	138
5	*braty*	'brothers'	77	60	137
6	*posły*	'messengers'	116	15	131
7	*króle*	'kings'	64	42	106
8	*bogi*	'gods'	75	23	98
9	*kapłany*	'priests'	67	12	79
10	*zwolenniki/ucznie*	'followers/students'	38	21	59
11	*ojce*	'fathers'	35	15	50
12	*apostoły*	'apostles'	32	4	36
13	*duchy*	'spirits'	28	1	29
14	*mędrce*	'wise men'	15	13	28
15	*świadki*	'witnesses'	7	3	10

Table 1   Virile nouns selected for investigation and their overall number in Acc case contexts

Nom/Acc syncretism of neuter inanimates, however, due to various developments (mostly phonological ones) the syncretism spread to masculine animate nouns thus obliterating the earlier distinctions. This made it difficult to distinguish Agents from Patients/Themes as Laskowski (1988: 114) explains, which is supported by the fact that the syncretism first and foremost affected the paradigm of personal pronouns. As personal pronouns denote persons and therefore can be both *performers* (Agents) and *undergoers* (Patients/Themes) of actions expressed by predicates (as opposed to inanimates, which can only constitute the latter), the indistinguishable Nom/Acc forms in the singular accompanied by free word-order made it highly difficult to know one's subject from one's object. This led to the development of a new syncretism in which the Acc forms were substituted by the Gen ones (hence the Acc/Gen syncretism), and thus the Nom subjective forms again stood in contrast to the objective Acc ones.[10] This depicts the situation in the singular, however, due to the levelling of paradigms the Acc/Gen syncretism subsequently also infiltrated the dual paradigm, and eventually via dual it spread to the plural (although not without complications). As Laskowski (1988: 117) reports, the plural paradigm did not have the prerequisite Nom/Acc syncretism in need of overruling, i.e. masculine nouns (both personal and non-personal) had distinct Nom and Acc forms (*koniowie*$_{\text{NOM}}$ vs. *konie*$_{\text{ACC}}$ 'horses'; *posłowie*$_{\text{NOM}}$ vs. *posły*$_{\text{ACC}}$ 'messengers'; see also the paradigm of 'son' in Table 2). Therefore the introduction of a Nom/Acc syncretism into the paradigm of non-personal nouns, which completes the whole non-virile category, leaves virile nouns as the sole representatives of the Acc/Gen syncretism in the plu-

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10 While uncovering the source of the Acc/Gen syncretism is beyond the scope of this paper, with respect to an anonymous reviewer's suggestion that its source may have been in negative contexts (as in Genitive of Negation (GoN) which affects accusative complements), we report that such an analysis has been proposed for Polish by Kępińska (2002). Nevertheless, we find this solution implausible. GoN affects all structurally marked accusatives without restrictions, but it never affects complements of prepositions (lexically marked). If GoN were to be the source of the Acc/Gen syncretism we would expect it to (i) spread to all nouns regardless of gender, and (ii) not to spread to complements of prepositions; needless to say, neither of these is true. Kępińska (2002) proposes that the source of sentences such as *Pięciu synów było w domu* 'Five sons were at home' is its negative counterpart *Pięciu synów nie było w domu* 'Five sons were not at home.' It is then unexpected that this does not apply to singular masculine personal nouns, consider: *Marka*$_{\text{GEN}}$ *nie było w domu* 'Mark was not at home' vs. **Marka*$_{\text{GEN}}$ *było w domu* 'Mark was at home', instead we say *Marek*$_{\text{NOM}}$ *był w domu* 'Mark was at home.' In Miechowicz-Mathiasen (in prep.) I make a proposal according to which the construction *był(o)/nie był(o)* may be of two types: (i) existential (with a Nom subject), and (ii) quantificational (with a Gen one). This explains why we have two options when expressing Mark's absence from home: (i) existentially *Marek*$_{\text{NOM}}$ *był/nie był w domu* 'Mark was/was not at home', and (ii) quantificationally *Marka*$_{\text{GEN}}$ *było pełno* 'Mark was everywhere' (needs an additional predicate), *Marka*$_{\text{GEN}}$ *nie było w domu* 'Mark was not home' (of all the persons you expect to be home, Mark was not one of them, he was missing). This is further supported by the existence of predicates denoting decreasing/increasing amounts which also require Gen subjects, e.g. *Wody*$_{\text{GEN}}$ *(nie) ubywało/przybywało/wystarczyło* 'Water was (not) decreasing/increasing/enough in amount.' All in all, it appears more convincing to search for the source of the Acc/Gen syncretism in pronominal paradigms, which is where the syncretism began with the Acc/Gen *kogo* 'whom' present already in the oldest Slavic texts (Kucała 1978: 167), and (ii) quantificationally suggesting that Mark was tificational (with a Gen one), which is why we have two options with exp

ral. We summarize the aforementioned developments in (1) and (2) and exemplify them in Table 2 immediately below.

(1)   The direction of the spreading Acc/Gen syncretism:

SG → DU → PL

(2)   A sketch of the syncretisms' chronological development:

- Balto-Slavic: Nom/Acc of inanimate neuters inherited from Proto-Indo-European
- Common Slavic (stage I): Nom/Acc spreads to the singular of masculine personal nouns
- Common Slavic (stage II): Nom/Acc spreads to the plural of feminine nouns
- Common Slavic (stage III): Nom/Acc spreads to the singular of masculine non-personal nouns
- Common Slavic (stage IV): the introduction of Acc/Gen syncretism into the pronominal paradigm (first evidence from Old Church Slavonic texts)
- Subsequently (including Old Polish): spread of Acc/Gen to masculine animate nouns (singular), later masculine personal (dual, plural) and introduction of Nom/Acc for non-personal masculine plural nouns.

2.2   Numerals and the advent of Acc/Gen syncretism in the plural

It has been reported in the literature (Kucała 1978: 137, 156–d158; Łoś & Szober 1928; Janda 1999) that the very first instances of the Acc/Gen syncretism beyond the singular occurred in adnumeral contexts, first in the dual (15th c.) and later in the plural (16th-17th c.). Before infiltrating the plural, the Acc/Gen syncretism characteristic of virile nouns was established in the dual; as there were only a few nouns which could be used in the dual without an accompanying numeral *dwa* 'two', namely nouns denoting a set of two (e.g. *uszy* 'ears', *oczy* 'eyes', *ręce* 'hands', *zęby* 'teeth', as in 'two rows of teeth'), and none of them were virile nouns, one can safely say that the numeral was otherwise obligatorily present. Therefore, it seems also plausible to assume that the subsequent obligatory presence of a numeral accompanying the noun in the plural paradigm as a condition on the occurrence of the Acc/Gen syncretic forms was influenced by the compulsory presence of *dwa* in the dual. Upon reduction of the dual, i.e. when *dwa* 'two' entered the plural paradigm under the influence of the closest neighbouring numerals, *trzy* 'three' and *cztery* 'four', it also began combining with plural nouns (i.e. it stopped enforcing dual declension on

	EARLY SLAVIC		COMMON SLAVIC *stage II → IV*		OLD POLISH		MODERN POLISH	
SG								
Nom	súnuh	lèta	sŷnъ	læto	syn	lato	syn	lato
Acc	súnu	lèta	sŷnъ	læto	syna	lato	syna	lato
Gen	súnauh	lètā	synú	lætā	syna	lata	syna	lata
Dat	súnawei	lètō	sŷnowī	lætū	synowi	latu	synowi	latu
Inst	sūnumì	lètā	synъmъ̀	lætomъ	synem	latem	synem	latem
Loc	súnau	lètē	synú	lætæ	synu	lecie	synu	lecie
PL								
Nom	súnaweh	lètà	sŷnowe	lǽta	synowie	lata	synowie	lata
Acc	súnūh	lètà	sŷny	lǽta	synow /syny	lata	synów	lata
Gen	súnu	lètu	synowъ̀	lǽtъ	synow	lat	synów	lat
Dat	súnumúh	lètamu	synъmъ̀	lǽtomъ	synom	latom	synom	latom
Inst	sūnumíh	lètū	synъmì	lǽtȳ	synami/syny	laty	synami	latami
Loc	súnuxù	lètēxu	synъxъ	lǽtæxъ	synoch	leciech	synach	latach

Table 2   Paradigms of a masculine personal *ŭ*-stem noun 'son' and a neuter *o*-stem noun 'year' (based partly on Kortland 2011)

its complements).[11] To begin with, virile dual/plural nouns standing on their own in accusative case contexts bore the 'old Acc' forms, the ones syncretic with Nom, here referred to as 1Acc. Gradually, with the Acc/Gen syncretism infiltrating the dual paradigm, we see a shift from 1Acc to 2Acc (new Acc, syncretic with Gen) in adnumeral contexts, used interchangeably for a while. Interestingly, viriles accompanied by the agreeing adjectival numerals (*trzy* 'three', *cztery* 'four') quite quickly shift to 2Acc, even though in the dual we can still see mixed uses of both Acc forms. Subsequently, the same applied to contexts with higher numerals ($\geq$5), however in these constructions it was only the numeral that stood in 2Acc, as the counted noun bore Gen case checked by the numeral itself; thus, it was only the numeral that distinguished virile from non-virile nouns in such numeral expressions, as opposed to the contexts with lower numerals where both the numeral and the noun exhibit the distinction (4) (notice *pięć*ACC.NV vs. *pięciu*ACC.V 'five' in (3) below).

(3)   a. NON-VIRILE:

uczynisz [...] ***pięć*** *słupów*
make.2SG.FUT   five.1.ACC   collumns.GEN.PL
'you will make five collumns' (BG Ex 26:37)

b. VIRILE:

wziął ***pięciu*** *mężów*
took.3SG.M   five.2.ACC   men.GEN.PL
'he took five men' (BG Gen 47:2)

(4)   a. NON-VIRILE

Mojżesz *oddzielił* ***trzy*** ***miasta***
Moses   separated.3SG.M   three.1.ACC   town.1.ACC.PL
'Moses separated three towns' (BB Deut 4:41)

b. VIRILE

porodziła ***trzech*** *synów*
bore.3SG.F   three.2.ACC   sons.2.ACC.PL
'she bore three sons' (BB Gen 29:34)

In what follows, we present data showing the historical progress of the innovative Acc/Gen syncretism expressing virility in the plural. The data to be presented constitutes crucial evidence to our forthcoming proposal according to which it was the need for the morphological expression of the virile/non-virile distinction that triggered numeralization of the higher numerals. We begin with the two earliest

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11 The influences were bi-directional, because *trzy* 'three' and *cztery* 'four' began levelling their paradigms under the influence of *dwa*, and nowadays they all share the pronominal-adjectival paradigm. *Dwa* remains exceptional with more numerous gender distinctions.

texts: *Biblia Królowej Zofii* and *Rozmyślanie o żywocie Pana Jezusa* (aka *Rozmyślanie przemyskie*).

