

Gender and Analogical Extension: From Animacy to Borrowings in Polish

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1. Introduction¹

Contact between Poland and the United States has increased dramatically in the last two decades since the fall of the Soviet Union. The upsurge of American cultural and technological goods entering the Polish culture has impacted many areas of everyday life, including the language, which is now peppered with Americanisms – to the joy of some and displeasure of others. This paper examines whether this increase in the frequency of English loanwords in Polish speech has had an effect on how these lexical items are treated by the grammar. The main topic of discussion is noun borrowings, which must be assigned one of three grammatical genders in Polish, and particular attention is given to the distinction between animate and inanimate masculine nouns, which are treated differently from each other in the accusative singular. Evidence suggests that this distinction may no longer apply to English loanwords, which is a notable diachronic change in the inflectional morphology applied to these borrowings.

2. Background

Unlike English, which has no grammatical gender, the Polish language has three grammatical genders: masculine, feminine, and neuter. While each of these categories includes lexical items of various phonological shapes, this paper will rely on knowledge of only the most common ones: Most feminine nouns end in *-a*, most neuter nouns end in *-o*, and masculine nouns have most other endings.

A further division occurs in the masculine gender, in which the declensional paradigm is slightly different for inanimate nouns than for animate nouns (see

1 A special thank you to John McWhorter and Alan Timberlake for their inspiration and help in the initial stages of my project. Thank you as well to the audiences at The Polinsky Language Sciences Lab and at the 8th Annual Slavic Linguistics Society conference for their questions and feedback.

Table 1)². This difference lies in the accusative singular, which for inanimate nouns is the null morpheme, and for animate nouns is the morpheme *-a*.

Table 1

	Animate – cat	Inanimate – castle
nom	Kot	Gród
gen	Kota	Grodu
dat	Kotu	Grodowi
ac c	Kota	Gród
inst	Kotem	Grodem
lo c	Kocie	Grodzie
vo c	Kocie	Grodzie

The split between nouns patterning with or treated as animates is in reality not so clear cut. There are many nouns in Polish that, though inanimate, take the animate accusative *-a*. There is a long tradition of analyzing the inflection in these cases not as the accusative but as the partitive genitive. Most recently Sadowska (2012) includes this analysis in her grammar of the Polish language, stating the partitive genitive is used in the case of “many semantically inanimate nouns [...], particularly, drinks, vehicles, currencies, dances, tobacco and technology products”. (Sadowska 2012: 128) While this paper does not aim to enter into the debate over whether or not this analysis is correct (see Berndt (2009) for recent argumentation against the partitive genitive analysis), we will consider it again in a later discussion.

English loanwords entering into the Polish language must be assigned one of the three grammatical genders, and if they are assigned masculine, we must consider which subcategory of masculine nouns (animate or inanimate) they pattern with. Polish is not unique in that it has to assign gender to loanwords, and much work has been done on the subject in other languages, but Polish has not yet been adequately tackled. Baran (2003) conducted a study on English borrowings in Polish, in which she concluded that the gender assigned to English loanwords “results from a tension between (i) the gender of the Polish equivalent or near-equivalent and (ii) the phonological shape of the word, i.e. what genders are allowed by Polish morphophonotactics.” (Baran 2003: 15). However, the subjects

2 A distinction is also made in the masculine plural between animate human nouns and animate non-human nouns, but this matter will not be discussed here.

of Baran's study were seven bilingual speakers of Polish and English who had not lived in Poland since their mid-teens (Baran 2003: 18). While Baran maintains that Polish remains the dominant L1 of these speakers, it is possible that her subjects may still behave differently than native Polish speakers who have lived in Poland their entire lives and who are not proficient in English. A detailed and up-to-date analysis of how modern monolingual Polish speakers treat English loanwords with regard to gender and especially animacy has, to the knowledge of the author, not been attempted.

