

(A whirlwind tour of) Polish declension

Basic facts

Polish nouns decline for case (nom., gen., dat., acc., ins., loc., voc.) and number (sg. and pl.).

Declension is conditioned by gender (masc., fem., neut.) and in masculines, animacy (inan., anim., and hum., the latter also known as *virile* in the literature).

Feminines (1/)

Most feminines have a nom.sg. in *-a* and a gen.sg. in *-i* [i] or *-y* [i]; e.g., *mapa* 'map':

	sg.	pl.
nom.	map a	map y
gen.	map y	map
dat.	map ie	map om
acc.	map ę	map y
ins.	map ą	map ami
loc.	map ie	map ach
voc.	map o	map y

Nom.sg. *-a* is likely an affix, not part of the stem (cf. the gen.pl.).

Feminines (2/)

The gen.sg. suffixes *-i* and *-y* are in complementary distribution, thus it is generally believed that *-i* is a phonologically-conditioned allomorph of /i/.

"Soft stems", those that end with /l/ or a [+palatal] consonant, take *-i*. E.g.:

bil**a**-bil**i** 'billiard ball'

mrówk**a**-mrówk**i** 'ant'

mośc**ć**-mośc**i** 'majesty (term of address)'

Neuters

Most neuters end have a nom.sg. in -o [ɔ] and a gen.sg. in -a; e.g., *piwo* 'beer':

	sg.	pl.
nom.	piwo	piwa
gen.	piwa	piw
dat.	piwu	piwom
acc.	piwo	piwa
ins.	piwem	piwami
loc.	piwie	piwach
voc.	piwo	piwa

Nom.sg. -o is likely an affix, not part of the stem (cf. the gen.pl.).

Masculine animates

Most masculine animates (including "viriles") have a null nom.sg. and a gen.sg. in *-a*, e.g. *rolnik* 'farmer':

	sg.	pl.
nom.	rolnik	rolnicy
gen.	rolnika	rolników
dat.	rolnikowi	rolnikom
acc.	rolnika	rolników
ins.	rolnikiem	rolnikami
loc.	rolniku	rolnikach
voc.	rolniku	rolnicy

Masculine inanimates

Most masculine inanimates have a null nom.sg. and a gen.sg. in either *-a* or *-u*, e.g., *stoik* 'jar':

	sg.	pl.
nom.	stoik	stoiki
gen.	stoika	stoikó w
dat.	stoik owi	stoik om
acc.	stoik	stoiki
ins.	stoik iem	stoik ami
loc.	stoik u	stoik ach
voc.	stoik u	stoiki

Dąbrowska (2001:558)

Which of these two endings a particular noun takes is largely arbitrary, although there are some broad regularities. For example, most nouns which designate tools and body parts, the names of the months, and native place names require the *-a* ending. In contrast, abstract nouns, collective nouns, and mass nouns usually take *-u*, as do most borrowings and most foreign place names. Certain derivational affixes favour one or the other inflection: for example, nouns that end in *-ak* and *-nik* and most diminutives ending in *-ek*, *-ik*, and *-yk* take *-a* (but nouns ending in *-unek* take *-u*). Phonological criteria also play a role (nouns that end in a palatalised consonant nearly always take *-a*). However, there are many exceptions to these tendencies, and some of them are contradictory (see Kottum, 1981).

Gorman & Yang (2019:184)

In Polish, masculine nouns in the genitive singular (gen.sg.) either take the *-a* or *-u* suffix, but Dąbrowska (2001) shows that neither is the default according to conventional criteria (Marcus [et al. --kbg] 1995). For instance, unlike the English past tense *-d*, which is always extended to novel verbs (e.g., *googled*), some novel Polish masculine nouns take *-a* whereas others take *-u*. The distribution of these two suffixes is widely studied but has consistently defied philologists' attempts to provide a systematic classification; the choice appears to be largely arbitrary (Maunsch 2003). [...] which suffixes a noun selects must be learned by rote, a process which continues well into the teenage years (Dąbrowska 2001, 2005).

What's going on here?

Consider the paradigm of the masculine inanimate *ocet* 'vinegar':

	sg.	pl.
nom.	oc et	octy
gen.	octa	octów
dat.	octu	octom
acc.	oc et	octy
ins.	octe	octami
loc.	octu	octach
voc.	octem	octy

Meet the yers

In Common Slavic a sound change known as Havlík's law led to the reduction, and ultimately, loss, of alternating high vowels called *yers* (or *jers*). Lightner (1965) discovered that a form of this rule is present in the synchronic grammars of many modern Slavic languages.

In Polish, nearly all fleeting vowels are *ie/e*. There are three words with a fleeting *io* (*kociot-kotła* 'cauldron', *osiot-osła* 'donkey', *koziot-kozła* 'goat'), and Rubach (2013:1140, fn. 4) argues these too should be counted among the yers.

Yers in Polish

It is believed to be impossible to predict, from the shape of a stem,

- whether or not a given *ie/e* in a Polish stem will delete (i.e., is a yer), or
- where or whether to "insert" a yer.

Gussman (1980) and Rubach (1984) propose that the Polish yers are underlyingly present but featurally distinct from non-yer mid-vowels; e.g., the underlying form of 'vinegar' might be written /ɔfʲsʲEt/ where /E/ is an underspecified vowel of some sort.

What's going on here?

Many Polish nouns feature an alternation in which o [ɔ] becomes ó [u] when it is immediately before a word-final voiced consonant; e.g., *stół* 'table':

	sg.	pl.
nom.	stół	stoły
gen.	stołu	stołów
dat.	stołowi	stołom
acc.	stół	stoły
ins.	stołem	stołami
loc.	stołe	stołach
voc.	stołe	stoły

o-raising in Polish

Historically, the "raised" ó is the result of compensatory lengthening followed by allophonic raising of the long vowel. When Polish lost contrastive vowel lengthening in the early 16th century, the lengthened o merged with /u/.

However, Buckley (2001) shows that there are a large number of exceptions and argues that the generalization has been fully lexicalized.

He proposes that the vowel alternating between o and ó be phonologized as an underspecified /O/, thus /stOw/ 'table'.

Consequences for morphological generation

Gorman et al. (2019) and Gorman (2020) find that

- masculine inanimate gen.sg. suffixes and
- yers

account for a large percentage of the errors made by neural morphological generation systems.

(Unfortunately, I haven't looked for o-raising errors yet.)

Why this is difficult

The yer and o-raising patterns are not something we should expect to be able to predict from the citation form alone. In this way, the HW3 task (and others like it) could be said to be ill-posed.

Of course, the language faculty did not evolve so that the citation form of a stem is predictable of its full paradigm.

The mere notion of *principal parts* in language pedagogy suggests that any one inflectional form will be insufficient to predict full inflectional paradigms.

Future work

- "Tolerance"/productivity analyses of various phenomena in Polish
- "Unnamed morphological abstractness project"

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