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Ora Matushansky, Tania Ionin

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Ora Matushansky
SFL (CNRS/Université Paris-8)/UiL OTS/Utrecht University

Tania Ionin
University of Illinois at Urbana-Champaign

1   Introduction

In this paper we examine the well-known thorny problem of Polish numeral NP subjects, which can fail to trigger agreement or to show up in the nominative case expected in the subject position:

(1)   a.   Dwie   dziewczyny   przyszły.
           two.F.NOM   girl.PL.NOM came.NV.PL
           Two girls came.

      b.   Pięć   dziewczyn/kotów   przyszło.
           five.NV. NOM   girl.PL.GEN/cat.M.PL.GEN   came.N.SG
           Five girls/cats came.

       Two factors are crucial in determining which case the cardinal surfaces in and whether the numeral NP subject gives rise to agreement on the verb: the cardinal itself (the cardinals five and higher never give rise to agreement on the verb, while the paucal cardinals two to four can do so) and the gender of the lexical NP (while the cardinal appearing with virile lexical NPs surfaces in the genitive case, paucal cardinals appearing with non-virile lexical NPs are marked nominative). Verbal agreement is only possible with paucal cardinals and then only if the lexical NP is marked nominative. Crucially, we will demonstrate that

cases that have been analyzed as involving nominative virile paucal cardinals (giving rise to the apparent optionality of genitive case-marking and default agreement with virile paucal cardinals) should be rather regarded as containing cardinality adjectives.

We will argue that these complex patterns can be accounted for if a number of independently needed assumptions are made. First of all, we will argue for the individuation feature distinguishing cardinals and measure nouns from other sortals. We will show that it is the absence of that feature that makes it impossible for T° to agree with the cardinal itself. We will adopt the proposal by Schenker 1971, according to which measure NPs can and numeral NPs must be assigned accusative case if no other case is assigned to them, thus deriving the surface nominative and genitive case-marking from the independently motivated accusative case syncretism depending on whether the lexical NP is virile or not. We will then demonstrate that agreement is sensitive to the surface case-marking on the lexical NP, which is not surface-genitive only with non-virile paucal cardinals, and provide independent evidence that the lexical NP is no less accessible to agreement than the cardinal.

1.1. Paucal vs. Non-paucal (Simplex) Cardinals

Two factors crucially enter into agreement patterns of Polish numeral NP subjects: the choice of the cardinal (the paucal cardinals two to four vs. the rest) and the gender specification of the lexical NP. Starting with the former, the paucal cardinals agree in gender and case with the NP they combine with and trigger plural number agreement on the verb (2a), whereas the higher cardinals combine with a genitive-marked NP and give rise to the default agreement on the verb (2b).[1]

(2) a. Dwie dziewczyny/ dwa koty przyszły.
two.F girl.PL.NOM/ two.NV cat.M.PL.NOM came.NV.PL
Two girls/cats came.

b. Pięć dziewczyn/kotów przyszło.
five.NV girl.PL.GEN/cat.M.PL.GEN came.N.SG
Five girls/cats came.

The first impression is therefore that NP-internal and NP-external agreement are conditioned by the same factor. As we now show, this is not the case: paucal cardinals can fail to trigger verbal agreement when they combine with a virile lexical NP.

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[1] In oblique cases the cardinal and the lexical NP are marked with the same case, irrespective of the cardinal. See Babby 1980, Franks 1995, Bailyn 2004, Rakhlin 2003, Pereltsvaig 2006 and Kosta 2014 for a discussion of the same pattern for Russian.

