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From morpheme to paradigm:

On Polish noun inflexion

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Introduction

The present paper deals with questions of comparative inflectional morphology and with case marking on nouns in particular. The focus will be on Polish – a language showing case forms that mix characteristic features partly from what has been called the fusional type of morphological formations, partly from the agglutinative type. As I shall argue in Sec. 1, below, this mixture provides a particular challenge for any approach that takes seriously the morphological forms (and their form-related properties) used in case marking. Sec. 2 starts from some well-known observations on case syncretism that turn out to be crucial for the analysis to be given. Sec. 3 provides a detailed analysis of a major part of the Polish declensional system. A synopsis of the complete inventory of regular case endings on Polish nouns is given in the Appendix.

1   Agglutination vs. inflexion

Case forms may be classified by two different types of criteria: functionally or formally (Comrie 1986).

- Functional classification means: Case forms are distinguished and are classified in terms of their syntactic potential of use as in traditional approaches.
- Formal classification means: case forms are distinguished and are classified in terms of the occurrence or non-occurrence of pertinent morphological markers (or ‚exponents').

In agglutinative systems, functional and formal classifications may largely coincide as may be exemplified from Turkish. By standard analyses, Turkish (cf. Table 1) possesses six cases.

	nom	acc	gen	dat	loc	abl
singular	*ev*	*evi*	*evin*	*eve*	*evde*	*evden*
plural	*evler*	*evleri*	*evlerin*	*evlere*	*evlerde*	*evlerden*

example: EV 'house'

Table 1. Case forms in Turkish

The nominative (of the singular) exhibits the bare base form (without any case ending); as for the remaining cases there are special endings each marking one and only one case. Depending on stem types, endings may show variants (primarily due to rules of vowel harmony) but variation is automatic and morphologically irrelevant. Otherwise, case suffixes

remain unaltered and apply to arbitrary nouns both in the singular and the plural. Thus, Turkish case suffixes conform to the expectations raised by a classical morphemic model: here inflection realizes the ideal of a 1-1-relation between form and function favored by so many a linguistic theory.

Fusional languages like Latin do not comply with this ideal (see Table 2 for paradigms of the Latin standard declensions).

	m./f.						n.
singular	nom	voc	acc	abl	dat	gen	nom/voc/acc
a-decl.	*capra*	*capra*	*capram*	*caprā*	*caprae*	*caprae*	-
o-decl.	*lupus*	*lupe*	*lupum*	*lupō*	*lupō*	*lupī*	*iugum*
i-decl.	*ignis*	*ignis*	*ignem*	*ignī*	*ignī*	*ignis*	*mare*
C-decl.	*rēx*	*rēx*	*rēgem*	*rēge*	*rēgī*	*rēgis*	*nōmen*
u-decl.	*ictus*	*ictus*	*ictum*	*ictū*	*ictuī*	*ictūs*	*genu*
e-decl.	*diēs*	*diēs*	*diem*	*diē*	*diei*	*diei*	-

	nom/voc	acc	abl/dat	gen	nom/voc/acc
plural	nom/voc	acc	abl/dat	gen	nom/voc/acc
a-decl.	*caprae*	*caprās*	*caprīs*	*caprārum*	-
o-decl.	*lupī*	*lupōs*	*lupīs*	*lupōrum*	*iuga*
i-decl.	*ignēs*	*ignīs*	*ignibus*	*ignium*	*maria*
C-decl.	*rēgēs*	*rēgēs*	*rēgibus*	*rēgum*	*nōmina*
u-decl.	*ictūs*	*ictūs*	*ictibus*	*ictuum*	*genua*
e-decl.	*diēs*	*diēs*	*diēbus*	*diērum*	-

examples: CAPRA 'goat', LUPUS 'wolf', IGNIS 'fire', REX 'king', ICTUS 'beat', DIES 'day';
IUGUM 'yoke, MARE 'sea', NOMEN 'name', GENU 'knee'

Table 2. A system of paradigms: Latin declension

Again, case marking is realized by adding endings to stems. However, division of stems and endings is not trivial and endings are bound to numbers. Different from Turkish, the relation between form and function is non-unique in both directions. E.g., there are five distinct endings available for the genitive singular. What is more, these endings cannot be regarded as mere variants of a common basic pattern on account of their patent formal dissimilarity. On the other hand, one and the same ending may appear in apparently unrelated paradigmatic positions. Consider -$\bar{\imath}$. Besides being used as a genitive singular ending it figures as an ablative ending and as a dative ending in the singular and, in addition, it takes over the

role of a nominative ending in the plural. Obviously, the morphemic model is not suited well for this situation.

Within the traditional word-and-paradigm model, there are two moves to be made in reaction. First, the inventory of noun lexemes is divided into classes of items which fit into a common pattern of building inflectional forms, called declensions (o-declension, a-declension etc.). For each declension a separate set of case endings is established. (Neuter nouns show additional characteristic deviations from the general sets of endings as the division into declensions cross-categorizes with the classification of gender).