2.2.1 The 15th century: Biblia Królowej Zofii and Rozmyślanie przemyskie

In both texts we find evidence showing the beginnings of the innovative Acc/Gen syncretism; the old 1Acc forms constitute an overwhelming majority. The rare new forms can be found in the pronominal paradigms of personal pronouns, as well as possessives and demonstratives.[12],[13] In adnumeral contexts, which are of main interest to us, we find a few instances in the dual (obligatorily accompanied by *dwa* 'two'); numerals higher than *dwa* consistently stand in 1Acc. Below we present examples of both 1Acc and 2Acc (if present) in the relevant environments and summarize our findings in Tables 3 and 4.

(5)   **1Acc — 15th c.** (dual and plural)

    a. BARE VIRILE NOUN

        A   *jimiał*   *jest*   *Jafet*   *syny*
        and have-is.PASTPART.3.SG.M Japheth.NOM.SG sons.1ACC.PL after

        po   *potopie.*
        flood.LOC.SG
        'and Japheth had sons [born] after the flood' (BZ Gen 10:1)

    b. PERSONAL PRONOUN

        Samca   *a*   *samicę*   *stworzył*   *je*
        male.ACC.SG.M and female.ACC.SG.F created.3.SG.M them.1ACC.PL

        a   *pożegnał*   *je*
        and blessed.3.SG.M them1.ACC.PL
        'Male and female, he created them and blessed them' (BZ Gen 5:2)

    c. VIRILE NOUN + POSSESSIVE PRONOUN

        z   *boleścią*   *będziesz*   *rodzić*   *swe*
        with pain.INST.SG.F be.2SG.FUT bear.INF POSS.REFL.1.ACC.PL.V

        syny
        sons.1.ACC.PL
        'in sorrow thou shalt bring forth children' (BZ Gen 3:16)

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12 Although possessives and demonstratives have adjectival inflection in Polish, we keep them separate from the category of *adjectival modifiers* (in which we include attributive adjectives only), due to their different syntactic properties.

13 Most instances of the innovative Acc/Gen in the plural were represented by proper names denoting masculine persons and virile nouns accompanied by possessive pronouns or masculine person possessors.

d. VIRILE NOUN + *dwa* 'TWO' (dual)[14]

I	*jimiał jest*		*Heber*	***dwa***	***syny***
and	have-is.PASTPART.3SG.M	Eber	two.1ACC.DU	sons.1ACC.DU

'and Eber had two sons' (BZ Gen 10:25)

e. VIRILE NOUN + LOWER NUMERAL

miał	***trzy***	***syny***
had.3.SG.M	three.1ACC	sons.1ACC.PL

'[he] had three sons' (BZ Gen 5:31)

f. VIRILE NOUN + HIGHER NUMERAL IN 1ACC

boć	*mam*	***pięć***	*bratow*
because	have.1SG	five.1ACC.SG	brothers.GEN.PL

'because I have five brothers' (Rozm 397, 2)

g. VIRILE NOUN + ADJECTIVAL MODIFIER

zbiłasta	***wszytki***	***mężе***
defeated.3DU	all.1ACC.PL	men.1ACC.PL.M

'the two of them slew all the males.' (BZ Gen 34:25)

(6)   **2Acc — 15**th **c.** (dual and plural)

a. BARE VIRILE NOUN — no instances

b. PRONOUN

A	*on*	***jich***	*barzo*	*prosi*
and	he.NOM	them.2ACC.PL.V	greatly	asks

'And he presses upon them greatly' (BZ Gen 19:3)

c. VIRILE NOUN + POSSESSIVE PRONOUN

(i)
zawołał	***wszech***	***swych***
called.3SG.M	all.2ACC.PL.V	POSS.REFL.2ACC.PL.V

sług
servants.2ACC.PL.V

'he called all his servants' (BZ Gen 20:8)

(ii)
wezwał	*Mojżesz*	*Aarona*	*i*
called.3SG.M	Moses.NOM.SG.M	Aaron.2ACC.SG.M	and

synow *jego*
sons.2ACC.PL.V his

'Moses called Aaron and his sons' (BZ Lev 9:1)

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14 The Acc form *syny* 'sons' was identical in both dual and plural.

      (iii) *aby zawołali*   *Datana*   *i*   *Abirona*
           to call.3PL.COND Datan.2ACC.SG.M and Abiron.2ACC.SG.M

           synow   ***Elijabowych***
           sons.2ACC.PL.V of-Eliab.2ACC.PL.V

d. VIRILE NOUN + *dwa* 'TWO' (dual)

  (i) *posłał*   ***dwu***   ***posłu***,
      sent.3SG.M two.2ACC.DU.V messenger.2ACC.DU.V

      Saturnina   *i*   *Pijanina*
      Saturnin.2ACC.SG.M and Pijanin.2ACC.SG.M

      'he sent two messengers, Saturnin and Pijanin' (Rozm 101, 23-24)

  (ii) *iże*   *zabił*   ***twoich***   ***dwu***
      that killed.3SG.M your₂ₐ𝒸𝒸.ₚₗ.ᵥ two.2ACC.DU.V

      bratu
      brother.2ACC.DU.V

      'that he killed your two brothers' (Rozm 799, 3-4)

e. VIRILE NOUN + LOWER NUMERAL — no instances

f. VIRILE NOUN + HIGHER NUMERAL IN 2ACC — no instances

g. VIRILE NOUN + ADJECTIVAL MODIFIER

    A   *przeto* *proszę* ***mężow***   ***uczonych***
    and hence ask.1SG men.2ACC.PL.V learned.2ACC.PL.V

    'And hence I ask the learned men' (Rozm 174, 6)

Env't.	1Acc							$\sum$	2Acc						other nouns	$\sum$
Noun	*syny*	*męże*	*sługi*	*proroki*	*braty*	*posły*	other nouns	1Acc	*synów*	*mężów*	*sług*	*proroków*	*braciej*	*posłów*		2Acc
bare	29	9	2	2	—	17	13	72	—	—	—	—	—	—	—	—
poss./dem.	18	3	6	4	—	—	7	38	4	—	2	—	—	—	1	7
2	5	4	—	—	—	—	—	9	—	—	—	—	—	—	—	—
3,4	2	1	—	—	1	—	—	4	—	—	—	—	—	—	—	—
≥5 (num.)	4	8	—	3	1	—	—	16	—	—	—	—	—	—	—	—
adj. mod.	25	6	6	2	—	—	3	42	4	—	—	1	—	—	1	6

Table 3   Search results (summary): *Biblia Królowej Zofii*

As expected, we found examples of plural pronouns in 2Acc (6b) and plural virile nouns accompanied by possessive pronouns. This is unsurprising as the pronominal paradigms were the ones in which the Acc/Gen syncretism started,

Env't.	1Acc							∑	2Acc							∑
Noun	*syny*	*męże*	*sługi*	*proroki*	*braty*	*posły*	other nouns	*1Acc*	*synów*	*mężów*	*sług*	*proroków*	*braciej*	*posłów*	other nouns	*2Acc*
bare	5	—	3	9	1	—	6	24	—	—	—	—	—	—	—	—
poss./dem.	3	—	14	—	1	—	26	44	—	—	2	—	—	—	—	—
2	3	—	—	—	2	—	2	7	—	—	—	—	2	1	6	9
3,4	—	—	—	—	1	—	4	5	—	—	—	—	—	—	—	—
≥5 (num.)	—	10	1	—	3	—	7	21	—	—	—	—	—	—	—	—
adj. mod.	3	1	6	1	—	—	15	26	1	1	1	—	1	—	1	5

Table 4   Search results (summary): *Rozmyślanie przemyskie*

and thus they were its pioneering exponents. In view of the previously mentioned functional explanation proposed by Laskowski (1988), it makes perfect sense that possessives should exhibit the innovative Acc/Gen syncretism, not only because they share the pronominal declension, but also because possession entails person-hood (i.e. only persons can be possessors). Although we found no such examples in *Rozmyślanie przemyskie,* we did find examples of plural viriles modified by at-tributive adjectives (6g). Crucially, neither text contained examples of bare viriles using the new syncretism, and any nominal instances of 2Acc were represented by nouns accompanied by modifiers able to spell out the gender distinction morpho-logically.[15]

It appears then that the earliest instances of nouns in 2Acc result from the transference of virility (with its hallmark 2Acc) from the co-occurring lexical items which had it already well-established (personal pronouns, possessives, proper names

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15 Needless to say, non-virile nouns did not use 2Acc at all. We came across examples in which both viriles and non-viriles seemingly appear in 2Acc in an accusative case context, such as for instance (i) below:

	Abimelech	weźmie	owiec,	wołów,	sług	a
	Abimelech.NOM.SG.M	takes.M.FUT	sheep.GEN	oxen.GEN	servants.GEN	and
(i)	dziewek	i	dał	Abrahamowi.		
	women.GEN	and	gave.3SG.M	Abraham.DAT		

'Abimelech took sheep, oxen, servants and women and gave them to Abraham' (BZ Gen 20:14)

Examples like these, however, represent the so-called partitive genitive paralelling its modern coun-terpart:

	Daj	mi	wody/	Weź	sobie	chleba.
(ii)	give.2SG.IMPER	me.DAT	water.GEN/	take.2SG.IMPER	self.DAT	bread.GEN

'Give me (some) water/Take (some) bread for yourself.'

denoting masculine persons), and in most likelihood this is how the plural viriles eventually achieved the ability to stand in 2Acc (later also without accompanying modifiers). This is clearly visible in examples (6c.ii) and (6c.iii), where the former is part of a conjunction with a singular proper name denoting a masculine person and the latter is an appositive construction in which the plural restates the two conjoined singular proper names denoting masculine persons.[16] It is also interesting to note that in the dual examples (see 6d.ii), the possessive pronouns are plural, showing also here that pronouns were one step ahead of all the other lexical items and were already exhibiting the beginnings of the dual's reanalysis as plural, leading eventually to its loss. As we found no instances showing the virile/non-virile distinction among higher numerals 5-10, and their paradigms as well as their syntax were still unquestionably nominal, we assume this to be the initial state, prior to their category change. Paradigmatically, at this stage they remain *i*-stem nouns with a full range of case-endings and the typical Nom/Acc syncretism; they continue to inflect even in fused compound numerals, as in **pięć**dziesiąt, **piąci**dziesiat, etc., 'fifty', at the same time checking lexical Gen[17] on their complement (in this case the base *dziesięć* 'ten'), thus in effect we have: *pięć*$_{NOM/ACC}$*dziesiąt*$_{GEN}$, *po piąci*$_{LOC}$*dziesiąt*$_{GEN}$ 'fifty each', *do piąci*$_{GEN}$*dziesiąt*$_{GEN}$ 'up to fifty'; the fact that their nominal complements bear lexical Gen is a clear indication that the numerals have not yet shed their nominal status.