1.2.   Virile vs. Non-virile Lexical NPs
While in the singular Polish, like Russian, distinguishes three genders
(feminine, masculine and neuter), in the plural there are only two: virile
(a.k.a. masculine personal; defined as containing at least one male) and
non-virile (Brooks 1975:265, Wiese 2006, etc.). The distinction between
the two is morphologically manifested in three ways:
> ➤   in pronominal direct cases: virile nominative *oni*, accusative
>   *ich* (after prepositions, *nich*) vs. non-virile *one*, accusative *je*
>   (after prepositions, *nie*)
> ➤   in past-tense verbs and in nominative-marked adjectives and
>   participles: virile ending -*i* vs. non-virile -*y*
> ➤   in accusative syncretism: accusative is realized as genitive
>   with virile NPs and as nominative with non-virile ones

The virile/non-virile distinction also affects numeral NP subjects
(Decaux 1964, Brooks 1975, Swan 2002, etc.): while the higher cardinals
are marked genitive in the subject position with virile lexical NPs, with
non-virile ones they surface in the nominative:

(3)   a.   Pięciu   chłopców   przyszło.
             five.V.GEN   boy.M.PL.GEN   came.N.SG
             Five boys came.

       b.   Pięć   dziewczyn/kotów   przyszło.
             five.NV. NOM   girl.F.PL.GEN/cat.M.PL.GEN   came.N.SG
             Five girls/cats came.

Demonstratives (as well as APs) can agree in case with either the
cardinal or the lexical NP: they surface in the genitive form (*tych*) with
virile numeral NPs, and alternate between the surface genitive (*tych*) and
the surface nominative (*te*) with non-virile numeral NPs:

(4)   a.   tych /te   pięć   kobiet/okien/kotów
             this.NV.PL.GEN/NOM   five.NV. NOM   woman.PL.GEN/
             window.PL.GEN/cat.PL.GEN
             these five women/window/cats

       b.   tych /*ci   pięciu   mężczyzn
             this.V.PL.GEN/ NOM   five.V.GEN   man.PL.GEN
             these five men

The question arises why virile numeral NPs are marked genitive.
Corbett 1978 suggests that the higher cardinals agree with virile NPs in
case, but offers no explanation for why this happens only with virile NPs.
The alternative, accounting for both virile and non-virile numeral NPs, is
the so-called Accusative Hypothesis (Schenker 1971, Franks 1995, 2002,
Przepiorkowski 1997, Rutkowski and Szczegot 2001, Rutkowski 2002,

2007, Miechowicz-Mathiasen 2011, etc.), linking surface case-marking to accusative syncretism.

2 The Accusative Hypothesis and Alternatives to It

The cardinals surfacing as genitive in virile numeral NP subjects and as accusative in non-virile ones can be explained if numeral NP subjects are underlyingly accusative. As discussed above, accusative case-marking is syncretic with genitive for virile NPs and with nominative for the rest (5), so the distribution of cases on the cardinal is explained, and agreement failure can be reasonably made to correlate with the accusative marking on the subject in ways to be made precise below.

(5) a. Widzę   te   koguty.   Sadowska 2012:119
         see.1SG   these.ACC=NOM   roosters.ACC=NOM
         I see these roosters.

     b. Widzę   tych   studentów.
         see.1SG   these.ACC=GEN   students.ACC=GEN
         I see these students.

The question however arises of why numeral NP subjects should be marked accusative and the answers proposed do not seem satisfactory. Thus Miechowicz-Mathiasen 2011 proposes that numeral NP subjects are actually PPs headed by a null preposition, yet does not explain either the semantics of this preposition or its distribution: when if ever can it be absent; if so, why, and if not, why not? Willim 2015, on the other hand, proposes that the surface accusative case-marking is actually the default realization of case: assuming that numeral NP subjects are phi-deficient (cf. Klockmann 2012, 2013), Willim proposes that they fail to agree with T° and as a result, receive no case from it; the lack of syntactic case is then realized as accusative. The obvious problem with this proposal is that in Polish, like in many other languages, the lack of case is generally realized as surface nominative: a Vocabulary Insertion rule system that would treat accusative as an Elsewhere rule (when no case features are specified on numeral NPs) while maintaining nominative exponence for non-numeral NPs is far from obvious to construct.

Willim does not address this issue, as she only considers the realization of unvalued case and does not explore the question of what unifies the realization of unvalued case in the plural with the realization of accusative, yet the main problem with treating numeral NP subjects as unmarked for syntactic case as a result of agreement failure is empirical, and comes from case-marking on paucal cardinals.

