

# Case and Agreement with Polish Genitive of Quantification in the Feature Sharing Theory of Agree

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Empirical and theoretical problems: Polish nouns phrases with higher (5&up) numerals and vague quantifiers like *dużo* ‘many/much’ exhibit heterogeneous morphosyntax in structural case positions (1) and homogeneous morphosyntax in inherent/lexical case environments (2). Lower numerals have homogeneous NP-internal agreement also in structural case contexts (3). These asymmetries have been widely taken in the literature to suggest that unlike adjectival lower numerals, higher numerals (and quantifiers) assign/check so-called genitive of quantification (GQ), which is overridden in inherent/lexical case contexts. In structural case contexts, GQ overrides structural (nominative and accusative) case, the numeral/null head with GQ being closer to the noun than T/v. In a family of analyses, the asymmetries in NP-internal morphosyntax as well as the fact that finite T fails to agree with NPs with GQ (4), unlike with NP subjects including lower numerals (5), have been captured by analyzing higher numerals as heads, which are either inserted in the derivation with a valued feature of (accusative) case or have accusative case assigned/checked by an external case checker merging with the NP/DP (cf. Mieczowicz-Mathiasen 2012 and references therein). However, the idea that higher numerals/quantifiers are heads taking the counted/quantified N(P) as complement is problematic in view of the distribution of case on adjectival modifiers that precede numerals ((6)-(7)) as well as on predicative adjectives (7), where only accusative is predicted. Although genitive case-marked pre-modifiers in structures like (6)-(7) have been argued to originate as GQ-marked modifiers of a GQ-marked head noun (8) and to undergo movement, movement cannot be appealed to in structures like (9), where the ordinal genitive-marked numeral/adjective cannot be merged modifying the counted noun without causing an incoherent interpretation at LF. As unlike attribution, predication is generally viewed as a relation between an adjectival predicate and a semantically closed, maximal projection, a genitive-marked predicative adjective cannot be analyzed as extracted from a numeral NP subject (7). In addition, an adjective preceding a higher numeral need not scope over the counted noun (10), suggesting that higher numerals are not heads taking N as complement as the modifier merged above the numeral head would be expected to scope over both the numeral and N in its the complement.

Theoretical assumptions and analysis: taking numerals/quantifiers to be NP-adjuncts rather than heads taking the counted/quantified noun as complement and keeping the categorical status of (numerically) quantified NPs constant (cf. also Bošković 2006), I will argue here that the complex case and agreement patterns with GQ in Polish can be accounted for under the feature valuation theory of Agree coupled with the feature sharing mechanism of Pesetsky and Torrego 2007. Assuming a dynamic approach to derivation, in which syntactic objects are built in a step-by-step fashion driven by a probe/selector of a label (cf. Brattico and Leinonen 2009), the unvalued features of the adjectival modifier (A(P)) or numeral/quantifier phrase (Q(P)) adjoined to NP probe for the features of the noun as early as possible (11). On the feature sharing approach to feature valuation, a goal may be related to a probe under Agree not only when it has fully specified features, but also if its feature(s) are underspecified. If the goal (N) that matches the probe (A) has one or more of its features underspecified, the underspecified feature(s) will be shared by both the goal and the probe (12). A probe can be a goal for a further probe and once the probing feature gets valued, all the earlier instances of this feature involved in probing will also be valued “parasitically” by being shared instances of one and the same feature. I suggest that homogeneous morphosyntax arises as a result of

