A brief note on undermerge and case overwriting[*]

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ABSTRACT This brief contribution constitutes a critical reference to David Pesetsky's *Russian case morphology and the syntactic categories* (2013), a new monograph proposing an entirely new program of research into the grammar of case. After an introduction of the new theory the paper focuses on two areas for a more critical analysis: the derivation of the Genitive of Quantification and overt evidence for case overwriting in Russian (and Polish). In the former case the procedure of undermerge is put under scrutiny and in the latter a crucial morphological formative is argued to be of a derivational rather than inflectional nature.

Keywords: syntax, Russian case, case theory, merge, case overwriting

1 Introduction

In his *Russian case morphology and the syntactic categories*, David Pesetsky (2013) addresses core questions of Case Theory and proposes an entirely new program of research into the grammar of case (the New Program for Case Theory, NPCT [J.W.]). The key components of this approach include the notions of case as a signature property of a given grammatical category, rather than its descriptive feature and case realization through morphological means, frequently manifested through case stacking. In the process of forming his novel approach, Pesetsky was able to cover numerous major topics in the grammar of Russian and solved a number of outstanding problems, including those of the Paucal Genitive and the Genitive of Quantification. In this brief contribution I shall focus on the notions of case stacking and undermerge; the former drawing a close comparison between certain case forms in Russian (and Polish) and Lardil and the latter constituting a challenge to the minimalist notion of structure extension.[1]

2 Core assumptions of Pesetsky (2013)

The core assumptions of the radical system in Pesetsky (2013) is that particular grammatical categories bear certain cases as their signature property:[2]

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[1] For a more extensive evaluative treatment of Pesestky (2013), see Witkoś (in press).

[2] It transpires that the notion of case as a signature property of a grammatical category had been present on Pesetsky's research agenda for a while, suffice it to mention the concept of the nominative case being the equivalent of the [T(ense)] feature in Pesetsky and Torrego (2001). Interestingly, this particular aspect of the treatment of nominative does not find any application in *Russian case morphology and the syntactic categories*, as (1) shows.

(1)   a.   N = GEN

        b.   D = NOM

        c.   V = ACC

        d.   P = OBL(ique)

These categories assign their case feature to all dependents they subcategorize for and merge with in line with the following principle[3] of Feature Assignment (Pesetsky, 2013, p. 99):[4]

(2)   a.   Copying: when α merges with β, forming [$_\alpha$ α β], if α has satisfied its complementation requirements and α is designated as a feature assigner for β, its prototype α* is immediately merged with β, forming [$_\alpha$ α [$_\beta$ α* β]].

        b.   Realization: A prototype x* is realized adjacent to the smallest element dominated by its sister.

In the oblique case environment, the relevant structure and history of derivation look as follows:

(3)   *o*   *pjati*   *xorošix*   *devuškax*
        about   five.LOC   good.LOC   girls.LOC

(4)   a.   [$_{NP\ gen}$ Q$_{gen}$ AP $_{gen}$ [NP $_{gen}$]]

        b.   [$_{DP\ nom}$ [Q $_{nom}$ − D$_{nom}$] [$_{NP\ gen}$ Q $_{gen}$ AP $_{gen}$ [NP $_{gen}$]]]

        c.   P-$_{obl}$ → [$_{DP\ obl}$ [Q $_{obl}$ − D$_{obl}$] [$_{NP\ obl}$ AP $_{obl}$ [NP $_{obl}$]]]

In examples (3)-(4) locative is a concrete spell-out of the more general oblique case and it applies to the entire nominal sister constituent to P. It overwrites previous cases resulting from both internal and external merge: nominative on D (cf. (4b)) and genitive on NP (cf. (4a)), in the process. The case on every constituent that was merged in earlier is overwritten by subsequent applications of Feature Assignment unless a given constituent undergoes Spell-out and is transferred out of the narrow syntax.

Part (b) of the definition in (2) is particularly inspiring and elegant, as it captures the extent to which case morphology spreads over the complement domain to the feature assigning head. The morphological realization of case is subject to parametric conditions of PF set differently in individual grammars. Thus in French and English the realization stops at the XP level of the complement introduced by 'of' or 'de' for genitive, whereas in Russian (and Polish) the realization of case consists in spreading it across the entire nominal dependent down to the phase boundary.