3   The Role of Surface Case-Marking

The connection between case-marking on the cardinal and agreement is most clear with numeral NP subjects headed by paucal cardinals, which are generally considered to appear in the nominative case. As examples (6) show, surface nominative case-marking correlates with agreement on the verb. Furthermore, when the lexical NP is virile, case-marking on the cardinal can be either nominative or genitive, with concomitant default marking on the verb in the latter case:

(6)   a.   Dwie   dziewczyny   przyszły.
             two.F   girl.F.PL.NOM   came.NV.PL
             Two girls came.

       b.   Dwa   koty   przyszły.
             two.NV   cat.M.PL.NOM   came.NV.PL
             Two cats came.

(7)   a.   Dwaj   chłopcy   przyszli.
             two.V.NOM   boy.M.PL.NOM   came.V.PL
             Two boys came.

       b.   Dwóch   chłopców   przyszło.
             two.V.GEN   boy.M.PL.GEN   came.N.SG
             Two boys came.

While the correlation between surface case morphology and verbal agreement is straightforward, the cause and effect are far from clear. It is not the case that the surface nominative obligatorily yields agreement (it does not do so for the higher cardinals). Agreement, on the other hand, always entails nominative case-marking (6)-(7a), yet why does it fail in (7b), permitting the genitive (underlying accusative) variant to arise?

The novel claim that we make here is that the surface nominative case in (6) and the surface genitive in (7b) actually also correspond to an underlying accusative, showing exactly the same syncretism for the virile vs. non-virile distinction as that arising with the higher cardinals. It is, in our view, the nominative variant in (7a) that requires explanation, and we propose that the nominative forms *dwaj* 'two', *trzej* 'three', and *czterej* 'four' are not cardinals at all, but rather cardinality adjectives. Evidence for this claim comes from complex cardinals, which all behave like the higher cardinals in that their case-marking is determined by whether the lexical NP is virile. While inside a non-virile numeral NP subject, paucal cardinals forming part of a complex cardinal do not differ from their simplex counterparts in that they agree in gender, surface with nominative case on the cardinal and trigger plural agreement on the verb,

a virile complex cardinal cannot contain the nominative forms *dwaj* 'two', *trzej* 'three', and *czterej* 'four', and only the genitive form is possible:[2]

(8) a. Są   dwadzieścia dwie   kobiety.
         be.PL   twenty.NV   two.F.NOM woman.F.PL.NOM
         There are twenty-two women.   Alexander 2002-2003

     b. Dwadzieścia trzy   koty   bawiły   się.
         twenty.NV   three.NV.NOM cat.M.PL.NOM play.NV.PL REFL
         Twenty-three cats were playing.   Swan 2002:199

(9) a. * dwadzieścia/dwudziestu dwaj/trzej/czterej   chłopcy
         twenty.NV/twenty.V   two/three/four.V.NOM boy.PL.NOM

     b. Dwudziestu dwóch/trzech/czterech chłopców   przyszło.
         twenty.V   two/three/four.V.GEN   boy.PL.GEN came.N.SG
         Twenty-two/three/four boys came.

Given the existence of the genitive virile simplex paucal cardinals (7b) alongside their nominative counterparts (7a), the correct empirical generalization is that paucal cardinals, be they simplex or complex, give rise to exactly the same accusative syncretism as the higher cardinals do: the surface nominative form of non-virile numeral NPs in (6) and (8) contrasts with the surface genitive form of virile numeral NPs in (7b) and (9b). What requires explanation therefore is the nominative virile forms in (7a). To account for their unexpected case-marking and their inability to appear in complex cardinals, we hypothesize that *dwaj/trzej/czterej* are adjectives. Adopting for cardinals the non-intersective semantics in (10) (Ionin and Matushansky 2006), we suggest that the nominative forms are cardinality adjectives with the intersective semantics in (11), assumed for cardinals in more standard approaches (Link 1987, Landman 2003, etc.).[3] For non-virile numeral NPs the two cannot be distinguished, and so examples (6) could in principle correspond to either of the two structures: with an accusative cardinal or a nominative cardinality adjective. In the complex cardinals, on the other hand, only the former is allowed.