The various sets of endings do not differ only with respect to the make-up of forms, that is, different paradigms diverge not only by employing distinct sets of endings. Rather they also exhibit different patterns of syncretism, available endings being distributed differently over the range of relevant syntactic functions. E.g., lexemes of the o-declension such as LUPUS show distinct forms in the nominative and the vocative, *lupus* and *lupe*, respectively. In the remaining declensions (and in the plural) this distinction is absent. But this is not an isolated example. In the plural, there are no distinct forms for ablative and dative. With neuters, nominative, vocative and accusative always coincide in the singular and in the plural as well. (The remaining forms of neuters follow the pattern of masculines. They have not been listed in Table 2 for this reason.)

From a syntactic point of view, this kind of variation may appear unfavorable. If maximally simple rules of agreement and government are desiderata, paradigms would be welcome that provide matching sets of case forms. Ideally, corresponding forms from different sets should coincide in their potential of use. For this to be achieved, if only in theory, all case distinctions that are formally made in some (sub-) paradigm are taken over to all of the (sub-) paradigms. This is the second move, crucial for the traditional model of description. Thus, as a matter of principle, formal differences in the structure of paradigms are made to disappear within the traditional functional approach of the word-and-paradigm model. While this contributes to the strength of the model, it constitutes a severe limitation of the model as well.

Differences between patterns of syncretism (or patterns of differentiation) might well be arbitrary from a synchronic point of view. Often enough, however, it appears they are not (and thus they should not be neglected in a systematic treatment). E.g., the luxury of allowing for specialized vocative forms seems to be particularly appropriate for the o-declension, that is, the declension that designations of (male) persons are preferably put into. The fact that

there are less case distinctions in the plural than in the singular obeys a widely observed pattern, too.

Turning to Polish, I shall consider first a representative set of singular paradigms of non-feminines, that is, of masculine and neuter nouns, as displayed in Table 3. For convenience, loanwords will be allowed as examples (but only lexemes that comply with Polish standard declensions as applicable to native nouns). The inventory of inflectional forms is assumed as given in Orzechowska (1999) and Swan (2002).

non-f.	nom	voc	acc	loc	dat	gen	ins
STUDENT, m.	-	*'-e*	*-a*	*'-e*	*-owi*	*-a*	*-em*
CUKIER, m.	-	*'-e*	-	*'-e*	*-owi*	*-u*	*-em*
BIOLOG, m.	-	*-u*	*-a*	*-u*	*-owi*	*-a*	*-em*
BANK, m.	-	*-u*	-	*-u*	*-owi*	*-u*	*-em*
BIURO, n.	*-o*	*-o*	*-o*	*'-e*	*-u*	*-a*	*-em*
TANGO, n.	*-o*	*-o*	*-o*	*-u*	*-u*	*-a*	*-em*
POLE, n.	*-e*	*-e*	*-e*	*-u*	*-u*	*-a*	*-em*

examples: STUDENT 'student', CUKIER 'sugar', BIOLOG 'biologist', BANK 'bank', BIURO 'office', TANGO 'tango', POLE 'field'. Note. In the singular, masculines of the type POETA (base form in *-a*) decline like the corresponding feminines.

Table 3. Polish nouns in the singular: masculines and neuters

On a general note, it may be observed that the structure of the nominal inflectional system of Polish taken as a whole resembles the Latin one, as might be expected. (There is one more case.) Again, case-number-marking is cumulative and realized by endings. Differences in formal differentiation, too, correspond by and large to those found in Latin.

Considering the form-function-relationship, we find non-unique relations in both directions. The ending *-u* provides the most noteworthy example. Within the seven exemplary paradigms shown in Table 3 this ending

- does not appear in the first paradigm.
- It appears in the genitive in the second paradigm,
- in the vocative and locative in the third paradigm,
- in the vocative, locative and genitive in the fourth paradigm,
- in the dative in the fifth paradigm,
- in the locative and dative in the sixth paradigm and in the seventh paradigm.

Again, this distribution, totally arbitrary as it seems, does not fit well into a morphemic model. No particular problems arise in a word-and-paradigm model on the Latin pattern: what one would need to do is establish seven declensions that differ with respect to the sets of endings employed.