2.2.2   The 16th century: Biblia Brzeska

The next text to be considered is *Biblia Brzeska* (1563) (BB), a Protestant translation of the Bible also known under the name *Biblia Radziwiłłowska*. In this text, we witness coexistence of the old Nom/Acc syncretism with the new Acc/Gen one, with the latter unquestionably on the increase.

(7)   **1Acc — 16th c.** (dual and plural)

    a. BARE VIRILE NOUN

      miał   ***syny***   *i*   *dziewki*
      had.3SG.M sons.1ACC.PL and daughters.1ACC.PL

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16 That the Acc/Gen syncretism is present so early with proper names denoting masculine persons is unsurprising. Huntley (1993: 137) reported that such nouns reached 99.6% 2Acc uses (and only 0.4% 1Acc uses) already in Old Church Slavonic. This percentage was higher than that of common nouns denoting masculine persons (97.6%), or even the nouns denoting mature male offspring (79.2%) (in the case of infant males the percentage of 2Acc uses was as low as 21.4%).

17 We draw a distinction between structural (configurational) case checked by functional heads (T, *v*) and lexical case checked by particular lexical items (nouns, verbs, prepositions, adjectives). This distinction is not unlike that of Zænen, Maling & Thráinsson (1985: 464–465) or Babby (1987: 94–95). Nom and Acc are widely assumed to be structural cases, restricted only by their positioning and unconnected to theta-roles or any particular lexical items; oblique cases usually fall within the group of lexical (or idiosyncratic) case, they are often characteristic properties of particular lexical items (e.g. nouns check Gen), and may be connected to particular theta-roles.

'he had sons and daughters' (BB Gen 5:4)

b. PRONOUN

uczynił	*Pan Bóg*	*Adamowi*	*i*	*żenie*
made.3SG.M	God.NOM.SG.M	Adam.DAT.SG.M	and	wife.DAT.SG.F

jego	*odzienie*	*skórzane*	*i*	*oblókł*
his	clothing.1ACC.SG.N	leather.1ACC.N	and	clad.3SG.M

je
them.1ACC.PL

'God made leather clothing for Adam and his wife and clad them'
(BB Gen 3:21)

c. VIRILE NOUN + POSSESSIVE OR DEMONSTRATIVE PRONOUN

(i) | *pogoń* | ***męże*** | ***ony*** | *a* |
|---|---|---|---|
| chase.2SG.IMPER | men.1ACC.PL.V | these.1ACC.PL.V | and |

dogoniwszy	***ich***	. . .
caught.PAST-PART	them.2ACC.PL.V	

'chase after these men and when you catch them...' (BB Gen
44:4)

(ii) | *Zamorduj* | *każdy* | *z* | *was* |
|---|---|---|---|
| kill.2SG.IMPER | each | of | you.GEN.PL |

męże	***swe***
men.1ACC.PL	POSS.-REFL.1ACC.PL

'May each of you kill his men' (BB Num 25:5)

d. VIRILE NOUN + *dwa* 'TWO' (dual)

Heber	*też*	*miał*	***dwa***	***syny***
Eber.NOM.SG.M	also	had.3SG.M	two.1ACC.DU	sons.1ACC.DU

'Eber also had two sons' (BB Gen 10:25)

e. VIRILE NOUN + LOWER NUMERAL — no instances

f. VIRILE NOUN + HIGHER NUMERAL IN 1ACC

mam	***pięć***	*braciej*
have.1SG	five.1ACC.SG	brother.GEN.PL

'I have five brothers' (BB Lk 16:28)

g. VIRILE NOUN + ADJECTIVAL MODIFIER

żeby	*też*	***syny***	***Boże***,	***rosproszone***,
so-that	also	sons.1ACC.PL	of-God.1ACC.PL	dispersed.1ACC.PL

zgromadził	*w*	*jedno*
gathered.3SG.M	into	one.ACC.SG.N

'so that he would gather the dispersed sons of God together' (BB Jn
11:52)

(8)   2Acc — 16th c. (dual and plural)

    a. BARE VIRILE NOUN — 1 instance

       *Tedy   Dawid   pytał   się   **męże***

       then   David.NOM.SG.M   asked.3SG.M   self   men.2ACC.PL.V

       'Then David was asking the men . . . ' (BB 1Sam 17:26)

    b. PRONOUN

       dał   im   plew   i   pokarmił

       gave.3SG.M   them.DAT   chaff.GEN(PART).PL   and   fed.3SG.M

       ich

       them.2ACC.PL

       'he gave them chaff and fed them' (BB Gen 24:32)

    c. VIRILE NOUN + POSSESSIVE OR DEMOSTRATIVE PRONOUN

       *szedł   do Get   do Achisa   szukać   **sług***

       went.3SG.M   to   Gath   to   Achish   seek.INF   servants.2ACC.PL.V

       swoich

       POSS.-REFL.2ACC.PL.V

       'he went to Gath to Achish to seek his servants' (BB 1Kings 2:40)

    d. VIRILE NOUN + *dwa* 'TWO' (dual)

       *ujźrzeli   chwałę   jego   i   **onych***

       saw.3PL.V   glory.ACC.SG.F   his   and   these.2ACC.PL.V

       dwu   mężów

       two.2ACC.DU.V   men.2ACC.PL.V

       'they saw his glory and the glory of these two men' (BB Lk 9:32)

    e. VIRILE NOUN + LOWER NUMERAL

       *porodziła   **trzech**   **synów***

       bore.3SG.F   three.2ACC.PL.V   sons.2ACC.PL.V

       'she gave birth to three sons' (BB Gen 29:34)

    f. VIRILE NOUN + HIGHER NUMERAL IN 2Acc

       *Jozue   wezwał   **dwunaście**   mężów*

       Joshua.NOM.SG.M   called.3SG.M   twelve.2ACC.V   men.GEN.PL.V

       'Joshua called the twelve men' (BB Josh 4:4)

    g. VIRILE NOUN + ADJECTIVAL MODIFIER

       *wezwał   **wszytkich   mężów**   **izraelskich***

       called.3SG.M   all.2ACC.PL.V   men.2ACC.PL.V   Israeli.2ACC.PL.V

       'he called all Israeli men' (BB 2 Sam 13:23)

Env't.	1Acc							Σ	2Acc							Σ
Noun	*syny*	*męże*	*sługi*	*proroki*	*braty*	*posły*	other nouns	1Acc	*synów*	*mężów*	*sług*	*proroków*	*braciej*	*posłów*	other nouns	2Acc
bare	41	21	7	48	2	46	62	227	—	1	—	—	—	—	6	7
poss./dem.	106	17	33	11	33	7	38	245	6	1	2	—	2	—	10	21
2	7	2	—	—	—	—	1	10	6	2	—	—	2	1	1	11
3,4	—	—	—	—	—	—	2	2	6	3	—	—	—	—	3	12
≥5 (num.)	26	61	2	3	7	—	7	106	—	6	—	1	—	—	1	8
adj. mod.	83	9	5	9	1	3	53	163	4	1	—	—	1	—	1	13

Table 5   Search results (summary): *Biblia Brzeska*

As we can see in Table 5, 1Acc is clearly the dominant form among the virile nouns. There are, however, some noticeable changes with respect to the previously discussed texts. One such change concerns the lower numerals *trzy* 'three'/*cztery* 'four': out of the 15 nouns for which we performed exhaustive searches, we found 14 examples with these numerals, of which only 2 used 1Acc (1× *duchy* 'spirits', 1× *króle* 'kings') and the remaining 12 instances used 2Acc (6× *synów* 'sons', 3× *mężów* 'men, husbands' (Table 5), and 3× *królów* 'kings'). This indicates that the new syncretism now infiltrated the plural. Interestingly, in the dual (with *dwa* 'two') we still observe almost an even split between 1Acc and 2Acc, which may be due to the instability of the dual at that time, i.e. the dual was in the process of reanalysis as plural.

Another change concerns the higher numerals. It is in this text that we find the first instances of higher numerals using 2Acc. Altogether, for all the 15 nouns we investigated, we found 114 phrases with virile complements of numerals ≥5; in 106 of these the numeral stood in 1Acc, and the innovative 2Acc was used only 8 times with the following three virile nouns: 6× *mężów* 'men, husbands', 1× *proroków* 'prophets' (Table 5), and 1× *kapłanów* 'priests'. This constitutes a mere 7%. Recall that it is only the numeral in numeral expressions with higher numerals that exhibits the gender distinctions; it is also the one bearing Acc case (its complement bears Gen case assigned by the numeral itself[18]). Also in compound numerals it is

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18 In fn. 17 we have already mentioned the distinction we make between structural and lexical case. Since the higher numerals in Old and Middle Polish are still very much nominal in nature, the Gen case they assign is lexical, just like the Gen assigned by any other noun. It is only after the category change (see sections 3 and 4) that the Gen case ceases to be lexical and becomes structural instead. As proposed in Miechowicz-Mathiasen (2012a, 2012b), this happens because the numerals stop heading their own noun phrases and instead start lexicalizing a functional head Num.

the first compound that inflects, while the second (the base) receives Gen just as in the combinations with other nouns:

(9) a. *z* *siedmiądziesiąt* *starszych*
         with seven.INST.-ten.GEN.PL old.GEN.PL
         'with seventy old men' (BB Ex 24:1)

     b. *z* *siedmią* *skopów*
         with seven.INST wether.GEN.PL
         'with seven wethers' (BB 2Chron 13:9)

This indicates that higher numerals still retain their nominal status in *Biblia Brzeska*, which is visible in both their paradigms and their syntax. A detailed discussion of these issues is given in section 3.