(10) $[\![\text{trzech}]\!] = \lambda P \in D_{\langle e, t \rangle} . \lambda x \in D_e . \exists S \in D_{\langle e, t \rangle} [\Pi(S)(x) \wedge |S| = 3 \wedge \forall s \in S \ P(s)]$,
      where $\Pi(S)(x)$ if S is a partition of the plural individual x

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[2] Can the ungrammaticality of (9a) result from a conflict in case? Given that *dwadzieścia* 'twenty', like all higher cardinals (2b), assigns genitive to its sister, while the paucal cardinals are case-transparent (2a), can the two fail to be coordinated? The answer is clearly no, as non-virile paucal cardinals, which are also case-transparent (2a), may form a part of a complex cardinal, while retaining their case-assigning properties.
[3] As measure nouns cannot be pluralized (Ruys [to appear]), these cardinality adjectives are predicted to be incompatible with measure phrases. This prediction, however, cannot be verified, as there are no virile measure nouns.

(11) $[\![trzej]\!] = \lambda P \in D_{\langle e, t\rangle} . \lambda x \in D_e . [P(x) \wedge |x| = 3]$

It is far from clear that nominative virile forms of paucal cardinals differ from their genitive counterparts in anything other than their lexical category and therefore syntax. A difference in interpretation is reported, but the reports do not agree, thus Decaux 1964 associates the nominative form with specificity, whereas Swan 2002:190 makes a different claim, namely that the nominative form is only used for all-male groups (which would make it different from all other instances of the virile, which are compatible with a female-male mixture). The difference proposed in (10) vs. (11) does not lead us to anticipate anything of the kind.

Summarizing, a closer examination of the data strongly suggests that all plural numeral NP subjects exhibit the case-marking pattern that is characteristic of the accusative syncretism in the plural and therefore are underlyingly accusative. Given the lack of distinction in this regard between paucal cardinals (which trigger plural agreement on the verb if nominative) and the higher cardinals (which always occur with default agreement), verbal agreement or its lack do not seem to determine case-marking. Rather, plural agreement on the verb would seem to be possible only when the cardinal is not only marked for surface nominative, but also is adjectival, which is what paucal cardinals clearly are and the higher cardinals just as clearly are not.

Two questions therefore arise: why do most numeral NP subjects fail to trigger agreement on T° and how those that do, do so. To answer the former question, we will examine the broader pattern of agreement with measure phrases, which will in turn suggest the answer to the latter.

4   The Role of the Individuation Feature

Regular plural NPs in the subject position trigger plural agreement on the verb, which can be virile or non-virile:

(12) a.   Chłopcy   spali.   Klockmann 2012
            boy.M.PL.NOM   slept.V.PL
            The boys slept.

      b.   Ptaki   spały.
            bird.M.PL.NOM   slept.NV.PL
            The birds slept.

Prior research investigating agreement failure with the higher cardinals (Schenker 1971, Franks 1994, 1995, Przepiorkowski 1997, Miechowicz-Mathiasen 2011, 2012, etc.) attributes it to the fact that such numeral NP subjects are accusative rather than nominative. However, as we have just shown, for the paucal cardinals this is true to exactly the same degree. It

cannot therefore be the underlying case-marking that is responsible for the lack of agreement, yet neither can it be claimed that the surface form can be held uniquely responsible for it either, since nominative-marked non-virile numeral NP subjects headed by the higher cardinals also fail to trigger agreement. We suggest therefore that it is the case-marking on the lexical NP that determines the ability of a numeral NP to agree. Following Bobaljik 2008 we hypothesize that a non-direct case can render an NP inaccessible for agreement -- what is new here is the role of the surface case-marking rather than the underlyingly assigned case. In other words, we assume, following the general consensus, a contrast between paucal numerals and the higher numerals that makes agreement possible for the former but not for the latter, and then suppose an additional factor blocking agreement for genitive-marked subject NPs.