However, it should be observed that just about all endings appear in more than one declension. As a limit, in a particular case (here: the instrumental) all non-feminine nouns may share a particular ending that is specific to this case, and similarly, in the feminine, which possesses its own invariant ending for the instrumental. Table 4 displays four major feminine paradigms; for the most part, feminine endings are different from non-feminine ones, but, among the four exemplary feminine singular declensions, endings differ only here and there, reappearing (with partly overlapping distributions) in distinct paradigms.

f.	nom	voc	acc	loc	dat	gen	ins
LAMPA, f.	*-a*	*-o*	*-ę*	*'-e*	*'-e*	*-i*	*-ą*
ZIEMIA, f.	*-a*	*-o*	*-ę*	*-i*	*-i*	*-i*	*-ą*
GOSPODYNI, f.	*-i*	*-i*	*-ę*	*-i*	*-i*	*-i*	*-ą*
NOC, f.	-	*-i*	-	*-i*	*-i*	*-i*	*-ą*

examples: LAMPA 'lamp', ZIEMIA 'land, earth', GOSPODYNI 'landlady, hostess, housewife', NOC 'night'

Table 4. Polish nouns in the singular: feminines

Table 5 presents a representative set of plural paradigms. In the plural, there is an invariant locative ending that is used in all regular paradigms; the same holds for the dative and the instrumental. Neglecting case-number-cumulation, these endings may be said to approach the Turkish pattern to a considerable degree: here, for one function (i.e. case-number combination) there is one and only one ending, which in its turn is restricted to just this function.

non-f./f.	nom/voc	acc	loc	dat	gen	ins
GENERAŁ, m.	-owie	-ów	-ach	-om	-ów	-ami
STUDENT, m.	'-i	-ów	-ach	-om	-ów	-ami
CUKIER, m.	-i	-i	-ach	-om	-ów	-ami
MYSZ, f.	-i	-i	-ach	-om	-i	-ami
LAMPA, f.	-i	-i	-ach	-om	-	-ami
PLAC, m.	-e	-e	-ach	-om	-ów	-ami
NOC, f.	-e	-e	-ach	-om	-i	-ami
ZIEMIA, f.	-e	-e	-ach	-om	-	-ami
MUZEUM, n.	-a	-a	-ach	-om	-ów	-ami
POPOŁUDNIE, n.	-a	-a	-ach	-om	-i	-ami
BIURO, n.	-a	-a	-ach	-om	-	-ami

examples: GENERAŁ 'general (military)', STUDENT 'student', CUKIER 'sugar', MYSZ 'mouse', LAMP 'lamp', PLAC '(town) square', NOC 'night', ZIEMIA 'land, earth', MUZEUM 'museum', POPOŁUDNIE 'afternoon', BIURO 'office'
Note. The ending -*i* appears orthographically as ⟨i⟩ or ⟨y⟩ (corresponding to allophonic variation).

Table 5. Polish nouns in the plural

Note that the existence of endings competing for the same case is not the only source for the multiplicity of paradigms. In Polish, the way endings are combined in paradigms contributes severely. In plural paradigms, there are instances of each and every combination of the three standard formations of the nominative/vocative/accusative, viz. in -*i*, -*e*, and -*a* (as opposed to the special personal masculine endings *'-i* and -*owie*) and of the three genitive formations (in -*ów*, in -*i*, endingless). Throughout, noun paradigms overlap massively: there are far reaching identities in the make-up of inflectional forms between different paradigms, and the relevant endings may be even identical from a functional point of view. Thus it is reconfirmed that, in this system, most individual endings are not tied to a particular declension or paradigm. In consequence, there are no 'sets of endings' competing *en bloc* with other sets of endings (as in Latin). To a degree, the very notion of declension is, then, undermined in such a system.

Instead of declension-specific sets of endings there are three subinventories that supply paradigms with endings, viz.:

- singular endings of non-feminines,
- singular endings of feminines,
- plural endings.

Paradigms are mainly distinguished by differences of choice between the items they select from these three subinventories.

In sum, what we encounter in Polish noun inflexion is neither a pure agglutinative system following the Turkish model nor a system of declensions according to the Latin pattern. Polish noun inflexion holds a middle position between morpheme-centered and paradigm-centered morphology.

2   Partial case marking and case syncretism

As in Latin, distinctions of case are sometimes marked on case forms in Polish, sometimes they are not. The distinction of nominative and accusative provides a case in point. In languages that have it, this distinction is, as a rule, not made formally explicit throughout (Blake 1994); in particular, more often than not, direct objects carry a pertinent morphological marking only under restricted conditions, a phenomenon termed partial case marking in Blake or differential object marking in Bossong (1985).

Even Turkish, in spite of its near to perfect 1-1-relation between form and function, exhibits such an asymmetry. Direct objects take the accusative only if a specific or definite reading is intended, as in (1); otherwise the nominative (or, more appropriately put, the unmarked base form) takes over as in (2) (for details see Lewis 1967: 35f, 248):

(1) *Evi aldım.* 'I bought the house.'
(2) *Ev aldım.* 'I bought a house.'

Similar procedures are adhered to in many languages. Markers show when there are direct objects to be distinguished that exhibit properties which may point to subjecthood otherwise. This is true in particular if reference is made to animate beings (persons, in particular) or if the intended reading is specific or definite. Apparently, with other nominals used as direct objects, formal markings are more readily dispensable: if they fill the object role, this agrees with expectations. In Latin, differential object marking separates genders. Neuter nouns never distinguish nominative and accusative, and, of course, neuters usually denote inanimates. As traditional grammars explain, a nominative-accusative distinction was not established in a class for which non-admittance of animate members was definitional.