3. Experiment 1

The goal of this study is to examine gender assignment to loanwords in native Polish speech. Baran conducted a similar study, but tested subjects who were living outside of Poland and were bilingual in Polish and English – what could be considered code-switching rather than the integration of borrowings into a dominant L1. The present study makes predictions based on Baran's results and tests them on non-bilingual Polish speakers, examining whether the same tension between underlying equivalent and phonological shape that Baran reports applies, or whether different forces are at play. It also gathers information about the status of the animacy split in the masculine gender for loanwords, and sets the scene for Experiment 2, which deals with this matter more directly.

3.1. Participants

Forty-five native speakers of Polish participated in the study, recruited through various online sources, including personal correspondence. Because the present study aims to explore gender assignment among more typical speakers of Polish, who do not, on average, have a fluent knowledge of English, the requirements for participation are slightly different than those of Baran: Here, participants were required to either (i) have lived and worked in Poland for their entire lives or (ii), if they were over 50 and lived outside of Poland, to have left Poland in their late twenties and still speak Polish more frequently than English. Because second language education of English is common in Poland, respondents were assumed to have a school-level knowledge of English, but not to be proficient in the language.

3.2. Stimuli

The study tested twenty-five English words, listed in Table 2. Group 1 consisted of words commonly borrowed by native Polish speakers in casual speech. This

group is a control group, for which we can observe the assigned gender, but recognize that due to the frequency of its use the gender may be part of a social convention, so speakers are accessing pre-existing lexical entries for these nouns when using them. In order to test real-time computation of gender, during which speakers do not have access to a lexical entry and must assign gender based on some rule of the grammar, the larger Group 2 consisted of words borrowed infrequently, if at all by native Polish speakers.

Table 2³

Group 1	Youtube, email, sms, spam, Windows, fast food, Facebook, Google, photo, Honda
Group 2	chat, message*, kiss, nuggets, text (short for text message), voicemail*, party*, cell phone*, tuxedo, burrito
Group 3	Lady Gaga, Adele, James Bond, Rihanna, Palo Alto

The stimuli marked with an asterisk are those whose nearest Polish equivalent is feminine. These are meant to test the part of Baran's hypothesis that allows for some effect of the gender of the underlying equivalent on the gender assigned to the loanword. If there is indeed such an effect, we should see a non-negligible portion of respondents assign the feminine gender to the asterisk-marked items. Conversely, items ending in *-a* and *-o* are meant to test the part of Baran's hypothesis that says the assigned gender is in part determined by phonological shape. If phonological shape does in fact determine gender, these items should be assigned the feminine and neuter genders, respectively. The rest of the stimuli test what gender is assigned as a default, when the phonological shape is neither feminine nor masculine and when there is no clear equivalent or near-equivalent.

3.3. Design

For each item listed in Figure 2, a sentence was constructed, with a gap in which the target item should appear. The respondent was asked to choose from several multiple choice options the form that he would use to complete the sentence, or he could fill in his own form if he did not find any of the provided forms satisfactory. In anticipation of the fact that some respondents might choose not to inflect the loanword, the sentences were constructed in such a way as to include

3 Group 3 consisted of proper nouns for an exploratory purpose that will not be discussed in this paper but is listed here in order to provide a complete picture of the study.

a relative pronoun, definite pronoun, or other modifier – all of which must agree in gender with the noun they modify in Polish – that would show what gender was assigned to the given item even if the loanword itself was not declined. A general form for the questions is provided in (1) and an example with translation of the question is provided in (2).

- (1) *Sentence with gap for insertion*
- uninflected masculine (masculine inanimate accusative singular)*
 - uninflected feminine*
 - masculine animate singular in appropriate case*
 - feminine singular in appropriate case*
 - other: _____*
- (2) Muszę kupić sobie _____ się nie zepsuje od razu.
'I need to buy myself (a) [cell phone, that] won't immediately break.'
- cell phone, który
 - cell phone, która
 - cell phona, który
 - cell phone, która
 - inne: _____

Note that, because the masculine inanimate accusative singular morpheme is null, the form in (a) can be interpreted either as uninflected masculine or masculine inanimate accusative singular. The distinction between this and the masculine animate accusative singular in (b) will be important to the discussion below.