4.1. *Phi-deficiency of Cardinals*

To account for the contrast between the behavior of paucal cardinals and the higher cardinals with respect to agreement, it has been suggested that the higher cardinals are phi-deficient and therefore fail to enter into an agreement relation with T°. The question naturally arises which feature is missing from their featural make-up. Klockmann 2012, 2013 claims that NPs headed by the higher cardinals lack the gender feature, and Willim 2015 proposes that they lack the case feature. Rejecting both approaches for reasons to be detailed below, we hypothesize that what cardinals lack is the individuation feature (Matushansky and Ruys 2015a) -- a deficiency that they share with measure nouns, which are not likely to otherwise be considered impoverished in person, gender or case. Indeed, as noted by Schenker 1971 in support of the Accusative Hypothesis, measure phrases in the subject position in Polish can be marked accusative, which is detectable on feminine nouns as a dedicated exponent:

(13) a. Było   jeszcze kupę   czasu.   Schenker 1971
          was.N.SG still   a.lot.ACC   time.GEN
          There was still a lot of time.

      b. Furę   książek   zostało   w starym domu.
          a.lot.ACC book.PL.GEN   remained.N.SG in old   house
          A lot of books remained in the old house.

   In line with this observation is the fact that they can fail to trigger agreement, even if the surface case-marking is nominative:[4]

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[4] http://pentax.org.pl/viewtopic.php?p=18816
The prescriptively correct variant is masculine singular on the verb.

(14) Zagrodzone jest prawie całe   przejście, **zostało**   metr
      barred   is   almost entire passage   left.N.SG meter.M.NOM
      szerokości   do przeciskania.
      width.GEN   to squeeze
      Almost the entire passage was barred, there was a meter of width
      left to squeeze.

The same effect is observed by Alexander 2002-2003, citing
Doroszewski 1995 for the observation that paucal measure phrases can
fail to trigger agreement on the verb (15). The correlation between the
accusative in the subject position and agreement failure is, therefore,
clear, and, crucially, is not limited to numeral NP subjects:

(15) a.   Ubyły/ubyło   cztery   centymetry   wody.
            diminish.PAST.NV.PL/N.SG four.NV centimeter.M.PL water
            The water had gone down 4cm.

     b.   Zostały/zostało   nam   dwie godziny.
            remain.PAST.NV.PL/N.SG us.DAT two.F minute.F.PL.NOM
            We had two minutes left.

The question of optionality naturally arises: whereas measure NPs
can fail to trigger agreement on T, numeral NPs (with the exception of
surface-nominative paucal numeral NPs) *must* fail. This naturally means
that whatever property or its absence is responsible for agreement failure
and accusative case-marking, it must characterize all numeral NPs, yet
vary for measure phrases. The previous approaches to phi-deficiency of
cardinals do not appear to achieve this result or indeed extend to measure
NPs in a natural way.
        The hypothesis that the higher cardinals lack gender (Klockmann
2012, 2013) is morphologically well-motivated, as the paucal cardinal
dwóch/dwie/dwa 'two' and its definite counterpart *obu/obie/oba* 'both' are
specified for gender.[5] It does not, however, extend to measure nouns, nor
does it explain the correlation between the gender of paucal cardinals and
their syntactic behavior. Indeed, both case-marking on the cardinal itself
and its agreement (for paucal cardinals) depend on whether the numeral
NP subject in question is virile, strongly suggesting that numeral NP
subjects cannot be underspecified for gender. Moreover, APs, be they
attributive, predicative or depictive, agree with numeral NPs in number,
gender and case. Specifically, while APs agreeing with virile numeral NP
subjects (16) only surface as genitive, APs agreeing with non-virile ones
(17) can also be marked nominative (for the availability of both options
in one and the same clause, see Przepiórkowski and Patejuk 2012; across

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[5] Though such is not the case for the cardinals *trzy* 'three' and *cztery* 'four'.

non-finite clause boundary, Witkoś 2008), and the case exponent then is the non-virile -*e* rather than the virile -*i*:

(16) Następnych/*następni   kilkadziesiat   mężczyzn   było
next.PL.GEN/.NV.PL.NOM several.tens.NOM man.PL.GEN was.N.SG
czystych/*czysti.
clean.PL.GEN/.V.PL.NOM
The next few tens of men were clean.