It is true, the nominative-accusative distinction, if marked, is not immune to fall victim to phonological erosion. However, it has been observed that in such cases various compensating strategies of repair may take effect if the need arises. In Latin (Table 2), it is exactly in the (masculine) o-declension and, subsequently following suit, also in the a-declension that a coincidence of nominative and accusative plural (expected by sound laws) has been avoided;

the conspicuously deviant pattern of nominative formation (*lupī, caprae*) has been taken over from the pronominal declension (Brugmann 1904: 390 § 479).

When formal markers are introduced or reintroduced that help tell direct objects from subjects, a path frequently taken is the adoption of morphological markers that are already in use for marking of objects. After the break-up of the Latin case system, grammaticalized prepositions came into use as markers for syntactic relations. In Spanish, and similarly in other Romance languages, the preposition *a* serves as a marker for indirect objects whereas direct objects normally remain unmarked as in (3). However, in Spanish, this type of marking, which is primarily of a 'dative' nature, is also used to flag direct objects in case these serve for specific or definite reference to persons, as in (4) (for details see Hanssen 1910: 227).

(3) *Veo el libro.* 'I see the book.'

(4) *Veo a Juan.* 'I see Juan.'

Slavonic languages lost the nominative-accusative distinction within the major declension type of masculine nouns. As is well-known, the difference has been brought forward again, not throughout but, as might be expected, to varying degrees (for details see Laskowski 1986). First and foremost, the new accusative formations apply to animate beings. The path taken to reestablish the distinction resembles the one adopted in Spanish: the missing morphological marking of the accusative was taken over from another objective case, viz., in Slavonic, the genitive.

Polish nouns like DOM 'house' do not possess special forms for the accusative; as in the nominative, the base form applies, cf. (5i) vs. (5ii). However, with designations of animates it is the form otherwise used as genitive that applies in the accusative, cf. (6i) vs. (6ii).

(5) DOM 'house', nom. sg.: *dom*, gen. sg.: *domu*, acc. sg. = nom. sg.

  (i) *To jest ładny dom* [nom.]. 'That is a nice house.'

  (ii) *Mam ładny dom* [acc. (= nom.)]. 'I have a nice house.'

(6) SŁOŃ 'elephant', nom. sg.: *słoń*, gen. sg.: *słonia*, acc. sg. = gen. sg.

  (i) *Słoń* [nom.] *jest duży.* 'The elephant is big.'

  (ii) *Widzę dużego słonia* [acc. (= gen.)]. 'I see a big elephant.'

The rule of referral that holds for the accusative masculine is not restricted to nouns. With personal pronouns it even extends to inanimates. Agreeing items such as determiners and adjectives are subject to this rule as well. When used in construction with animate nouns, they change to the genitive form wherever an accusative is required, cf. *ładny* 'nice', nom., in (5i),

and *ładny*, acc. (= nom.) in (5ii), as opposed to *duży* 'big', nom., in (6i) vs. *dużego*, acc. (= gen.) in (6ii). With regard to this rule of agreement, a subclassification of the masculine gender into so-called subgenders, viz. inanimate masculines ('m. inan.') and animate masculines ('m. anim.'), has to be established in Polish (Meillet 1919: 208, "sous-genre"; Hjelmslev 1956). These subgenders are true grammatical categories; their extension does not coincide exactly with the corresponding semantic classes that lend them their names. What is, in semantic terms, inanimate may well fall into the class of animate masculine nouns grammatically.

The overall gender system of Polish may be set up as in Table 6.
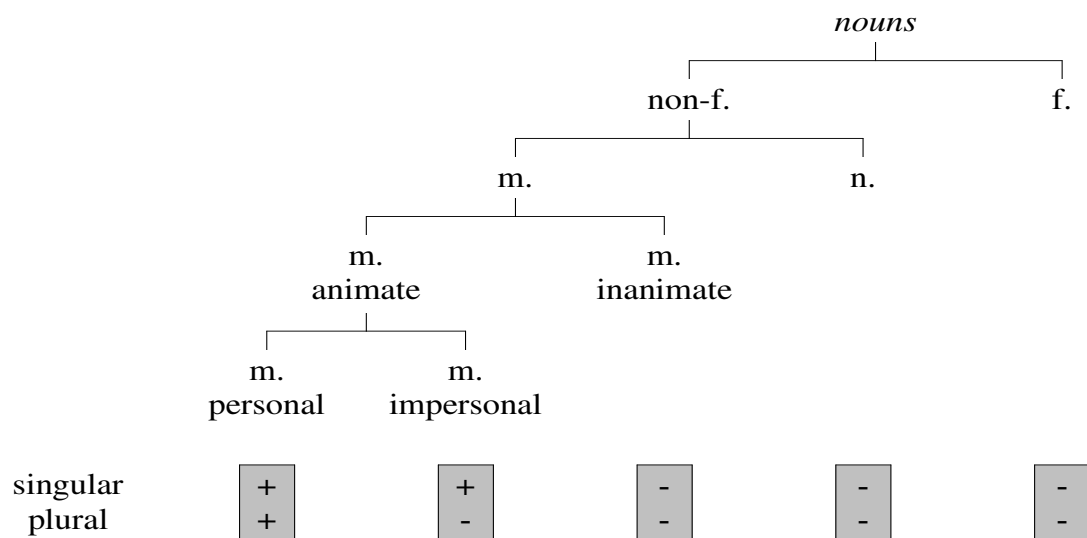
Accusative-genitive-rule for nouns: + (applicable), – (non-applicable)