The last thing to notice is the appearance of bare virile nouns using 2Acc. Again, out of all of the bare instantiations of the chosen 15 virile nouns, which amounted to 227 instances, we found 7 bare viriles in 2Acc: 1× *mężów* 'men, husbands' (Table 5), 1× *bogów* 'gods', 1× *mędrców* 'wise men', 1× apostołów 'apostles', 1× *zwolenników* 'followers, students', and 2× *kapłanów* 'priests'. This constitutes 3% of all the uses of bare viriles we investigated.

2.2.3   The 17th century: Biblia Gdańska

The examples we present below were extracted from *Biblia Gdańska* (1632) (BG), a 17th century Protestant translation of the Bible. In this text we observe a fully-fledged coexistence of the old and new accusative forms; crucially, we see that the use of 2Acc has grown substantially as compared to the earlier texts.

(10) **1Acc — 17th c.** (dual and plural)

      a. BARE VIRILE NOUN
          wyprawił *Jefte* **posły** *do*
          sent.3SG.M Jephthah.NOM.SG.M messengers.1ACC.PL to
          króla
          king.GEN.SG
          'Jephthah sent messengers to the king' (BG Judg 11:12)

      b. PRONOUN
          (i) *Mężczyznę* *i* *niewiastę* *stworzył*
               man.1ACC.SG.M and woman.1ACC.SG.F created.3SG.M
               je
               them.1ACC.PL
               'Man and woman he created them'(BG Gen 5:2)

(ii) *trzej*   *mężowie*   *stanęli*   *przeciw niemu;*
three.NOM.PL.V   men.NOM.PL.V   stood.3SG.V   against   him.DAT

i   *ujrzawszy*   **je,**   *wybieżał*   *przeciwko*
and   saw.PAST-PART   them.1ACC.PL   ran.3SG.M   towards

nim
them.DAT

'three men stood in front of him; on seeing them, he ran towards them' (BG Gen 18:2)

c. VIRILE NOUN + POSSESSIVE OR DEMONSTRATIVE PRONOUN

(i) *wsadził*   **syny**   **swe,**   *i*   *żony*
set.3SG.M   sons.1ACC.PL   POSS.-REFL.1ACC.PL   and   wives.1ACC.PL

swe   *na*   *wielbłądy*
POSS.-REFL.1ACC.PL   on   camels.1ACC.PL

'He mounted his sons and his wives onto camels' (BG Gen 31:17)

(ii) *Wprowadź*   **te**   **męże**   *w*
introduce.2SG.IMPER   these.1ACC.PL   men.1ACC.PL   into

dom
home.ACC

'Bring these men home' (BG Gen 43:16)

d. VIRILE NOUN + *dwa* 'TWO' (dual) — no instances

e. VIRILE NOUN + LOWER NUMERAL — no instances

f. VIRILE NOUN + HIGHER NUMERAL IN 1ACC

Syba   *miał*   **piętnaście**   *synów*   *i*
Ziba.NOM.SG.M   had.3SG.M   fifteen.1ACC.SG   sons.GEN.PL   and

dwadzieścia   *sług*
twenty.1ACC.DU/PL   servants.GEN.PL

'Ziba had fifteen sons and twenty servants' (BG 2 Sam 9:10)

g. VIRILE NOUN + ADJECTIVAL MODIFIER

Pozabijał   *Absalom*   **wszystkie syny**
killed.3SG.M   Absalom.NOM.SG.M   all.1ACC.PL   sons.1ACC.PL

królewskie
of-king.1ACC.PL

'Absalom killed all of the king's sons' (BG 2 Sam 13:30)

(11)   **2Acc — 17th c.** (dual and plural)

a. BARE VIRILE NOUN — 1 instance

> *a*   *ujrzawszy*   *braci*   *pocieszyli*
> and   saw.PAST-PART   brother.GEN.PL.V   comforted.3SG.PL.V
> *je*
> them.1ACC.PL
> 'having seen the brothers, they comforted them' (BG Acts 16:40)

b. PRONOUN

> *goń*   ***te***   ***męże,***   *a*
> chase.2SG.IMPER   these.1ACC.PL   men.1ACC.PL   and
> *dogoniwszy*   ***ich***   *mów*   *do nich*
> caught.PAST-PART   them.2ACC.PL.V   talk.2SG.IMPER   to   them.GEN
> 'chase these men, and when you catch them, talk to them' (BG Gen 44:4)

c. VIRILE NOUN + POSSESSIVE OR DEMONSTRATIVE PRONOUN

> (i) *i*   *mianowaliśmy*   ***tych***   ***mężów***
>   and   named.1PL.V   these.2ACC.PL.V   men.2ACC.PL.V
>   'and we named these men'(BG Ezra 5:4)

> (ii) *wyprawił*   *ćwiczonych*   ***sług***
>   sent.3SG.M   trained.2ACC.PL.V   servants.2ACC.PL.V
>   ***swoich***
>   POSS.-REFL.2ACC.PL.V
>   'he sent his trained servants' (BG Gen 14:14)

d. VIRILE NOUN + *dwa* 'TWO' (dual)

> (i) *Tedy*   *wziął*   *Jetro [...]*   *Zeforę [...]*   *i*
>   then   took.3SG.M   Jethro.NOM.SG.M   Zipporah.ACC.SG.F   and
>   ***dwu***   ***synów***   *jej*
>   two.2ACC.DU/PL.V   sons.2ACC.PL.V   her
>   'Then Jethro (...) took Zipporah (...) and her two sons' (BG Ex 18:2-3)

> (ii) *wziąwszy*   *ona*   *niewiasta*
>   taken.PAST-PART   this.NOM.SG.F   woman.NOM.SG.F
>   ***tych***   ***dwóch***   ***mężów,***   *skryła*
>   these.2ACC.PL.V   two.2ACC.PL.V   men.2ACC.PL.V   hid.3SG.F
>   *je*
>   them.1ACC.PL
>   'The woman took the two man and hid them' (BG Josh 2:4)

e. VIRILE NOUN + LOWER NUMERAL

(i) *I   spłodził   Noe   **trzech***
and   sired.3SG.M   Noah.NOM.SG.M   three.2ACC.PL.V
synów
sons.2ACC.PL.V
'And Noah sired three sons' (BG Gen 6:10)

(ii) *Oto   Ja widzę   **czterech**   **mężów***
lo   I   see.1SG   four.2ACC.PL.V   men.2ACC.PL.V
rozwiązanych
untied.2ACC.PL.V
'Lo, I can see four men untied' (BG Dan 3:25)

f. VIRILE NOUN + HIGHER NUMERAL IN 2ACC

(i) *bom   mu   urodziła   **sześciu**   synów*
because.1SG   him.DAT   bore.3SG.F   six.2ACC.PL.V   sons.GEN
'because I have born him six sons' (BG Gen 30:20)

(ii) *Wydajcie   nam   **siedmiu**   mężów   z*
deliver.2PL.IMPER   us.DAT   seven.2ACC.PL.V   men.GEN   of
synów   jego
sons.GEN   his
'deliver us seven of his sons' (BG 2 Sam 21:6)

(iii) *zawoławszy   **dziesięciu**   sług   swoich,*
called.PAST-PART   ten.2ACC.PL.V   servants.GEN   POSS.-REFL.GEN
dał   im   dziesięć
gave.3SG.M   them.DAT   ten.1ACC.NV
'and he called his ten servants and gave them ten pounds' (BG Lk 19:13)

g. VIRILE NOUN + ADJECTIVAL MODIFIER

*wezwał   **wszystkich   braci**   **swych**,*
called.3SG.M   all.2ACC.PL.V   brothers.2ACC.PL.V   POSS.-REFL.2ACC.PL.V
synów   królewskich,   i   wszystkich
sons.2ACC.PL.V   of-kings.2ACC.PL.V   and   all.2ACC.PL.V
mężów
men.2ACC.PL.V
'he called all his brothers, king's sons, and all men' (BG 1 Kings 1:9)

As we can see in Table 6, also in *Biblia Gdańska* (1632) we find (almost) no examples of viriles bearing 1Acc when accompanied by the lower adjectival numerals *trzy* 'three' and *cztery* 'four' (there was a sole example with *duchy* 'spirits'). The two lower numerals are now also joined by *dwa* 'two' (dual), i.e. we found no instances of viriles standing in 1Acc with *dwa* (an effect of the gradually proceeding loss of the dual and its reanalysis as plural). It appears then that the transition from 1Acc

Env't.	1Acc							$\sum$	2Acc							$\sum$
Noun	*syny*	*męże*	*sługi*	*proroki*	*braty*	*posły*	other nouns	1Acc	*synów*	*mężów*	*sług*	*proroków*	*braciej*	*posłów*	other nouns	2Acc
bare	30	15	19	11	—	40	19	134	13	6	4	10	14	11	34	58
poss./dem.	55	15	44	9	19	—	36	168	77	11	20	9	50	3	31	170
2	—	—	—	—	—	—	—	—	12	7	3	—	3	—	3	28
3,4	—	—	—	—	—	—	1	1	4	2	—	—	—	—	3	9
$\geq$5 (num.)	23	61	2	2	5	—	7	100	5	11	2	1	—	—	3	22
adj. mod.	63	15	4	5	—	3	24	114	38	8	5	8	4	—	43	106

Table 6   Search results (summary): *Biblia Gdańska*

to 2Acc with lower numerals is complete. The transition is slower with the higher numerals $\geq$5: of all the 15 nouns we exhaustively searched, we found 122 instances used as complements of higher numerals; 22 of these numerals stood in 2Acc. This amounts to 18% and gives us an increase by 11% relative to *Biblia Brzeska* where the higher numerals in 2Acc constituted a mere 7%. This indicates that higher numerals have entered a phase of categorial change, because to be able to express the gender of their complement, they must shed their own feminine gender. The changes affecting the higher numerals 5-10 were spread across the whole 17th century, without any particular culminating point, nevertheless they were complete by the end of it as reported by (Rzepka 1975: 115); naturally, the higher the numeral the later it underwent the change, e.g. for teens the changes were happening during the course of the 18th century, and for *sto* 'hundred' in the 19th century (see Siuciak 2008, and Miechowicz-Mathiasen 2012b).