Agree when the noun's valued features of number and gender as well as the underspecified feature of case are shared with the modifier's features of number, gender, and case. Both/all the instances of the underspecified feature of case acquire a specific value once an external head values the case feature of the highest node sharing its label with the noun (13). In such contexts a numeral/quantifier has the feature of case in its feature complex, similarly to adjectives. In heterogeneous contexts, as the quantifier values GQ, by Case Resistance Principle it cannot have a feature of case as part of its label, i.e. it is caseless (Bošković 2006). The numeral/quantifier has its features of number and gender valued by the noun's features of number and gender and it values the noun's feature of case as GQ. As the case feature of any adjective modifier merged earlier with the noun (N(P)) is shared with the noun, post-numeral adjectival modifiers surface with GQ morphology (14). An adjectival modifier that merges with or above the numeral/quantifier in heterogeneous case contexts, merges with or above a head that does not have a feature of case as part of its label. Although it can have its features of number and gender valued by the features of gender and number of the numeral/quantifier head (labels created by adjunction being invisible to Agree), the adjective's case feature remains underspecified in narrow syntax. I suggest that adjective modifiers merged with or above numeral/quantifier heads with GQ reach the PF interface unvalued. As adjectival inflection is realized with portmanteau affixes, an underspecified case feature must be interpreted by morphological rules at PF and I suggest that an underspecified case feature is interpreted as [Case: accusative or genitive], i.e. with structural case morphology on an adjective with valued features of number and gender. This accounts for the case and agreement morphology on modifiers preceding numerals/quantifiers in Polish ((6)-(7), (9)-(10)). Case and agreement morphology of predicative adjectives can be accounted for on the further assumption that a (numerically) quantified NP merged in the specifier of a predicative head with all its features, including case, valued NP-internally, is inactive and prevents T from agreeing with the numeral noun phrase subject and the predicative adjective (15). I suggest that Agree either fails and the  $\phi$ -features and case of the adjective are interpreted as [sg, neuter, acc] by default at PF or else the adjective undergoes movement to a position where it can have its features valued by the features of the (numerically) quantified noun phrase, movement being triggered by Agree (Watanabe 2011). In this case, T cannot have its  $\phi$ -features valued as both the predicative adjective and the quantified subject have a valued feature of case (GQ), and T's agreement features are interpreted at PF by default as [3, sg, neu]. The analysis offered here thus provides support for Agree as a primitive syntactic operation and for morphological case and agreement as reflexes of abstract case and agreement.

Data and structures: (ACC glossed on numerals only in line with tradition)

- |     |   |                     |                       |   |  |                       |                     |                        |  |  |
|-----|---|---------------------|-----------------------|---|--|-----------------------|---------------------|------------------------|--|--|
| (1) | Jan   | poznał              | *[pięć                | miłe  | dziewczyny]/                                 | [pięć                 | miłych              | dziewczyn]             |  |  |
|     | John  | met                 | [five <sub>ACC</sub>  | nice <sub>ACC</sub>                               | girls <sub>ACC</sub> ]/                      | [five <sub>ACC</sub>  | nice <sub>GEN</sub> | girls <sub>GEN</sub> ] |  |  |
| (2) | Jan   | pomógł              | [pięciu               | miłym   | dziewczynom]/                                | *[pięciu              | miłych              | dziewczyn]             |  |  |
|     | John  | helped              | [five <sub>DAT</sub>  | nice <sub>DAT</sub>                               | girls <sub>DAT</sub> ]/                      | [five <sub>DAT</sub>  | nice <sub>GEN</sub> | girls <sub>GEN</sub> ] |  |  |
| (3) | Jan   | poznał              | [trzy                 | miłe  | dziewczyny]/                                 | *[trzy                | miłych              | dziewczyn]             |  |  |
|     | John  | met                 | [three <sub>ACC</sub> | nice <sub>ACC</sub>                               | girls <sub>ACC</sub> ]/                      | [three <sub>ACC</sub> | nice <sub>GEN</sub> | girls <sub>GEN</sub> ] |  |  |
| (4) | [Pięć                                       | miłych              | dziewczyn]            | rozmawiało/*rozmawiały                            | z  | Janem.                |                     |                        |  |  |
|     | five <sub>ACC</sub>                         | nice <sub>GEN</sub> | girls <sub>GEN</sub>  | talked <sub>3SGNEU</sub> /talked <sub>3PL</sub>   | to   | John                  |                     |                        |  |  |
| (5) | [Dwie                                       | miłe                | dziewczyny]           | *rozmawiało/rozmawiały                            | z  | Janem.                |                     |                        |  |  |
|     | two <sub>NOM</sub>                          | nice <sub>NOM</sub> | girls <sub>NOM</sub>  | talked <sub>3.SG.NEU</sub> /talked <sub>3PL</sub> | to   | John                  |                     |                        |  |  |
| (6) | [Te/tych                                    | pięć                | miłych                | dziewczyn]  | rozmawiało                                   | z                     | Janem.              |                        |  |  |
|     | [these <sub>ACC</sub> /these <sub>GEN</sub> | five                | nice                  | girls]  | talked                                       | to                    | John                |                        |  |  |
| (7) | [Te/tych                                    | pięć                | dziewczyn]            | było  | miłe/miłych.                                 |                       |                     |                        |  |  |
|     | these <sub>ACC</sub> /these <sub>GEN</sub>  | five                | girls]                | was <sub>3SGNEU</sub>                             | nice <sub>PLACC</sub> /nice <sub>PLGEN</sub> |                       |                     |                        |  |  |