Table 6. Polish system of genders

A primary classification takes care of the distinction between non-feminine nouns and feminine nouns. The former class subdivides into two, masculine and neuter. Among masculines there are animates and inanimates (masculina animata et inanimata). Finally, for Polish, a further subdivision is needed that distinguishes two subclasses of animate masculines: personal, viz. designations of male persons, and impersonal (masculina personalia et impersonalia). This further subclassification is needed since it is only in the singular that the rule of referral for the accusative-genitive holds for all of the animate masculines whereas in the plural it is restricted to personal masculines.

It is worth repeating that the Polish (and Slavonic) rule of accusative-genitive referral does not present us with a case of a locally restricted adoption of markers (as exemplified by the special nominative plural formations in Latin referred to above). Rather, it applies to pronouns, numerals, adjectives and nouns in both singular and plural, which may exhibit quite different morphological material. Whatever the relevant genitive form may look like and however it may be formed, it is taken over into the accusative if the conditions for rule application are fulfilled.

3   Functions of Polish case endings

By the above considerations, the coincidence of nominative, vocative and accusative forms of the neuter in Polish (and related languages) would not appear to be due to 'arbitrary' homonymy. Assume, then, that what we are dealing with in such cases are in fact unitary forms, not sets of homonyms. If so, what should a proper treatment of such forms look like?

From a morphological point of view, case systems may be regarded as systems of classifications of forms of words. Polish has seven cases, thus, seven classes of case forms. On a most simple (and traditional) approach these classes would be given by a single classification on the basic set, i.e., by a 'flat' classification system. However, Trubetzkoy (1934), for one, looking at Russian, set up a hierarchical system that starts from a primary division into two superordinate categories that he termed direct and oblique. Within these superordinate categories, tradition's cases are identified as subcategories. Trubetzkoy's proposal may be adapted for Polish as shown in Table 7.

					case forms			
		direct				oblique		
n.	nom	voc	acc	loc	dat	gen	ins
BIURO, n.	-o	-o	-o	'-e	-u	-a	-em
TANGO, n.	-o	-o	-o	-u	-u	-a	-em
POLE, n.	-e	-e	-e	-u	-u	-a	-em

Table 7. Hierarchical case system

Trubetzkoy points to the fact that, in Russian, the most simple, if anomalous, paradigms of words that have more than one form possess two forms, in fact, a direct one and an oblique

one, as found with numerals (CTO '100', COPOK '40'). Moreover, in the feminine, standard pronominal and adjectival paradigms include unitary forms covering exactly the set of oblique cases as defined (e.g., *ètoj* of ÈTOT 'this'). If we assume such a hierarchical case system, the nominative/vocative/accusative-forms of neuters referred to above may be classified plainly as direct case forms, and they may thus be given non-ambiguous characterizations.

Of course, the primary division proposed stands in need of further justification, which is beyond the present paper. But certainly it does play a major role in a multitude of languages as may be gathered from the literature, and it fits into a general typology of syncretisms that has been elaborated in Baerman/Brown/Corbett (2005) and related publications on the basis of a representative sample of languages. As for Slavonic grammars, it is well established. Moreover, there is good reason for replacing the two-tiered classification system shown in Table 7 by a multiply-tiered system in the final analysis (cf. Appendix, Table 10).