One striking change that appears to have taken place within the short period separating the present translation from its predecessor concerns bare viriles: as many as 40% of bare virile nouns that we extracted stood in 2Acc (i.e. 92 out of 226). Although this number appears to be high, the completion of this change (i.e. the ability of viriles to stand in 2Acc without modifiers expressing the gender distinction) took much more time, and the transition continued well into the next century (see also section 4).[19]

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19 (Rzepka 1975: 114–115) reports that bare nouns in 2Acc reached about 50% use in handwritten texts by 1635 and in printed texts by 1660. Unfortunately, Rzepka's counts may not be entirely trustworthy in this respect, for instance when referring to unmodified nouns, (Rzepka 1975: 58) gives not only examples of bare viriles, but we also find among them nouns modified by possessive pronouns; a noun modified by a possessive pronoun does not instantiate a bare noun, especially considering that possessives were capable of standing in the new 2Acc forms earlier than the nouns and were capable

2.2.4   The 20th century: Biblia Tysiąclecia

Below, for the sake of completeness, we present data from the latest translation of the Bible, namely from *Biblia Tysiąclecia* (1965) and thus proceed to a stage where all of the changes achieved their completion and there are no more instances of virile nouns standing in 1Acc. As the most important steps in the development of the category of virility with its hallmark Acc/Gen syncretism in the plural have already taken place by the end of the 17th century, we are skipping three centuries to show the final effects. During the two centuries in-between the changes simply continued to develop with the use of 2Acc growing steadily until it eventually overtook the old forms completely.

(12)   **2Acc — 20th c.** (plural)

    a.   BARE VIRILE NOUN

        (i)   *miał*   ***synów***   *oraz* *córki*
              had.3SG.M sons.2ACC.PL.V and daughters.1ACC.PL.NV
              'he had sons and daughters' (BT Gen 5:4)

        (ii)   *Jefte*   *wyprawił* ***posłów***   *do*
              Japheth.NOM.SG.M sent.3SG.M messengers.2ACC.PL.V to
              króla
              king.GEN
              'Japheth sent messengers to the king' (BT Judg 11:12)

    b.   PRONOUN

        stworzył   *mężczyznę*   *i*   *niewiastę,*   *pobłogosławił*
        created.3SG.M man.ACC.SG.M and woman.ACC.SG.F blessed.3SG.M
        ich   *i*   *dał*   *im*   *nazwę 'ludzie', wtedy*
        them.2ACC.PL.V and gave.3SG.M them name people then
        gdy   ***ich***   *stworzył*
        when them.2ACC.PL.V created
        'he created man and woman, blessed them and named them 'people' upon creating them' (BT Gen 5:2)

    c.   VIRILE NOUN + POSSESSIVE OR DEMONSTRATIVE PRONOUN

        (i)   ***Tych***   *zaś* ***mężczyzn***   *u* *drzwi*   *domu,*
               these.2ACC.PL.V and men.2ACC.PL.V at door.GEN house.GEN
              młodych   *i* ***starych***   *porazili*
               young.2ACC.PL.V and old.2ACC.PL.V struck.3PL.V
              ślepotą
              blindness.INST.SG

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of expressing virility.

'And they struck these men at the door with blindness, both young and old' (BT Gen 19:11)

  (ii) *Ja*   *wziąłem*   **waszych**   **braci**
took.1SG.PAST   your.2ACC.PL.V   brothers.2ACC.PL.V

'I took your brothers' (BT Num 18:6)

d.   VIRILE NOUN + *dwa* 'TWO' (dual)

  (i) *kobieta*   *wzięła*   **tych**   **dwu**
woman.NOM.SG.F   took.3SG.F   these.2ACC.PL.V   two.2ACC.PL.V
mężczyzn   *i*   *ukryła*   **ich**
men.2ACC.PL.V   and   hid.3SG.F   them.2ACC.V

'the woman took these two men and hid them' (BT Josh 2:4)

  (ii) *jedna*   *z*   *mych*   *żon*   *urodziła*   *mi*
one.3SG.F   of   my.GEN   wives.GEN   bore.3SG.F   me.DAT
dwóch   **synów**
two.2ACC.PL.V   sons.2ACC.PL.V

'one of my wives gave birth to two sons for me' (BT Gen 44:27)

e.   VIRILE NOUN + LOWER NUMERAL IN 2ACC

  (i) *bo*   *urodziłam*   *mu*   **trzech**   **synów**
because   bore.1SG.F   him.DAT   three.2ACC.PL.V   sons.2ACC.PL.V

'because I have born him three sons' (BT Gen 29:34)

  (ii) *Mamy*   *tu*   **czterech**   **mężczyzn,**   *którzy*
have.1PL   here   four.2ACC.PL.V   men.2ACC.PL.V   who.NOM.PL.V
złożyli   *ślub*
took.3SG.V   vow.ACC.SG.M

'we have four men who took vows here' (BT Acts 21:23)

f.   VIRILE NOUN + HIGHER NUMERAL IN 2ACC

  (i) *Józef*   *przedstawił*   *faraonowi*   **pięciu**
Joseph.NOM.SG.M   introduced.3SG.M   Pharaoh.DAT   five.2ACC.V
swych   *braci*
POSS.-REFL.GEN   brothers.GEN

'Joseph introduced his five brothers to Pharaoh' (BT Gen 47:2)

  (ii) *gdyż*   *urodziłam*   *mu*   **sześciu**   *synów*
because.1SG   bore.3SG.F   him.DAT   six.2ACC.PL.V   sons.GEN

'because I have born him six sons' (BT Gen 30:20)

  (iii) *niech*   *wydadzą*   *nam*   **siedmiu**   *mężczyzn*
let   give.away.3PL.FUT   us.DAT   seven.2ACC.PL.V   men.GEN
z   *jego*   *potomków*
of   his.GEN   descendants.GEN

'let seven men of his sons be delivered to us' (BT 2 Sam 21:6)

(iv) *Przywołał* *więc* ***dziesięciu*** *sług* *swoich*
called.3SG.M thus ten.2ACC.PL.V servants.GEN POSS.-REFL.GEN
'And thus he called ten of his servants' (BT Lk 19:13)

g. VIRILE NOUN + ADJECTIVAL MODIFIER
zaprosił ***wszystkich swych***
invited.3SG.M all.2ACC.PL.V POSS.-REFL.2ACC.PL.V
braci, ***synów*** ***królewskich,*** *oraz*
brothers.2ACC.PL.V sons.2ACC.PL.V of-kings.2ACC.PL.V and
wszystkich ludzi
all.2ACC.PL.V people.2ACC.PL.V
'he invited all his brothers, the king's sons, and all the people' (BG 1 Kings 1:9)

2.2.5 Summary of the findings

In the table below, we present a summary of our findings.[20]

	Biblia Królowej Zofii		Rozmyślanie przemyskie		Biblia Brzeska		Biblia Gdańska	
	1Acc	2Acc	1Acc	2Acc	1Acc	2Acc	1Acc	2Acc
bare	72	—	24	—	227	7	134	92
poss./dem.	38	7	44	—	245	21	168	201
2	9	—	7	9	10	—	11	28
3,4	4	—	5	—	2	12	1	9
≥5 (num.)	16	—	21	—	106	8	100	22
adj. mod.	42	6	26	5	163	13	114	106

Table 7   Summary: Search results for 15 virile nouns in accusative case contexts in all texts

In all of the environments we examined, we witness a steady progress of 2Acc. As numerals are of particular interest to the present investigation, let us briefly recap how 2Acc progressed among them. Both the lower adjectival numerals 2-4 and the higher numerals ≥5 used the old accusative forms to begin with (see *Biblia Królowej Zofii*); the novel Acc/Gen syncretism began in the singular and then infiltrated the dual, and thus affected the forms of the lower numeral 2; already in *Rozmyślanie przemyskie* we find a slight dominance of 2Acc forms over the old 1Acc forms in the dual. This state persists in *Biblia Brzeska*, where it also spreads to the neighbouring adjectival numerals 3 and 4. It is also in *Biblia Brzeska* that we find the first instances of higher numerals ≥5 using 2Acc, and from then on we witness a gradual increase in its use (first with 5-10, later 11-19, 20-90, 100 and its multiplicands; see Siuciak 2008 for a detailed historical analysis).

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20 As already mentioned in the introduction, we do not include quantitative data from *Biblia Tysiąclecia* as it does not contain any instances of 1Acc and thus it provides no data for comparison.

3 THE MORPHOLOGY AND SYNTAX OF HIGHER NUMERALS IN THE WAKE OF THE SPREADING ACC/GEN SYNCRETISM

3.1 The paradigmatic changes

In this section we present a compilation of the paradigmatic changes which affected the higher numerals across centuries. Table 8 below presents forms that we have extracted from the same texts we have been using throughout, however, we are also including a paradigm from a normative text: a 17th century grammar of Polish written in Latin by Franciszek Mesgnien (1649). This is meant to show not only that normative texts were behind with respect to the forms actually used, but also what grammarians deemed proper at the time. It also means that the 17th century translation of the Bible is a more believable source when it comes to the actual language use, as the forms it contains are closer to the subsequent developmental stages. Although written later than *Biblia Gdańska* (1632), the grammar adheres quite faithfully to the older forms we have found in the earlier 16th century texts. One noticeable difference between the literary text and Mesgnien's grammar is that the grammar does not include 2Acc forms and prescribes the use of the old Nom/Acc syncretism.

	15th c.	16th c.	17th c.		20th c.
	Biblia Królowej Zofii (1455)	*Biblia Brzeska* (1563)	*Biblia Gdańska* (1632)	*Grammatica...* Mesgnien (1649: 44)	*Biblia Tysiąclecia* (1965)
Nom	pięć	pięć	pięć$_{NV}$/pięciu$_V$	pięć	pięć$_{NV}$/pięciu$_V$
Acc	pięć	pięć	pięć$_{NV}$/pięciu$_V$	pięć	pięć$_{NV}$/pięciu$_V$
Gen	piąci	piąci/pięci	pięciu	piąci/piąciu	pięciu
Dat	piąci	piąci/piąciom	pięciu	piąciom	pięciu
Inst	piącią	piącią	pięciu/pięcioma	piącią	pięciu/pięcioma
Loc	piąci	piąci/piąciu	pięciu	piąci	pięciu

Table 8 The paradigmatic changes within the declension of higher numerals (≥5) on the example of *pięć* 'five'

It is then sometime between the 16th and the 17th centuries that the simple numerals 5-10 begin shifting from being nouns[21] to being numerals. *Pięć* 'five' originally inflected like *kość* 'bone', but while *kość* retained its paradigm intact, the paradigm of *pięć* has transformed beyond recognition.