(17) Pięć   osób   przyszło   pijanych/pijane.
five   person.F.PL.GEN   arrived.N.SG   drunk.GEN/NV.PL.NOM
Five people arrived drunk.

While it is possible that gender specification of higher numeral NP subjects lacks the features responsible for the feminine/masculine/neuter and animate/inanimate distinctions in the singular, there is no evidence to suggest that these distinctions are ever operative in the plural.

Another proposal, by Willim 2015, is that NPs headed by cardinals five and up lack the case feature (though in structural case positions only) and the person feature, and the realization of the lack of case as genitive in the virile and as nominative in the non-virile is determined at PF. Several issues arise with this proposal. On the one hand, the common view is that the third person is not a particular feature value, but rather lack of person. On the other hand, no explanation is provided for how, if numeral NPs are not specified for case, they can nonetheless be marked for oblique cases. Finally, agreement with non-virile paucal NPs does not fit into either view, and neither does optional agreement failure with measure NPs.

4.2.   The Individuation Feature in Polish and Cross-linguistically
While subscribing to essentially the same view, namely that numeral NPs are phi-deficient, we differ from the approaches discussed above in that we locate the phi-deficiency of cardinals and measure nouns in the novel individuation feature, which cardinals lack altogether and measure nouns may have optionally. Independent evidence for this feature comes from the fact that a contrast between measure nouns and other sortals can be observed in a number of languages NP-internally as well.

Thus in a number of languages most or all measure nouns do not bear plural morphology when combining with cardinals (Matushansky and Ruys 2014, 2015a, b). While this lack of number marking has been discussed for Dutch (Klooster 1972), Danish (Hankamer and Mikkelsen 2008) and German (Grestenberger 2015), it is also operative in Modern Hebrew, Persian (Mathieu and Zareikar 2015) and Western Armenian, where number marking is conditional on specificity, yet measure nouns fail to be marked plural even in definite NPs (Donabédian 1993):

(18) a. xamiša kilo kemax   Hebrew, Rothstein 2009
        five   kilo flour
        five kilos of flour

     b. šloša dolar   Glinert 2003:114
        three dollar
        three dollars

(19) tre   liter vand   Danish, Hankamer and Mikkelsen 2008
     three liter water
     three liters of water

(20) Dit boek kost   15 gulden/*guldens.   Dutch, Klooster 1972:8
     this book costs 15 guilder.SG/PL
     This book costs 15 guilders.

(21) 180 kˈilometrō-n   Western Armenian, Donabédian 1993
     180 kilometer-DEF
     the 180 km [separating the capital from Tonnerre]

It is frequently suggested, in order to explain this number marking failure, as well as some other properties of measure nouns, that measure nouns are functional rather than lexical or that they are classifiers. While the lack of the individuation feature in combination with countability may in fact constitute the definition of a classifier that would cover their uses in classifier languages and outside of them, we will remain agnostic on this point. We note, however, that classifiers in languages that have them are systematically incompatible with plural morphology, which, at least in Germanic, is not the case for measure nouns.

4.3.   The Mechanics of the Accusative Hypothesis

To implement the link between individuation and Polish agreement and case, we propose, following Matushansky and Ruys 2014, 2015a, b, that the individuation feature forms part of the phi-feature bundle on T° along with person, number and gender. As the entire bundle must be valued by the same goal, agreement on T° would fail when the goal does not bear the individuation feature. Below we will argue that two goals are in principle available here, the cardinal itself and the lexical NP, and while the former, lacking the individuation feature, cannot trigger agreement, the latter can if it bears appropriate surface case. Before we can do so, however, it is necessary to determine how case-marking on numeral NP subjects is established.