One might doubt if there is much to be gained from such an analysis as regards the syncretism found with neuters. The return to be gained becomes more apparent if we turn to the oblique domain. Consider once more the endings of oblique cases in the singular of non-feminines. In Polish, there are five of them (see Table 8).

	case forms						
	direct *base form*			**oblique** ***-u***			
non-f.	nom	voc	acc	loc **'-e**	dat ***-owi*** *n.	gen ***-a*** *m. inan.	ins ***-em***
m. anim., f.h.	*student*			'-e	-owi	-a	-em
m. inan., f.h.	*cukier*			'-e	-owi	-u	-em
m. anim., f.h., vel.	*biolog*			-u	-owi	-a	-em
m. inan., f.h., vel.	*bank*			-u	-owi	-u	-em
n., f.h.	*biuro*			'-e	-u	-a	-em
n., f.h., vel.	*tango*			-u	-u	-a	-em
n., f.s.	*pole*			-u	-u	-a	-em
m. inan., f.h., -a	*nos*			'-e	-owi	-a	-em
m. inan., f.s., -a	*grosz*			-u	-owi	-a	-em
m. anim., f.h., *-owi	*kot*			'-e	-u	-a	-em
m. inan., f.h., -a, *-owi	*świat*			'-e	-u	-a	-em

noun classes:
f.h.: functionally hard-stem noun,
f.s.: functionally soft-stem noun,
vel.: velar-stem noun

conditions of application for endings:
*n.: not applicable to neuters,
*m. inan.: not applicable to inanimate masculines

Table 8. Polish: endings of oblique cases of the non-feminine singular

Each of these endings is associated to a particular case except for the ending *-u* that exhibits a seemingly arbitrary distribution. The ending *'-e* appears in the locative, *-owi* in the dative, *-a* in the genitive, and *-em* is an instrumental ending. It may be said that these endings specialize in a single case each. The ending *-u* appears in various oblique cases. In consequence, *-u* may simply be characterized as an unspecific (plain) oblique ending. This can be done if the superordinate category *oblique* has been made available. Characterizing *-u* as a plain oblique ending, we have already in hands the key to its distribution. Given this characterization it is to be expected that *-u* appears whenever application of any more specialized endings is prevented for one reason or another. Let me go over the examples in Table 8:

- STUDENT 'student' is an animate masculine hard-stem noun. With nouns of this type, we encounter what may be addressed as maximally developed paradigms. As a matter of

fact, all of the four specialized oblique endings are present. Thus, the ending *-u* does not get a chance to apply.

- The next example (CUKIER 'sugar') presents a noun that does not accept the genitive ending *-a*. As a rule, animate masculines take this ending while inanimate masculines do not. To account for this observation a special condition of application may be assumed: the ending *-a* is not applicable with nouns of the subgender of inanimate masculines. This is indicated in Table 8 by appending the subscript '*m. inan.' to the name of the ending. (There are exceptions to which I return.) CUKIER 'sugar', being inanimate, does not accept the ending *-a*. As predicted the plain oblique ending *-u* stands in.

- The next example (BIOLOG 'biologist') presents a noun that does not accept the locative ending *'-e*. The locative ending *'-e* always implies a stem alternation known as softening. As usual this is indicated by putting a prime-sign (figuring as a 'soft sign' here) before the name of the ending. Now, only a subset of noun stems allow for such an alternation. Soft-stem nouns in particular do not allow softening. In the locative, stems with velar offset, too, rule out softening. In short, the locative ending *'-e* requires softening to apply but the example noun BIOLOG is one that cannot undergo softening before *'-e* (as its stem ends in a velar). Again, the plain oblique ending *-u* stands in.

- According to the rules discussed, the next example noun (BANK 'bank') does not accept either the locative ending *'-e* or the genitive ending *-a*. Hence, in both positions it is *-u* that appears.

- The dative ending *-owi*, too, has a special condition of application. This ending is not used with neuters (as indicated by the subscript '*n.' in Table 8). The example noun BIURO 'office', which is neuter, exhibits, therefore, in the dative the plain oblique ending *-u*.

- The next two examples (TANGO 'tango', POLE 'field') present neuter nouns that possess a functionally soft stem and a velar stem, respectively. Aside from rejecting *-owi* (as do all neuters), they cannot add the ending *'-e* either (on account of their respective stem class membership). Thus, two of the oblique cases show the plain oblique ending *-u*.

A few outliers deserve mention.

- The condition of application associated with the genitive ending *-a*, viz. '*m. inan.*', may be violated with nouns from special groups (nomina instrumenti, designations of body parts and others) as, e.g., NOS 'nose'. Against the rule, such nouns may accept the ending *-a*. For this reason, they have to be lexically marked (this is indicated in Table 8 by adding '-a' to the specification of the noun class). Significantly, there are considerable fluctuations to be found in this domain. The noun GROSZ 'penny' is another example in point but it does not take the locative ending *'-e* as its stem is functionally soft.

- The condition of application associated with the dative ending *-owi* is rarely violated. However, a few nouns such as the masculine KOT 'cat' that should have it drop this ending and, for this reason, have to be lexically marked (this is indicated in Table 8 by adding '*-owi' to the specification of the noun class). Once more, the ending *-u* stands in.

- The last example in Table 8 presents an isolated case (ŚWIAT 'world'), namely an inanimate masculine that does not accept the dative ending *-owi* but does add the genitive ending *-a*. It has to be treated as doubly marked in the lexicon.

There are some more isolated cases and small groups; e.g., SYN 'son' is a hard-stem noun that lacks the locative ending *'-e*; here again, *-u* stands in.