As everything in historical change, also this was a process, and having affected 5-10 first, it took two more centuries for the change to affect their compounds. In

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21 Simple numerals 5-9 were unquestionably feminine *i*-stem nouns; the lowest base *dziesięć* 'ten' showed mixed behavior and triggered both masculine and feminine agreement (Comrie 1992: 748, Siuciak 2008: 18); *sto* 'hundred' was a neuter noun (*o*-stem declension), and *tysiąc* 'thousand' and *milion* 'million' were masculine consonantal-stem nouns (see Miechowicz-Mathiasen 2012b for a discussion of their syntax).

	15th c. – 21st c.		15th c.	21st c.
Nom	kość	=	pięć	pięć/pięciu
Acc	kość	=	pięć	pięć/pięciu
Gen	kości	=	piąci	pięciu
Dat	kości	=	piąci	pięciu
Inst	kością	=	piącią	pięciu/pięcioma
Loc	kości	=	piąci	pięciu

Table 9 The paradigm of the original *i*-stem nouns *kość* 'bone' and *pięć* 'five'

the process, 5-10 have lost their own gender (in the case of *dziesięć* 'ten' and *sto* 'hundred' also number) as they became morphological exponents of the gender of the counted nouns, and this seems to have affected their syntax, which we discuss immediately below.

3.2 The syntactic changes

When the higher numerals began to exhibit the gender distinctions of their complements (which coincided with their ability to bear 2Acc), they were also gradually losing their ability to assign lexical Gen. As lexical Gen is typically assigned by nouns, its unavailability to numerals accompanied by the loss of their own gender strongly suggests that numerals were losing their nounhood. In structural case contexts, we still see the numeral's complement bearing Gen case, however, it appears that this Gen is no longer lexical. Lexical Gen assigned by a noun to its complement remains unchanged no matter what case the head noun bears, as in (13):

(13)   a. *kosz*   *jabłek*
        basket.NOM/ACC apples.GEN
        'a basket of apples'

        b. *(w) koszu*   *jabłek*
        (in) basket.LOC apples.GEN
        'in a basket of apples'

        c. *(z)   koszem*   *jabłek*
        (with) basket.INST apples.GEN
        'with a basket of apples'

The plural noun *jabłek* 'apples' stays Gen despite the head noun bearing Nom, Acc, Loc, or Inst respectively. This is what we used to see with higher numerals as

well, as shown in Table 10 below.

Case	Inherited form	16$^{\text{th}}$ century	17$^{\text{th}}$ century	18$^{\text{th}}$ century
Dat	sześci$_{\text{DAT}}$ panów$_{\text{GEN}}$ '(to) six men'	sześci$_{\text{DAT}}$ panom$_{\text{DAT}}$	sześciom$_{\text{DAT}}$ panom$_{\text{DAT}}$	sześciu$_{\text{DAT}}$ panom$_{\text{DAT}}$
Inst	sześcią$_{\text{INSTR}}$ panów$_{\text{GEN}}$ '(with) six men'	sześcią$_{\text{INSTR}}$ panów$_{\text{GEN}}$	sześcią$_{\text{INSTR}}$ panów$_{\text{GEN}}$	sześciu$_{\text{INSTR}}$ panami$_{\text{INSTR}}$
Loc	sześci$_{\text{LOC}}$ panów$_{\text{GEN}}$ '(about) six men'	sześci$_{\text{LOC}}$ panów$_{\text{GEN}}$	sześci$_{\text{LOC}}$/sześciu$_{\text{LOC}}$ panach$_{\text{LOC}}$	sześciu$_{\text{LOC}}$ panach$_{\text{LOC}}$

Table 10   The advancement of case-congruence in oblique-case contexts (Siuciak 2008: 162)

Notice that to begin with the complements of numerals were Gen no matter what the case context was (just like in (13) above); this meant that the Gen assigned by numerals was lexical, and was undoubtedly due to their nominal nature. With time, however, we observe a gradual shift to case-congruence, where the Gen case is replaced by the oblique case required in any given context. It is interesting to note in Table 10 that Dat was the first case in which case-congruence appeared. This seems to be supported by example (14c) below, where although we do see Gen on the complement of *pięć* 'five' (*tysiące*$_{\text{GEN.PL}}$ 'thousands'), the complement of *tysiące* 'thousands' stands in Dat. Examples are extracted from the 16$^{\text{th}}$ c. *Biblia Brzeska* and are in keeping with Siuciak's (2008) findings. In all of the remaining oblique case contexts the complement of the numeral bears lexical Gen case and the numeral itself spells out the case governed by the verbs or prepositions:

(14)   a. ACC CONTEXT:

        dał   *pięć*   *talentów*
        gave.3SG.M five.ACC.SG talents.GEN.PL
        'he gave five talents' (BB Mat 25:15)

    b. GEN CONTEXT

        od   *piąci*   *set*   *braciej*
        from five.GEN.SG hundreds.GEN.PL brothers.GEN.PL
        'from five hundred brothers' (BB 1 Cor 15:6)

    c. DAT CONTEXT

łamał ⟨*chleb*⟩ *piąciu* *tysięcy*
broke.3SG.IMPERF bread five.DAT.SG thousands.GEN.PL

ludziom
people.DAT.PL

'he was breaking bread for five thousand people' (BB MK 8:19)

d. INST CONTEXT

wsiadła *na* *osła* *z* *piącią* *panienek*
sat.3SG.F on donkey.ACC with five.INST.SG damsels.GEN.PL

swych
POSS.-REFL.GEN.PL

'she mounted a donkey with five of ⟨her⟩ damsels' (BB 1 Sam 25:42)

We can replicate these examples in Modern Polish as in (15).

(15)   a. ACC CONTEXT:

dał **pięć** *talentów*
gave.3SG.M five.ACC.SG talents.GEN

'he gave five talents'

b. GEN CONTEXT

od **pięciuset** **braci**
from five.GEN.SG hundred.GEN.PL brothers.GEN.PL

'from five hundred brothers'

c. DAT CONTEXT

łamał ⟨*chleb*⟩ **pięciu** **tysiącom**
broke.3SG.IMPERF bread five.DAT.SG thousands.DAT.PL

ludzi
people.GEN.PL

'he was breaking bread for five thousand people'

d. INST CONTEXT

wsiadła *na* *osła* *z* **pięcioma** **panienkami**
sat.3SG.F on donkey.ACC with five.INST.SG damsels.INST.PL

swoimi
POSS.-REFL.INST.PL

'she mounted a donkey with five of ⟨her⟩ damsels'

As we can see, Modern Polish exhibits complete case-congruence in oblique cases, and it is only in structural case contexts that the lack of case-congruence survives (as in (15a)) and with it the Gen on the numeral's complement. Does this

mean that numerals in oblique case contexts lost their ability to check Gen case? We think not. We propose (after Miechowicz-Mathiasen 2012a, 2012b) that the Gen case of the numeral's complement, which appears to be lost in oblique case contexts, is simply no longer lexical, but rather structural.[22] As lexical cases outrank structural ones (Babby 1987), the missing structural Gen is to be expected. The reason why we still see Gen on the numeral's complement in structural case contexts is due to the fact that, unlike oblique cases, structural cases cannot outrank other cases.[23] Alternatively, if we assumed that higher numerals lose their ability to assign Gen to their complements whenever they find themselves in oblique case contexts, but retain it in structural case contexts, we would have to propose a completely different internal syntax of numeral expressions dependent on the case context. Apart from being undesirable, a solution like this is also quite implausible as no category changes its syntax across its inflectional paradigm (be it declension or conjugation). We thus assume that the higher numerals maintain their ability to assign Gen case in all case contexts, and propose that what has changed is the nature of the Gen case they assign. This also means that the government-type relationship observed in structural case contexts in which we see Gen complements of numerals to this day must also be present in oblique case contexts, with the more marked lexical cases, which outrank the structural Gen, blocking this relationship from view.[24] Numerals such as *tysiąc* 'thousand', which remain nouns to this day and still check lexical Gen prove this to be true – notice (i) the identical case marking of *pięć* 'five' in (14) and *tysiąc* 'thousand' in (16) below, and (ii) the Gen case on *ludzi* 'people' in (16c) despite *tysiącom* being Dat as required by the context:

(16)   a. Acc context:

        dał   *tysiąc*   *talentów*
        gave.3SG.M thousand.ACC.SG talents.GEN
        'he gave a thousand talents'

    b. Gen context

        od   *tysiąca*   *braci*
        from   thousand.GEN.SG brothers.GEN.PL
        'from a thousand brothers'

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22 We will elaborate on this change in the next section where we propose that the reanalysis of numerals brought on by their lexicalizing a functional head is also responsible for the change in the case they assign. As functional heads such as T or *v* are responsible for structural cases (Nom and Acc respectively), it makes perfect sense that once numerals shifted to the functional head Num°, the case they assigned (or checked) would shift to the structural variety, as is characteristic of functional heads.

23 Recall the Gen of negation, which affects only structural Acc.

24 See also Caha (2009) for a proposal of case-inclusion.

c. DAT CONTEXT

łamał ⟨*chleb*⟩ *tysiącowi* *ludzi*
broke.3SG.IMPERF bread thousand.DAT.SG people.GEN.PL

'he was breaking bread for a thousand people'

d. INST CONTEXT

wsiadła na osła z tysiącem panienek
sat.3SG.F on donkey.ACC with thousand.INST.SG damsels.GEN.PL
swoich
POSS.-REFL.GEN.PL

'she mounted a donkey with a thousand of ⟨her⟩ damsels'

In Miechowicz-Mathiasen (2012a, 2012b), it is argued that all of these properties follow from the grammaticalization of the numeral nouns and their reanalysis as numerals.[25] While we believe this to be the right explanation and draw on it in the forthcoming section, the foremost aim of this paper is to prove what triggered this change. We spell out our proposal in the forthcoming section.