Russian Case Morphology and the Syntactic Categories endorses the notion of the derivational phase as a constituent within which particular features have been checked and valued, so that this constituent can be transferred out of 'narrow syntax' to the interfaces. The author recognizes the fact that the point of Spell-out is flexible (Pesetsky, 2013, pp. 88-89):

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[3] I use the term 'assign a case feature' in a theory neutral manner (so it stands for check the feature, value the feature and assign case).

[4] Pesetsky points to a close affinity between his proposal and Joe Emonds' concept of alternative realization (cf. Emonds, 2006).

(5)   Timing of operations relevant to Spell-out of a phase Φ
         Step1: the syntax constructs Φ.
         Step 2: merge (α, Φ).
         Step 3: Spell-out applies to Φ (freezing it for further applications of FA).

This approach stresses the functional aspect of the phase: a constituent of a given category does not undergo transfer unless all relevant features within it have been checked and valued, which certainly depends on a wider syntactic context in which this constituent is placed. Pesetsky (2013, p. 89) defines the phase as follows:

(6)   DP undergoes Spell-out only after it is Vergnaud-licensed [case-marked, J.W.].

Pesetsky (2013, p. 89) allows for a delay in the application of Spell-out, which does not have to set in immediately, as soon as an appropriate configuration is formed. For instance, in the following construction involving a small clause, its DP-subject needs to wait to receive case for a quite few derivational steps:

(7)   *Ja   sčitaju   [[ètu   lampu]   krasivoj].*
         I   consider   this.F.ACC.SG lamp.ACC.SG beautiful.F.INSTR.SG
         'I consider this lamp beautiful.'

Definitions in (5)-(6) of the application of operation Spell-out which recognize its arbitrary point of execution are similar in spirit to the one in Svenonius (2004) and quite distinct from the rigid definition of the application of Spell-out in Chomsky (2000, 2001, 2008, 2013, 2014):[5]

(8)   A straightforward assumption is that a phase is spelled out when all uninterpretable features on its head are checked (Svenonius, 2004, p. 264).

In fact, Pesetsky's system must be even more liberal than (8), as here the transfer does not apply as soon as the case features are checked/valued, as case overwriting implies multiple case feature satisfaction. The transfer cannot apply either too soon or too late, as examples (9)-(10) show:

(9)   *o   pjati   xorošix   devuškax*
         about   five.LOC   good.LOC   girls.LOC

(10)   P-$_{obl}$ → [$_{DP\ obl}$ Q $_{obl}$ [$_{NP\ obl}$ AP $_{obl}$ [NP $_{obl}$]]]

In this construction both genitive on the NP-complement and the nominative on the DP are overwritten by an oblique case (here locative) despite the fact that these domains have already been licensed for case(s). If Spell-out were to apply to the NP or DP earlier, the oblique case could not spread over these domains. On the other hand Spell-out must apply relatively early in the case of adnominal genitive constructions:

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[5] The Phase-Impenetrability Condition: (i) The domain of H is not accessible to operations at ZP (with ZP the smallest strong phase), only H and its edge are accessible to such operations, (ii) [$_{ZP}$ Z…[$_{HP}$ α [H YP]]] with ZP and HP as strong phases (Chomsky, 2001, p. 14). Interpretation/evaluation of phase α takes place uniformly at the next higher phrase, i.e., Ph$_1$ is interpreted/evaluated at the next relevant phase Ph$_2$ (Chomsky, 2001, p. 13).

(11) [_PP_ k [_DP_ D [_NP_ *krasivomu*   *stolu*
            to   beautiful.M.DAT.SG table.M.DAT.SG
      [_DP_ *molodogo*   *aktëra*]]]]
           young.M.GEN.SG   actor.M.GEN.SG
      'to the young actor's beautiful table'

If it had not applied, the adnominal genitive should have been overwritten by the case signature of an external category the containing DP is merged with, contrary to fact.

I shall now touch upon two aspects of NPCT: one dealing with case overwriting and the other with the internal syntax of constructions showing Genitive of Quantification (GoQ). First, I present the view consistent with NPCT and next articulate a number of reservations, though without proposing any obvious and consistent alternatives.

3   Alleged overt case overwriting in Russian (Polish)

Both examples (3)-(4) and (9)-(11) show case overwriting, a phenomenon which constitutes one of the pillars of NPCT. As it is easy to guess if all languages involve intra-derivational case overwriting they must differ with respect to the spell-out of case suffixes stacked during the derivation. While some languages overtly show all the stacked suffixes (Lardil), others show only the outermost one (Russian). This spell-out optionality is captured by the following postulate:

(12)   The One-Suffix Rule: Delete all but the outermost case suffix.