Returning to the non-oblique cases (of the singular of non-feminines, Table 3), it may be observed: As a rule, base forms of masculines are endingless, base forms of functionally hard-stem neuters show the ending *-o*, and base forms of functionally soft-stem neuters show the ending *-e*. As will be seen, in regular non-feminine paradigms there are no endings specializing in particular non-oblique cases. As discussed with reference to neuter nouns, base forms figure as unspecific (plain) non-oblique forms. They apply in all of the three relevant cases unless special regularities intervene (as is the case with masculines only).

Most importantly, this concerns the rule of referral for accusatives that are substituted by genitive forms as discussed in Sec. 2, above. As a somewhat more parochial feature of Polish, with masculines, the remaining non-oblique case, i.e., the vocative, coincides with an oblique case, too, viz. the locative (apart from a few exceptions). These regularities may be taken care of by setting up equations (between sets of forms) as given in Table 9 (as 'voc = loc' and 'acc = gen') together with their relevant conditions of application (noted as 'm.', i.e., applies to masculines, and as 'm. anim.', i.e., applies to animate masculine). Applying these rules of referral, we complete the derivation of case forms in the non-feminine singular. Remaining

free positions (marked as '---' in Table 9) are filled by unaltered base forms, of course. As may be read off Table 9, the distribution of endings is fully predictable given the specifications associated to the endings (including conditions of application), the classification of stems (including lexical markings where necessary, i.e., where needed to deal with exceptional cases) and the rules of referral (including their conditions of application).

		case forms					
		direct *base form*			oblique **-u**		
non-f.	nom	voc **= loc** *m.*	acc **= gen** *m. anim.*	loc **'-e**	dat **-owi** **n.*	gen **-a** **m. inan.*	ins **-em**
m. anim., f.h.	*student*	'-e	-a	'-e	-owi	-a	-em
m. inan., f.h.	*cukier*	'-e	---	'-e	-owi	-u	-em
m. anim., f.h., vel.	*biolog*	-u	-a	-u	-owi	-a	-em
m. inan., f.h., vel.	*bank*	-u	---	-u	-owi	-u	-em
n., f.h.	*biuro*	---	---	'-e	-u	-a	-em
n., f.h., vel.	*tango*	---	---	-u	-u	-a	-em
n., f.s.	*pole*	---	---	-u	-u	-a	-em
m. inan., f.h., -a	*nos*	'-e	---	'-e	-owi	-a	-em
m. inan., f.s., -a	*grosz*	-u	---	-u	-owi	-a	-em
m. anim., f.h., *-owi	*kot*	'-e	-a	'-e	-u	-a	-em
m. inan., f.h., -a, *-owi	*świat*	'-e	---	'-e	-u	-a	-em

conditions of application for rules of referral:
m.: applicable to masculines only; m. anim.: applicable to animate masculines only

Table 9. Polish: endings of non-oblique cases in the non-feminine singular

Summing up, non-oblique cases of masculine and neuter nouns show base forms unless rules of referral take effect substituting forms of oblique cases. In the oblique cases, there are five case endings. All non-feminines accept the instrumental ending *-em*. The genitive ending *-a* and the dative ending *-owi* are subject to special conditions of application stated in terms of gender or subgender. The locative case ending *'-e* may be applicable or not depending on phonological features of stems. Finally, the plain oblique ending *-u* stands in whenever specialized case endings fail to apply.

Remarkably, case specifications of endings hold for all non-feminine paradigms, including even irregular ones that drop or add particular endings against the general rules. As

exemplified, there are various irregular paradigms that differ only in the set of endings they select from the general inventory – just as regular ones do. Differences in selection do not affect the functions of endings: their values specified in terms of case marking are invariable across paradigms.

As an extension of the above analysis, possible functional motivations underlying conditions of application may be examined:

- As dative is a case especially used in reference to persons, it should not come as a surprise that the the special dative marker (*-owi*) is not used in the neuter, i.e., the inanimate gender *par excellence*.

- The fact that, in masculines, Polish distinguishes between forms in *-a* (used for all animate masculines) and in *-u* (used as a standard for inanimate masculines) in the genitive corresponds, though lexically fixed, to the related distinction between genitive I ('general genitive') and genitive II ('partitive genitive') in Russian (and in other languages that show comparable cases of genitive-partitive distinctions).

A full discussion of the overall inventory of Polish case endings cannot be given here, for reasons of space. A synopsis is provided in the Appendix, Sec. 4.2. Not counting base forms, we arrive at a total of ten singular endings, five feminine ones and five non-feminine ones. In addition, there is about the same number of plural endings, which are mostly indifferent with respect to gender. This rather manageable inventory is supplemented by two rules of referral for the vocative and the accusative. As a result, given the base forms of nouns and their characteristic properties, the distribution of forms over paradigms is derivable on the basis of the specifications that are associated with the endings (including conditions of application).