It is highly tempting to derive failure of case-marking from agreement failure, as proposed by Willim 2015. However, any attempt to construct the appropriate Vocabulary Insertion rules, while maintaining the general Slavic intuition that nominative is the morphological

elsewhere case, systematically fails to capture the generalization that the realization of the lack of case is the same as that of accusative: on the one hand, to capture the former intuition it is necessary to assume that accusative corresponds to some morphosyntactic feature, but on the other hand, if it does, the same realization is not expected when no features are present.

The alternative would be to hypothesize a valued case feature on cardinals in the lexicon. Schenker 1971 suggests indeed that measure nouns and cardinals not assigned an oblique case are assigned accusative by an unspecified mechanism. Dyła 1990 and Rappaport 2003 propose a variant of this view, where cardinals have no nominative case form but are inherently specified for the case feature [quantitative], which is realized as genitive for virile NPs and as nominative elsewhere. While the latter approach does not explain why [quantitative] is subject to exactly the same syncretism as [accusative], for the former proposal it is incidental that inherent accusative case is associated with measure nouns and cardinals.[6] Furthermore, neither approach explains why for measure nouns this association is optional.

What we need is a non-random connection between the negative specification (or lack) of the individuation feature and the formal feature (bundle) corresponding to the accusative case. While it seems unlikely that v assigns exactly the same feature as the one present on measure nouns, if we assume, following the tradition starting with Jakobson 1936/1971, 1958/1984, that cases are feature bundles rather than atomic features, and that these features reflect the formal (syntactic or semantic) makeup of the syntactic environment of the NP in question (Bailyn 2004, Matushansky 2008, 2010, 2012, Pesetsky 2013), then it is possible that the accusative case in Polish realizes a particular feature F that is part of the set of features assigned by v and also inherently present on cardinals (and optionally, on measure nouns).

A functionalist explanation comes to mind whereby direct objects (lower on the relevant referentiality/individuation scales than the subject, cf. all work on Differential Subject/Object Marking) can be treated as non-individuated in some way. Yet another take connects the direct object to the measuring out of the event (Tenny 1994), indicating a potential abstract common core that can be the target of the relevant Vocabulary Insertion rules. The optionality of the default agreement and concurrent accusative case for measure NP subjects could then be attributed to their variant feature specification: they could either bear the

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[6] If the abstract accusative case (subject to morphological syncretism) can be the result of a number of different case feature bundles sharing no common core, this objection clearly does not apply, as the system would then require rules of referral that can easily realize as accusative a number of different feature specifications.

individuation feature specified for the negative value, in which case agreement with T° would go through, or not be specified for it at all, in which case probing by T° would fail. As both specifications are compatible with the lexical semantics of measure nouns, this variation receives a natural explanation.

Importantly, in all approaches assuming a case feature present on cardinals and measure nouns by virtue of their lexical semantics, it is completely irrelevant whether they receive case from T°, as the more marked inherent case will override structural cases.

5   Case-sensitive Agreement

To summarize the data that we have examined so far, the descriptive generalization seems to be that all numeral NP subjects in Polish bear the same case (be it no case or accusative) and verbal agreement takes place when two conditions obtain: (1) the cardinal agrees for gender, and (2) the surface realization of this case is the same as nominative.

Above we have argued that cardinals and measure nouns fail to trigger agreement (and perhaps receive case) due to the lack of the individuation feature. This hypothesis, however, predicts incorrectly that full agreement with paucal cardinals, as in (6), should be impossible.

As discussed above, it does not seem reasonable to assume that paucal cardinals differ from the higher cardinals in their underlying case-marking, which entails that they are all [-individuated]. Even if we were to abandon this conclusion and follow Klockmann or Willim in assuming that paucal cardinals are not phi-deficient, we would still fail to account for the fact that virile paucal NP subjects fail to trigger agreement. Even if the virile were assumed to be the default gender (or the lack of gender), cf. Ruda 2011, this would not be sufficient, as in the absence of a paucal cardinal virile NPs trigger plural agreement (12a).