Pesetsky (2013, pp. 111-113) provides a discussion of possible cases of overt examples of case overwriting in Russian, where the workings of the One Suffix Rule are apparently suspended:

(13)   a.   *tët-in-a*   *knig-a*
              aunt-suffix-F.NOM.SG book-NOM.SG
              'auntie's book'

        b.   *Tët-i*   *Maš-in-y*   *det-i*   *žili*
              aunt-GEN.SG   Masha-suffix-NOM.PL   child-NOM.PL lived
              družno.
              harmoniously
              'Aunt Masha's children lived harmoniously.'

The suffix *-in* (*-ow* with masculine family terms in Polish) appended to nominal stems is traditionally taken to be an adjectivizer. Now, Pesetsky proposes an alternative analysis, where *-in* is treated as genitive nominal morphology. From this point of view (13a-b) show Lardil-style case stacking. The second example is particularly telling, as it involves a complex phrasal 'adjectivized' possessor. These examples show that the outer case has a phrasal nature, as the inner genitive is not turned into nominative. However, the scope of this phenomenon is rather limited (in Russian and Upper Sorbian), as the author himself admits. The analysis of (13) with *-in* taken to function as an inflectional morpheme provides empirical support for NPCT.

Yet, a more traditional analysis is not undermined by (13), as the phrasal use of the adjectival possessive is very restricted and the adjectival possessive itself is no longer very much

productive, at least in closely related Polish, where the example below sounds quite archaic, rural or marked:

(14)   *Cioci-n-a*   *torba*   *spadła*   *ze*   *stołu*
       aunt.GEN-suffix-NOM   bag.F.NOM   fell.F.SG.   from   table
       'Aunt's bag fell of the table.'

The traditional analysis holds that *-n-* is (among others) an adjectivizer and attaches to the genitive form of the noun to turn it into an adjective (morphological derivation), which subsequently agrees in case with the noun when used attributively (morphological inflection):

(15)   a. $[cioci_{\text{GEN N}}] + \textit{-n-}_{\text{A}} \rightarrow [cioc\textit{-i-n}_{\text{A}}]$

       b. $[cioc\textit{-i-n}_{\text{A}}] + \textit{-a}_{\text{NOM}} \rightarrow [cioc\textit{-i-n-a}_{\text{A}}]_{\text{NOM}}$

Thus the form $[cioc\textit{-i-n-a}_{\text{A}}]_{\text{NOM}}$ in the traditional analysis is not a case stack but shows a single case suffix attached to a denominal adjective. The traditional analysis receives some support from the observation that *-n-* as an adjectivizer is also appended to verbs to turn them into adjectives/participles (cf. (16)). In fact, the *-n-* formative has a few applications, which are generally characterized as a marker of (sub)category change in derivational processes (cf. (17)):

(16)   *postawić*   *postawiony*
       stand.INF   stood.PRT
       kaleczyć   *kaleczony*
       hurt.INF   hurt.PRT
       czytać   *czytany*
       read.INF   read.PRT

(17)   *blady*   *blednąć*
       pale.ADJ   blanche.INF
       czarny   *czernić*
       black.ADJ   blacken.INF

Yet, the analysis of the *-(a)n-* morpheme in Pesetsky (2013) would rather treat it as an inflectional morpheme. I feel inclined to share the more traditional view of the function of the *e/a/i/n* formative, though the phrasal use thereof in Upper Sorbian is an interesting detail that favors the case stacking analysis. In conclusion, the more conservative morphological analysis of (13) and (14) does not require case stacking, as the nominative inflectional suffix is attached to an adjectival stem, which in turn, has previously attached to a (genitive) nominal stem during morphological derivation.