3.3 The role of numerals in spelling out number and gender

We showed above that the once nominal numerals 5-10 lost their own ϕ-features (gender, number) along with their ability to check lexical Gen case.[26] They developed their own case paradigm (cf. Table 9), and although they became exponents of the gender of their counted nouns, they retained the ability to check Gen case (albeit structural); they are also exclusively morphologically singular and thus do not agree in number with the (always plural) counted noun, as other modifiers do.[27, 28]

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25 See also Siuciak (2008) and Stąpor (2008) for similar views and a historical analysis of the changes.

26 *Trzy* 'three' and *cztery* 'four' have joined the pronominal-adjectival paradigm of *dwa* 'two', and their Old Polish as well as present day syntax are adjectival, i.e. they fully agree with their counted nouns and are syntactically subordinate to them, and therefore they will not be discussed any further here (for a syntactic analysis see Miechowicz-Mathiasen 2012a).

27 One could ask why the numeral and the counted noun agree in gender, but not in number, i.e. the counted noun is plural and the numeral is singular. This is not a problem if we assume after Ionin & Matushansky (2006) that the counted noun is actually singular (as we count atoms, not sums), and that the plural morphology of the noun is in all probability a result of semantic agreement. If so, then the fact that the numeral is singular is not in any way problematic, because so is the noun, with the difference that the noun is later spelled out as plural. A similar conclusion is also hinted at by Franks 1994: 622, fn. 28).

28 Although it appears that a more or less the same process of *numeralization* affected nominal numerals in other Slavic languages, both its implementation and its results seem to be different from what we see in Polish. Babby (1987) provides a detailed discussion of the Russian higher numerals with a proposal similar to ours, i.e. one according to which numerals are claimed to have become a new category with their own special morphosyntax, however, we read on p. 111 that the numerals, as opposed to other modifers, do "not agree with the head noun in number, gender, and animacy". Although they are argued to be modifiers of the head noun and thus expected to stand in Gen in agreement with it,

Assuming that, apart from the noun itself, nominal projections include a selection of functional projections encompassing it (e.g. Number Phrase, NumP; Determiner Phrase, DP), we assume with Miechowicz-Mathiasen (2012a, 2012b) that in the process of grammaticalization (i.e. numeralization) the nouns denoting numbers shifted from their own N° to Num° of the counted noun[29] (their own nominal projection undergoing reduction in the process). An analysis along these lines accounts for the numerals' partly nominal behavior (exponence of gender in concord with the noun), and their head-like behavior (checking structural Gen case). We combine this proposal with the views that gender is a dependent grammatical category, namely that it does not project its own phrase, but rather depends on an existing syntactic head.

While grammatical gender is chosen in an arbitrary fashion and has nothing to do with semantic properties of nouns (as epitomized perfectly by Polish non-virile nouns), number (in general) "...first and foremost represents a semantic category at the conceptual-intensional level. It signals that a set of entities has a cardinality; in other words that it has a certain number of elements." (Alexiadou, Stavrou & Haegeman 2007: 230). If we furthermore assume that only interpretable seman-

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the numerals are excused from having Acc realized as Gen due to the missing *animacy* feature in their inventory (recall that *animacy* – narrowed down to *masculine personal* in Polish – is exactly the property expressed by numerals in Polish); Babby concludes then that they still retain certain noun-like properties (also, the whole analysis of discontinuous agreement as presented by Babby for Russian is not applicable to Polish (see Gvozdanović 1999); additionally, the sentential agreement with numeral expressions containing ≥ 5 in Old and Middle Polish is the same as we see in Modern Russian as presented by Babby, and we have shown here that in that period numeral nouns were just beginning their reanalysis and were still nominal (see Miechowicz-Mathiasen 2012c for a detailed discussion of sentential agreement with numeral expressions in Old and Middle Polish). A similar conclusion, i.e. that Russian numerals are nouns, is also reached by Ionin & Matushansky (2006), who argue for it on semantic grounds. Franks (2002) shows that the Serbo-Croatian indeclinable higher numerals are disallowed in oblique case contexts unless introduced by a certain light preposition (*sa*); he concludes that the answer to this puzzle lies in the nature of the Gen assigned by Serbo-Croatian higher numerals, namely that it is lexical, and if so, it would suggest that they are still nominal in nature and have not undergone reanalysis. As shown in Laskowski (1988), Czech and Polish gender systems developed in a parallel fashion, the only difference being that in Polish the underlying category of animacy grammaticalized by the Acc/Gen syncretism was further narrowed to just masculine person. It appears that it is exactly the development of the category of animacy that lies at the very core of changes that affected numerals in both languages, however these changes happened earlier, faster and were more pronounced in Polish due to the early narrowing of the distinction to virile. Thus nowadays Czech exhibits very similar syntax in numeral expressions to the Polish one (the noun is Gen in structural case contexts, and we see case congruence in oblique case contexts, suggesting that the case governed by the numeral is no longer lexical), but not across the board (e.g. Czech *sto* 'hundred' still inflects just like a neuter noun, alternatively it is left undeclined (see Short 1993: 479)), and the morphology of 5-10 appears to have retained its *i*-stem inflectional pattern (with the exception of Inst): kost 'bone' vs. pět 'five': kost/pět$_{NOM/ACC}$, kosti/pěti$_{GEN/DAT/LOC}$, kostí/pěti$_{INST}$).

29 Numeral's own NumP when it was still nominal introduced information about the numeral's number and gender and we see from empirical historical data that the numeral loses these properties and takes on the ones of the counted noun. Were the numeral to move to its own NumP we would expect it to continue exhibiting its own ϕ-features, contrary to facts. A proposal along these lines is in fact proposed by Rutkowski (2002) and we show it to be untenable (see below).

tic features can head their own projections, then number is a good candidate for doing so, whereas (grammatical) gender is not.[30] It has been argued in the literature that gender must depend on some other syntactic head (Ritter 1993, De Vicenzi & Domenico 1999[31], and De Vicenzi 1999, Alexiadou et al. 2007).[32] The head designated to host gender features was Num° (of NumP), originally responsible for introducing number. An analysis along these lines makes gender in effect parasitic on number, and more precisely on Num°, and is supported by extensive cross-linguistic evidence (see the enumerated publications for details).[33] Also Polish non-

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30 That gender is not a property of the nominal stem in Polish follows directly from the nature of the Polish gender system. While the singular paradigm distinguishes between five different categories, of which three are masculine (masculine personal, masculine animate non-personal, and masculine inanimate), and the remaining two include feminine and neuter, the plural paradigm squeezes all these categories into just two: (i) virile, including masculine personal nouns only, and (ii) non-virile, accommodating literally all the rest: animate and inanimate feminine and neuter nouns, as well as inanimate and animate non-personal masculine nouns. Obviously, a notionally (and grammatically) feminine singular noun *kobieta* 'woman' is not suddenly de-gendered in the plural just because it belongs in the same group as neuter nouns such as *krzesło* 'chair'. Interestingly, *mężczyzna* 'man'/*mężczyźni* 'men' is an *a*-stem noun just like *kobieta* 'woman'/*kobiety* 'women', yet it does not belong with non-viriles in the plural, and this is unquestionably due to its notional (semantic) properties and not its grammatical ones: in the singular *mężczyzna* declines exactly like *kobieta* (*mężczyzna*$_{NOM}$/*mężczyznę*$_{ACC}$ vs. *kobieta*$_{NOM}$/*kobietę*$_{ACC}$) and does not exhibit the Acc/Gen syncretism which it observes in the plural (compare: *kobiety*$_{ACC}$/*kobiet*$_{GEN}$, and *mężczyzn*$_{ACC/GEN}$). If at all, gender could be argued to be a property of the inflectional suffix (e.g. *chrzestny* 'godfather'– *chrzestna* 'godmother', *lekarz* 'doctor'– *lekarka* '(female) doctor', *kot* 'tom cat'– *kotka* 'female cat'), but then many nouns do not have one and belong to certain gender categories exclusively on the basis of their stem (and still there are exceptions). In most likelihood gender is simply a feature introduced separately from the noun and then spelled-out accordingly.

31 De Vicenzi & Domenico (1999: 25) "The processing differences correspond to linguistic difference among the two types of features: while number is to be considered a syntactic head, separately represented in the lexicon and with its own syntactic projection, that is not the case for gender, which is a parasitic feature in the syntax, i.e. a feature that does not project."

32 De Vicenzi (1999: 550–551): "In fact, while both gender and number are used to selectively reactivate the matching antecedent at the end of the sentence, only number information, reactivates the antecedent at a sentence internal position. Going back to the questions we asked about the use of morphological information in the process of pronoun antecedent reactivation, we can say that there is a dissociation in the time of use of gender and number information. How do we explain this dissociation? Let us note again that we used as antecedents nouns in which gender was morphologically marked in the same way as number, and further either feminine or masculine gender was marked overtly and unambiguously. Therefore, we can safely exclude the possibility that the different timing between the use of gender and number was due to the different manner in which gender and number information are marked on the nouns (…) Rather, we are forced to conclude that there must be an intrinsic difference between the two types of linguistic information such that, when coupled with the operations of the human sentence processor, number information is used in an earlier stage of antecedents identification (…), while gender information is used at a later stage (…). We have also seen that there is some linguistic evidence that sustains the idea that while number heads an autonomous syntactic projection, gender never does, even variable gender."

33 Last but not least evidence for the prominence of number over gender comes from language acquisition facts. Müller (2000: 359) study of young German-French bilinguals shows that while in the initial developmental stages the semantic concept of cardinality is recognizable to them at around the age of 1, gender distinctions have not yet developed. This supports even further our view that gender is

numeral contexts suggest that this indeed is the right solution, as Polish plural affixes are portmanteau morphemes expressing exactly both number and gender. The numeral contexts provide additional strong evidence. In view of the historical data we have presented earlier and our assumptions that numerals ≥ 5 are lexicalizations of Num°, it follows that they should also spell out the gender features Num° introduces, and this is indeed what we have observed, i.e. in the development of Polish numerals their ability to spell out the virile/non-virile gender of the counted noun coincided with their reanalysis as numerals and loss of their own ϕ-features and nominal declension (cf. Table 7, Table 8, and Table 9).