- (8) pięć tych/\*te dziewczyn  
 five these<sub>GEN</sub>/these<sub>ACC</sub> girls<sub>GEN</sub>
- (9) Pamiętam tylko pierwsze/pierwszych pięć przykazań.  
 remember<sub>1SG</sub> only first<sub>ACC</sub>/first<sub>GEN</sub> five<sub>ACC</sub> Commandments<sub>GEN</sub>
- (10) niepełne/niepełnych pięćdziesiąt worków ziemniaków  
 approximate<sub>ACC</sub>/approximate<sub>GEN</sub> fifty<sub>ACC</sub> bags<sub>GEN</sub> potatoes<sub>GEN</sub>
- (11)  $[_{N(P)}[_{A(P)}A[Num(ber): \_ ; Gen(der): \_ ; C(ase): \_ ][_{N(P)}N[Num(ber): \alpha, Gen(der): \beta ; C(ase): \gamma ]]]$
- (12)  $[_{N(P)}[_{A(P)}A[Num: \_ ; Gen: \_ ; C: \_ ]][[_{N(P)}N[Num: \alpha, Gen: \beta ; C: \_ ]]]^{\neq}$   
 $[_{N(P)}[_{A(P)}A[Num: \alpha, Gen: \beta ; C: \_ ]][[_{N(P)}N[Num: \alpha, Gen: \beta ; C: \_ ]]]$
- (13)  $X[_{Dat}] \dots A[Num: \alpha, Gen: \beta ; C: Dat] \dots N[Num: \alpha, Gen: \beta ; C: Dat]$
- (14)  $[[[_{Q(P)}Q[Num: \alpha, Gen: \beta ]][[_{A(P)}A[Num: \alpha, Gen: \beta ; C: \_ ]][_{N(P)}N[Num: \alpha, Gen: \beta ; C: \_ ]]]]^{\neq}$   
 $[[[_{Q(P)}Q[Num: \alpha, Gen: \beta ]][[_{A(P)}A[Num: \alpha, Gen: \beta ; C: GQ]][_{N(P)}N[Num: \alpha, Gen: \beta ; C: GQ]]]]$
- (15)  $T[_{Pred(P)}N(P)_{GQ}[_{Pred(P)}Pred A(P)]]$

## References

- Bošković, Ž. 2006. Case and agreement with Genitive of Quantification in Russian. In C. Boeckx (ed.), *Agreement systems*. Amsterdam: John Benjamins. 99-121.
- Brattico, P. and A. Leinonen. 2009. Case distribution and nominalization: Evidence from Finnish. *Syntax* 12(1): 1-31.
- Miechowicz-Mathiasen, K. 2012. Licensing Polish higher numerals: An account of the Accusative Hypothesis. In J. Błaszczak et al (eds.), *Current Issues in Generative Linguistics*. Wrocław: CGCL. 58-75.
- Pesetsky, D. and E. Torrego. 2007[2004]. The syntax of valuation and the interpretability of features. In S. Karimi et al. (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*. 262-294.
- Watanabe, A. 2011. Adjectival inflection and the position of measure phrases. *Linguistic Inquiry* 42(3): 490-507.