4   Genitive of Quantification

It must be admitted that the concept of case overwriting shown in (3)-(4) and (9)-(11) produces a very welcome consequence in the form of a relatively equal treatment of higher numerals. Descriptively speaking a key property of declension paradigms for these numerals is that they behave like adjectives in oblique case contexts and like nominals in structural case contexts (by forcing genitive on their NP complements, cf. Table 1). Consider the declension paradigm for low and high numerals in Polish and an exemplary structural representation from (Bošković, 2006, pp. 102f.) in (18) below:

Table 1: The declension paradigm for numerals in Polish

Case	Low numeral	High numeral
Nominative	*trzy tancerki* 'three dancers'	*pięć tancerek* 'five dancers'[6]
Genitive	*trzech tancerek*	*pięciu tancerek*
Dative	*trzem tancerkom*	*pięciu tancerkom*
Accusative	*trzy tancerki*	*pięć tancerek*
Instrumental	*trzema tancerkami*	*pięcioma tancerkami*
Locative	*trzech tancerkach*	*pięciu tancerkach*

(18)   a. $[_{FP} \; [_{F'} \; F \; [_{NP} \, AP \, [_{N'} \, NP]]]]$

   b. $[_{FP} \; QP \; [_{F'} \; F \; NP]]$

In the literature this dichotomy was typically captured via structural means, namely low numerals were conveniently treated as A(djectives) (cf. (18a)) and high numerals – as Q/N (cf. (18b)).[7] The dichotomy was, however, problematic for the minimalist taste, as it smacks of considerable 'look-ahead': the internal structure of the nominal projection (formed early on) matches the case it is about to receive later in the derivation. This issue becomes even more acute form the point of view of the run of the derivation in the current phase theory, where backtracking is strictly prohibited and label/structure changing in the middle of the derivation violates the No Tampering condition (cf. Chomsky, 2000, 2001; Stepanov, 2001, 2007). The overwriting option avoids this complication, as all higher numerals behave alike. In every derivation they pass through the stage of behaving like Q/N, receiving structural case (nominative from D under NPTC) and forcing genitive on the NP complement (leaving it in the primeval genitive in Pesetsky's terms) and then, potentially, have their case and the case of the NP complement overwritten by the subsequent feature assignment operation(s).[8]

The key strength of NPCT shows in the extensive discussion of the puzzling pattern of case marking showing in the nominal constructions with the paucal numerals and higher numerals (five and above). As Polish does not show the paucal, I shall concentrate on the Genitive of Quantification: the NP complement to the numeral in the structural case context appears in genitive plural, rather than the expected nominative/accusative. Here the procedure of case feature assignment is somewhat more complex, as initially D and NP merge but D bears a feature forcing the movement of Q_{QUANT} to re-merge with it. Thus Q_{QUANT} moves from within NP and merges with D to satisfy this requirement. This form of movement is called undermerge. So Q_{QUANT} merges with D and satisfies its complementation requirements on the strength of (2), which results in feature copying. The numeral receives nominative, the signature property of D, while the (former complement) NP remains in its primary case (genitive) because upon merger with D it did not satisfy the D's complementation requirements and so feature copying did not apply.

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[6] Higher numerals do not show nominative form in Polish, this function is taken over by accusative, the difference between the two is indicated by the form of the demonstrative pronoun.

[7] See Pesetsky (1982), Babby (1987), Franks (1994, 1995), Bosković (2006), etc. Bailyn (2004) is a notable exception, as here the higher numerals are uniformly treated as Qs, though they either occupy the head (oblique cases) or the specifier position (structural cases) of QP.

[8] A common element for all analyses of GoQ and paucals is that both N_{BR} *dva* 'two' and Q_{ANT} *pjat'* 'five' must be able to absorb case and thus satisfy some property of the case licenser. In minimalist terms they must be equipped with a full set of φ-features ([_person], [_number], [_gender]). There is little discussion of this point in Pesetsky (2013).

(19)   Q$_{ANT}$-to-D movement:[9]
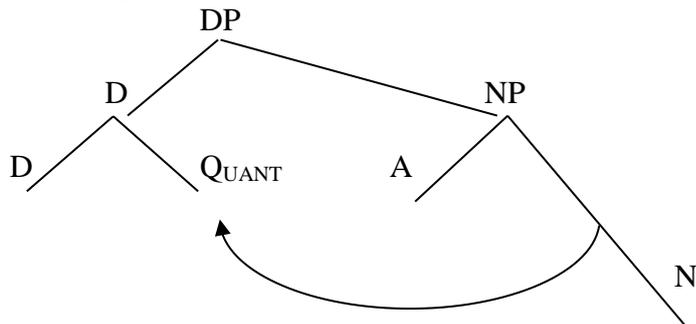
D selects for an NP complement but this does not satisfy its selection requirements (cf. (20a)) and it attracts a higher numeral (Q$_H$) to (under)merge with it (cf. (20b)):

(20)   a.   [$_{DP}$ D [$_{NP}$ A Q$_{UANT}$ N]]

        b.   [$_{DP}$ [$_D$ D Q$_{UANT}$] [$_{NP}$ A ~~Q$_{UANT}$~~ N]]

As a result, Feature Assignment affects Q$_{UANT}$ and returns nominative, as this is the 'decisive' complement, while the NP complement is left on its own in primary genitive.