Speakers were also asked two free response questions concerning their attitudes about the increasing frequency of English loanwords in Polish speech, but the results of this part of the study will not be discussed in the present paper.

3.4. Results

The results for stimuli in Group 1 and Group 2 are listed in (3).

- (3) All items in Groups 1 and 2 were assigned the masculine gender by over 95% of the respondents, with the following exceptions:
- Google*: there is a convention among some Polish speakers to, in the locative, use this word as *googlach* due to the resemble to *gogle* 'goggles'
 - photo*: all respondents wrote in *fota*, which may be short for Polish *fotografia* 'photograph'
 - tuxedo* was used as neuter by 60% of respondents, as masculine by 40%
 - burrito* was used by all but one respondent in the neuter

In addition four stimuli were used in sentences that elicited the accusative singular case. The frequency with which these were inflected as masculine animates

versus masculine inanimates (excluding the cases in which respondents chose to write in an alternate form that was the Polish equivalent or near-equivalent) is as follows:

- (4) *sms* animate 93%, inanimate 7%; *Facebook* animate 84%, inanimate 16%; *cell phone* animate 51%, inanimate 49%; *text* animate 45%, inanimate 55%

3.5. Discussion

3.5.1. Gender

It is immediately evident from the data provided above that the masculine gender is overwhelmingly assigned to English borrowings. The feminine and neuter genders are assigned only in very specific circumstances, which we will consider here in hopes of evaluating predictions made based on Baran and arriving at a more accurate model of gender assignment.

Recall that Baran suggests there is a tension between the gender of the underlying equivalent of a borrowing and its phonological shape. We might therefore predict for words like *party* (Pl. f. ‘impreza’) or *message* (Pl. f. ‘wiadomość’) that they would show some effect of the feminine Polish near-equivalent. But in fact, for English words with feminine equivalents, 96 – 100% of respondents selected the masculine versions. With 45 respondents, the remaining 0 – 4% is most likely noise. The only nouns that were assigned feminine gender were those that ended in *a*, the most common ending for Polish feminine nouns.

The only nouns that were assigned neuter gender were *tuxedo* and in some cases *burrito*. There were no nouns with an underlying neuter gender, but based on evidence from other Slavic languages, the neuter gender was not expected to surface in the loanwords due to the weakness of this gender (Comrie et al. 1996: 108-111). Based on this expectation, the cases of *tuxedo* and *burrito* are somewhat surprising, but they do end in *-o*, which is the most common phonological shape of the endings of Polish neuter nouns, providing further evidence that phonological shape plays a significant role in gender assignment. It should be noted, though, that some speakers wrote in forms that demonstrate a different way of treating *-o*-ending loanwords: taking the plural English to be the singular in Polish (the author can confirm from observation that this occurs in colloquial Polish speech, ex. sg. nom. ‘nachos’, pl. nom. ‘nachosy’).

To summarize, feminine and neuter gender are only assigned if the phonological shape of the borrowing matches the most common ending of those genders (but even in these cases, as with ‘nachosy’, the neuter gender is sometimes avoided by transformations). There appears to be no evidence that native Polish

speakers, not proficient in English, consider the gender of the nearest Polish equivalent. In short, the masculine gender is assigned by default, unless the phonological shape allows for one of the other genders.

3.5.2. Animacy

As noted in Section 2, the masculine gender in Polish is split for animacy, with inanimate nouns taking the null morpheme in the accusative singular, and animate nouns taking *-a*. Four of the nouns in the study were placed in sentences that elicited the accusative singular, with the results reported above. It is very interesting that for each of them, at least half of the respondents assigned the animate accusative, and in some cases close to 100% of the respondents did so.