Conclusion

Sometimes, reference grammars seem to have been inclined to treat the various Polish noun declensions as monolithic blocks that may, at best, be fitted into a more or less well arranged taxonomy. However, if an analysis is pursued that focuses on the functions of endings examined one by one, the seemingly arbitrary multiplicity of declension gives way to a confined inventory of markers that follow comparably simple and traceable rules of distribution.

As has been pointed out, distinct paradigms often differ in only a small number of places or even in one position only, e.g., in the locative singular (as do BIURO and TANGO). Such massive interparadigmatic identities must not be ignored, nor may be cases of systematic

syncretism. In agglutinative morphology (as in Turkish) each ending is associated with a functional specification 'on a standalone basis'. On the other hand, by the system of declensions of traditional Latin grammar, endings are tied to paradigms outside of which they do not have, as it were, a life of their own. Polish exemplifies a state of affairs that is located between such extremes. A number of case endings are specialized markers for one and only one case, and they cross paradigms. But in contradistinction to Turkish there are other case endings (such as *-u*) that by themselves are not sufficient to determine what a case a word form so marked belongs to, cf., e.g., *cukru* (of CUKIER), which 'is' genitive, and *biuru* (of BIURO), which 'is' dative. In order to establish the functions a form can have, the competition between forms, hence the interplay between forms in paradigms, has to be taken into account, exhibiting as it does how morphemic and paradigmatic effects mesh seamlessly.

4   Appendix

4.1   Hierarchical classification

Table 10 shows a multiply-tiered system of classifications that may be proposed for Polish; for justification cf. Wiese (2004: 350 et passim) on case in Russian.
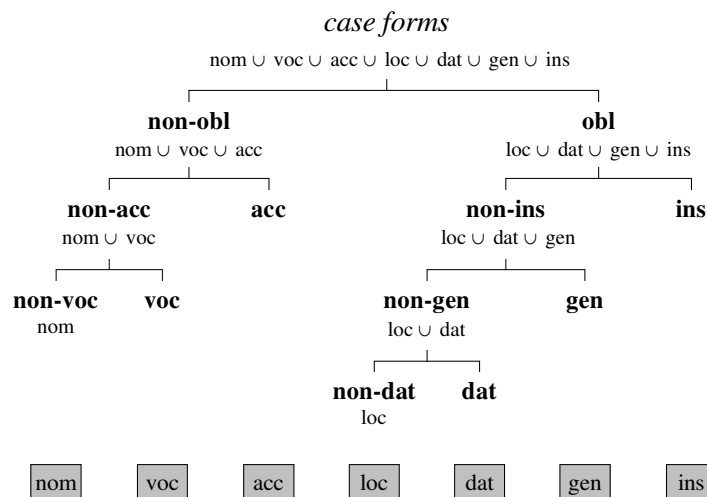

Table 10. Case in Polish: a multiply-tiered case system

4.2   Inventory of Polish noun endings

Table 11 displays the overall inventory of case endings employed in regular inflexion of nouns in contemporary standard Polish including conditions of application associated with endings (cf. the legend of the Table.) Masculines of the type POETA (with base forms in *-a*)

decline in the singular like the corresponding feminines. Adjectival inflexion, minor groups and irregularities as well as particularities of proper names and family names are not taken into account.

	singular			pl.
	non-f.		f.	
	m.	n.		
non-obl. (base forms)	-#	-e | -o f.s. | (elsewh.)	-a | -i | -#	-a | -owie | -e | '-i | -i n. | m. hon. | f.s. | m. pers. | (elsewh.)
voc.	=loc. base: -#	____	-o | =loc. base: -a | base: -#	____
acc.	=gen. m. anim.	____	-ę base: -V	=gen. m. pers.
obl. (plain oblique forms)	-u		-i	-ach
dat.	-owi *n.		____	-om
gen.	-a *m. inan.		____	-i | -ów | -# f.s., base: -# | m. | (elsewh.)
ins.	-em		-ą	-ami
non-gen. = loc. ∪ dat.	____		'-e	
non-dat. = loc.	'-e *vel.		____	

-# (endingless); base: -# (endingless base form); base: -V (base form with vocalic ending);
base: -a (base form with ending -a); 'm. hon.': animate masculine honorifics;
'-e , '-i (ending requires stem alternation, viz. softening).
For the categories *non-gen. (non-genetive)* and *non-dat. (non-dative)* see Table 10;
see also legends to Table 8 and Table 9, and cf. Wiese (2004).

„|" ('otherwise') indicates a distinction of cases, e.g., in the gen.pl.:

-i | -ów | -# f.s., base: -# | m. | (elsewh.)	read:	• functionally soft-stem nouns with endingless base form add *-i*, • otherwise: masculines add *-ów*, • otherwise: no ending is added.

Table 11. Synopsis of Polish regular case endings on nouns

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