Thus we propose that the developing virile/non-virile gender distinction in the plural constituted a trigger for the categorial change of higher numerals 5-10 and was caused by the need to lexicalize the novel gender distinctions that the nouns were as yet unable to express themselves.[34] In other words, the switch from noun to numeral was activated by the need to express the new gender distinctions of plural nouns.[35] This is supported by both our findings, as well as those of several language historians (Kucała 1972: 91, 1978: 137, 156–158; Łoś & Szober 1928; Szober 1928; Janda 1999), who report that the first instances of the new gender distinctions expressed via the presence/absence of the Acc/Gen syncretism are found exactly in adnumeral contexts. In our texts these very first instances (which appear in the dual in the presence of *dwa* 'two', later reanalyzed as plural) overlap with personal and

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not an independent syntactic head but instead, as a feature, coexists with Num.

34 The reason why the necessity for the morphological expression of the gender distinction arose was due to additional semantic import associated with the virile subgender (which is also the one morphologically marked). The virile is associated with an honorific meaning. See also Rappaport (2011), who argues 'honorific' to be a separate subgender altogether. Since the appearance of the honorific meaning of masculine personal coincides with the appearance of the Acc/Gen syncretism and the virile, we propose (contra Rappaport) that they belong in one and the same category, i.e. the virile subgender. This view is further supported by the existence of two types of declension – virile and non-virile – of some masculine personal nouns such as for instance *chłopy/chłopi* 'peasants, men', *Żydzi/Żydy* 'Jews', *profesorzy/profesory* 'professors', of which the first option is considered neutral (respectful), and the other is perceived as pejorative. This semantic contrast would be otherwise unexpressed if it were not for the virile/non-virile distinction. The pejorative meaning is not associated with nouns originally belonging in the non-virile category.

35 An anonymous reviewer for JHS suggested a different scenario for the numeralization of nominal numerals in which the reason for reanalysis was due to ambiguity of expressions such as the following:

	od	dwóch	synów		od	pięciu	synów
(i)	from	two.GEN.V	sons.GEN.PL.V	(ii)	from	five.GEN.V	sons.GEN.PL.V
	'from two sons'				'from five sons'		

In (i) and (ii) there is a Gen case assigning preposition which in (i) assigns Gen to the noun (while the lower adjectival numeral simply agrees with it), and in (ii) the Gen is assigned to the numeral and the numeral further assigns Gen (of quantification) to its complement. The reviewer suggest a possibility that learners applied the syntax of (i) to (ii), and then spread the pattern to verbal complements. This scenario is implausible for two very important reasons. First, the Acc/Gen syncretism did not start in prepositional contexts, and in fact, accusatives assigned by prepositions resisted the change and were affected much later then accusative complements of verbs as shown by Rzepka (1975) in his seminal work on the Acc/Gen syncretism.

possessive pronouns. Initially, the noun always required a proxy for the expression of virile via 2Acc – be it a numeral or a pronoun – and it was only in their presence that it stood in 2Acc. Kucała (1972) who analyzed the political texts from the period of Zebrzydowski's Rebellion (1601-1608) stated the following:

> "Initially, the Acc/Gen syncretism in the plural spreads among pronouns, adjectives, adjectival participles, and numerals functioning as complements, excluding almost completely unmodified nouns. Modified nouns start appearing in Acc/Gen in contexts in which the modifier precedes the noun. One can conclude from this that these were pronouns and adjectives that influenced the nouns and that they imposed their properties onto the nouns." (Kucała 1972: 91) [our translation][36]

By the 17th c. the syncretism has spread to all modifiers and a sizeable amount of bare plural virile nouns, although the completion of the process in this group continued well into the next century. That numerals shared the task of expressing virility with pronouns does not lessen their role in spreading the Acc/Gen syncretism, nor does it preclude this from being the trigger of their numeralization, as there are copious instances of numeral expressions in 2Acc where the numeral single-handedly marks virility (unaccompanied by pronouns). Also, in view of the cartography of the nominal projections where there is a division into the lexical and functional layer[37], exponence of the new gender distinctions by these categories is also expected as they too are part of the functional layer in the extended projection of the noun (understood as in Grimshaw 1990). Also, their early abil-

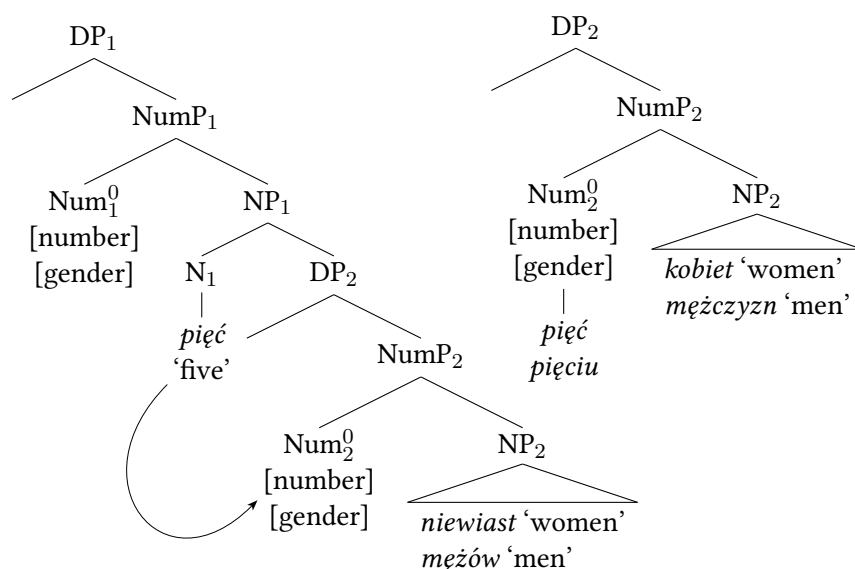| Table I	The percentage of 2Acc forms of viriles in verbal (VP) and prepositional (PP) complements (based on data collected by (Rzepka 1975: 25, 33, 49))					
	Pronouns		Adjectives/Ordinal numerals		Nouns	
Period	VP	PP	VP	PP	VP	PP
1574-1590	47	18	23	3,5	9,5	0,7
1610-1623	85	61	77	43,5	24,5	4,5
1643-1660	97,5	79	89	22	53	10
1681-1697	94	90	93,5	70,5	72	44

Secondly, the syntax of 2-4 and the syntax of ≥ 5 are very different, in particular, numerals 2-4 have always been adjectival, unlike ≥ 5 which are nothing like adjectives (see Miechowicz-Mathiasen 2012a for a syntactic analysis). Although numeral expressions with 2-4 and ≥ 5 look alike in oblique case contexts, their structures are disambiguated in structural case contexts which constitute the majority. Therefore, an analysis along the lines suggested by the reviewer, although simple and attractive, is not viable.

36 The original quotation: "w początkowym okresie acc.-gen. plur. szerzy się wśród występujących w funkcji dopełnień zaimków, przymiotników, imiesłowów przymiotnych, liczebników, nie obejmując prawie zupełnie rzeczowników nie mających przy sobie przydawek. Rzeczowniki z przydawkami zaczynają się pojawiać w acc.-gen. w tych wypadkach, kiedy przydawka znajduje się przed określanym rzeczownikiem. Widać stąd, że to zaimki i przymiotniki wpływają na rzeczowniki i że im narzucają niejako swoją formę" (Kucała 1972: 91)

37 Assuming the functional layer includes at least NumP and DP (see Alexiadou et al. 2007 for an overview of various proposals, and Panagiotidis 2002 for a proposal on pronominal structure).

ity to express the Acc/Gen in the dual/plural paradigm most likely resulted from their advancement in expressing the masculine personal Acc/Gen syncretism in the singular, hence a result of transference of the properties they had already fully established. Moreover, it is not always the case that a pronoun is part of the noun phrase, just as it is not always the case that a numeral is; however, one fact remains unquestionable: in all the cases we have seen, the noun always required a proxy for the expression of gender, be it a numeral or a pronoun, and had no way of implementing the change itself, hence the change affected other lexical items. Technically, this means that numerals were merged in NumP instead of NP, and judging by the fact that they became exponents of the gender of the counted noun, the NumP must be the one of the counted noun, hence in (17) we see that it is the higher DP_1 (the one originally belonging to the nominal numeral) that is reduced.[38] Lexicalizing Num^o laden with the noun's gender information, numerals spell these features out, shedding their own gender in the process. This is further accompanied by the reduction of their own DP_1 (Miechowicz-Mathiasen 2012a, 2012b).

(17) a. 15th c. ──────────────→ b. 21st c.

Assuming that what we know about gender and number is right, in particular their introduction within NumP, the proposal that numerals lexicalise Num^o derives the properties they exhibit without further stipulation.

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38 Contra Rutkowski (2002), who proposes movement of the numeral to its own Num^o, which would leave two questions unanswered: (i) why would the numeral move at all, and (ii) how would it become an exponent of the gender of the counted noun. The analysis presented here answers both: the numeral is merged in the noun's NumP because an exponence of gender is needed (see Miechowicz-Mathiasen (2012a, 2012b) for more details).

4   Conclusion

In this paper we attempted to prove that the developing subcategories of gender in the plural paradigm in Polish (virile/non-virile) were responsible for triggering the process of numeralization of nouns denoting numbers and we have presented extensive historical evidence in support of this proposal. Since the new gender distinctions could not have been morphologically realized on the nouns themselves, a novel Acc/Gen syncretism was introduced as a way of grammaticalizing these distinctions, i.e. virile plural nouns exhibited the innovative syncretism, whereas the non-virile ones continued to use the old Nom/Acc syncretism. The introduction of the Acc/Gen syncretism meant substituting the old Acc forms syncretic with Nom, with Gen forms; thus, we distinguished between the old 1Acc, and new 2Acc. The facts crucial to the analysis presented here were that for two centuries virile plural nouns were able to stand in 2Acc only in the company of pronouns or numerals. Drawing upon analyses dealing with the nature, distribution, and the mutual relation of the grammatical categories of number and gender, all of which proposed gender to be dependent on number (where number was argued to project its own Number Phrase and gender was shown to have no such capacity), we proposed (after Miechowicz-Mathiasen 2012a, 2012b) that the once nominal numerals started being merged in the Num^o of their complements (the counted nouns), which among other things accounts for why they lost their own ϕ-features and became exponents of the new gender distinctions in the plural (their natural environment). The higher numerals also lost their original *i*-stem declension and developed a new one, not shared by any other category. They retained the ability to check Gen case on their counted nouns, although the nature of the Gen changed from lexical to structural, which pointing further to their functional character, as it is a property of functional heads to check structural case. This additionally explains their partly nominal behavior, i.e., they exhibit some properties of the counted noun because they are part of its extended projection.

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