We propose therefore that Polish verbal agreement is sensitive to surface case (cf. Bobaljik 2008). More specifically, what the verb agrees with is systematically the lexical NP: where it is marked genitive, for whatever reason, agreement fails. Evidence that both the entire numeral NP and the lexical NP are accessible for agreement comes from the two agreement options available for AP predicates (17).

As noted by Dyła 1990 and Przepiórkowski and Patejuk 2012, it is not only the case that APs and determiners show two case-marking options for non-virile numeral NP subjects, it is also that the two patterns can appear in the same NP (ex. from Dyła 1990) or in the same clause (ex. from Przepiórkowski and Patejuk 2012, all four logically possible combinations are allowed):

(22) Wypiłem   jakieś   dobre/dobrych pięć   butelek   wina.
drank.1SG some.ACC good.ACC/GEN five.ACC bottles.GEN wine
I drank a good five bottles of wine.

(23) Kolejne   piecdziesiat aut   zostało   uszkodzonych.
further.NOM fifty.NOM   car.PL.GEN became.NSG damaged.GEN
Further fifty cars became damaged.

To account for the two options, Przepiórkowski and Patejuk 2012 propose that APs can agree either with the (genitive) lexical NP or with the entire cardinal-containing NP (surface-nominative). Adopting this analysis, we implement it via probing order: given that D° and A° must be specified, minimally, for [number] and [gender], either of these two features can be the first to probe:[7]

> ➢ [gender]: the cardinal not being specified for gender, the next goal is the lexical NP; case being a free-rider, it gets valued genitive
> ➢ [number]: the cardinal is specified for number by virtue of its semantics and therefore can function as a goal; case, as a result, gets the same value as on the cardinal (genitive with virile NPs, nominative with non-virile ones)

We can now derive the different syntax of the two types of cardinals from their case-assigning properties: while the higher cardinals assign genitive case to the lexical NP, paucal cardinals agree with it (2). Given that the cardinals themselves, lacking the individuation feature, do not provide a proper goal for T°, T° probes the next available goal, which is the lexical NP. Assuming that genitive case-marking makes an NP inaccessible for such probing, virile numeral NP subjects will fail to trigger agreement because both the cardinal and the lexical NP there are marked genitive throughout. For paucal cardinals, on the other hand, the lexical NP ends up surface-nominative if it is non-virile, and therefore becomes accessible to agreement. Finally, to complete the picture, the cardinality adjectives do not intervene for agreement -- if they even bear the individuation feature at all, it gets valued from the lexical NP.

6   Conclusion

In this paper we have established a new empirical generalization about plural numeral NP subjects in Polish. Contrary to the standard view,

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[7] The mechanism by which adjectives can probe the NPs they agree with is immaterial here. However, for this proposal to work, [gender] and [number] located on the same head should be able to get valued by different goals. Given that in this case the different goals are themselves in feature-sharing relations, it can be assumed that they therefore do not interfere with each other.

which regards paucal numeral NP subjects as nominative, we argued that they are actually accusative as well and subject to the same accusative syncretism as that governing case-marking on the higher cardinals and plural direct objects in Polish. On the basis of their ungrammaticality in complex cardinals, we argued that virile nominative forms of paucal cardinals are actually adjectives.

Following Schenker's intuition, we linked accusative case-marking to the lack of the individuation feature. Independent evidence for that comes from accusative marking and agreement failure with measure NPs in Polish and a more systematic cross-linguistic failure of measure nouns to trigger agreement or to show plural morphology.

Finally, we adopted the proposal (Bobaljik 2008) that NPs bearing oblique (non-nominative) cases are inaccessible for agreement. If this constraint applies to surface case-marking (or, to be precise, at some point after the application of various rules of referral responsible for accusative syncretism), verbal agreement becomes possible only when the lexical NP is marked nominative, i.e., with paucal non-virile numerals.

Independent evidence for the accessibility of the lexical NP to probing comes from the apparent optionality of case-marking on APs agreeing with numeral NP subjects: the APs in question can agree in case either with the cardinal or with the lexical NP. We proposed that both options can be derived depending on which feature probes first, number or gender.

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o.m.matushansky@uu.nl
tionin@illinois.edu