It must be observed straight away that undermerge shows peculiar transfer-like consequences. The complex structure resulting from the movement of Q$_{UANT}$ to D poses the following question. A technical consequence of forming the complex object [$_D$ [D Q$_{UANT}$]] is to place the first-merged constituent (NP) in a limbo, out of the reach of Feature Application of D without spelling it out, though for all intents and purposes it is as if spelled-out and beyond the reach of D. But it is certainly not spelled-out in the standard sense, as ex. (3)-(4) and (9)-(11) above show; Feature Application from a source of an oblique case does indeed access both D and its NP-complement and overwrites the previous genitive case as oblique (here locative). We are then looking at a fairly uncommon syntactic context, where a given domain becomes opaque (island-like) with respect to a closer, more minimal Probe (NP is opaque to the complex [$_D$ D [$_{Quant}$ Q$_{UANT}$ N$_{BR}$]]) but opens up and becomes transparent to a more distant one (here P$_{OBL}$):

(21)   *o   pjati   xorošix   devuškax*
        about   five.LOC   good.LOC   girls.LOC

(22)   P-$_{obl}$ → [$_{DP\ obl}$ Q $_{obl}$ [$_{NP\ obl}$ AP $_{obl}$ [NP $_{obl}$]]]

Pesetsky observes that his proposal has the advantage of ultimately explaining the workings of the adnominal genitive. As NPs do naturally come with genitive and are born with it, there is no adnominal genitive to assign. It comes out naturally as a result of Feature Assignment in (2), as genitive should overwrite other cases visible on nominal complements (probably nominative if the complement is a DP and D = NOM).

However, there are bare nominal complements to nominals that do not appear in the expected genitive, though here it could be possible to devise a silent adnominal preposition:

(23)   a.   *zagrożenie   pożarem*
                  threat   fire.INST
                  'a threat of fire'

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[9] The structure in (19) is a justified simplification of the structure in Pesetsky (2013, p. 54) in the context of Polish, where the paucal does not exist.

b. *obrót   aktywami*
circulation assets.INST.PL
'a circulation of assets'

This preposition should, however, demarcate a spell-out domain, just like genitive-marked complements, which remain impervious to further applications of case overwriting; cf. Rozwadowska (1997):

(24) *o   obrocie   aktywami*
about circulation.LOC   assets.INST.PL
'about the circulation of assets'

The addition of the preposition to the syntactic object in (23b) causes the overwriting of the case of the head noun but does not affect the case of the complement, which, presumably, constitutes a separate Spell-out domain.

5   Concluding remarks

This is only a briefest of primers into the New Program for Case Theory. I believe that the general idea of case as a grammatical category signature and generalized case overwriting is captivating and set in a truly reductionist spirit. I have drawn the readers' attention to two aspects of the NPCT: the consequences of undermerge from the perspective of the Multiple Spell-out derivation and the morphological evidence for overt case overwriting. In the former case the following question emerges: how to keep a domain closed off to more local grammatical relations but let it open up to more distant ones. In concrete terms, in (20)-(21) the NP domain is beyond the reach of a local and minimally c-commanding D as the nominative case licensor but it finds itself in the domain of the more distant P as the source of the oblique case in (22). The other issue concerns overt evidence for case overwriting in Russian and Polish in adjectival possessive constructions. It crucially relies on the analysis of the *-a/in* morpheme as inflectional, though, at least in contemporary Polish, there is more evidence pointing towards its status as derivational. Following this thread of thought, one should treat the alleged case stack in (13) and (14)-(15) as a single case suffix appended to a derivational morpheme. Pesetsky's NPCT is a bold move ahead in the study of case; its programmatic nature implies that its straightforward application to many grammatical phenomena in Russian and closely related languages (e.g., Polish) still requires clarification and further advancement.[10]

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[10] For further empirical challenges facing Pesetsky's (2013) NPCT, see Witkoś and Dziubała-Szrejbrowska (2015, 2016).

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