An initial response may be to consider the partitive genitive analysis. Recall that the analysis claims the partitive genitive is used in the case of nouns belonging to a particular group of semantic categories. It becomes evident very quickly that this analysis will not suffice. If we take into account new borrowings that, based on observation, may consistently behave this way (newspaper titles, household cleaning items, etc.), then the list would have to be infinite to cover them all. A more successful approach would be diachronic and would consider semantically and/or phonologically minimal pairs of words from different time periods, as in (5):

- (5a) *ten komputer* <m.sg.nom> 'this computer'
ten telefon <m.sg.nom> 'this telephone'
Mam komputer. <ac c> 'I have a computer.'
Mam telefon. <ac c> 'I have a telephone.'
- (5b) *ten laptop* <m.sg.nom> 'this laptop'
ten smartphona <m.sg.nom> 'this smartphone'
Mam laptopa. <ac c> 'I have a laptop.'
Mam smartphona. <ac c> 'I have a smartphone.'

The forms in (5a) are from decades ago. They are inanimate and are treated as such, taking the null morpheme for the accusative singular. The forms in (5b) are significantly more recent, however, and both take the animate accusative morpheme *-a*. The *telephone/smartphone* pair eliminates phonology as one of the possible causes of this difference, as the words have the same ending.

This is very compelling evidence for some historical shift. It is quite possible that such a shift occurred due to analogical extension. This may have been spurred by proper nouns and brand names, as these are high on the animacy scale and may have initially been treated as animate more frequently. Consider,

for example, the fact that *adidas* ‘tennis shoe’ and *pampers* ‘diaper’ are now common nouns in Polish but must have entered into the lexicon as proper nouns/brand names. Even now, despite losing their proper noun status, they are declined as animate rather than inanimate in the accusative singular: *adidas* <m.acc.sg. >, *pampersa* <m.acc.sg. >. Subsequently, by analogy to these proper nouns and brand names, common noun borrowings also began to take the animate accusative case, leading to the present state, in which all English noun borrowings that are assigned the masculine case are treated as animate. In Experiment 2 we test this prediction about the current state of the rule, consider some observed exceptions, and look for evidence of the rule’s continued productivity.

4. Experiment 2

Building from the results of Experiment 1, the goal of this study is to test the productivity of treating the English loanwords as masculine animate in the accusative singular by asking respondents to insert nonce English words into a Polish sentence whose verb requires its complement to be in the accusative case. If it is indeed the case that the Polish grammar has changed to treat all English loanwords as animate in the accusative singular, we would expect nonce words to be inflected using the masculine animate accusative singular *-a*. The advantage of using nonce words is that it eliminates the possibility that the speaker may have heard a given English lexical item used before and may therefore have some, albeit vague, lexical entry for this word. Nonce words cannot possibly have a lexical entry, and therefore a speaker must apply some productive rule in order to use them.

4.1. Participants

Participants for this experiment were recruited online to complete a questionnaire. The first two questions were used to filter out non-native Polish speakers by asking for their country of birth and the language they speak most frequently. There were 14 respondents whose country of birth was Poland and who use Polish most frequently.

4.2. Stimuli

The experiment included 7 nonce words, chosen from a list of nonce English words in Kelly (2004: 243). In addition there were 6 real English words chosen to simultaneously test the prediction that common English nouns are inflected

as animate masculine nouns, and to help create the illusion that all the stimuli in the experiment were real English words. Observations were made to consider whether they may be phonological exceptions to the rule that treats English borrowings as animate. For example, observation has shown that words ending in vowels, like *interview* (Pl. [intervju]), and words ending in syllabic [ŋ] or [ən] in English, like *Playstation* (Pl. [plɛjstɛjʂən]), are not assigned the animate accusative, and Polish informants balk at the idea of appending *-a* to these words. Nonce stimuli were therefore split into two categories based on phonological shape: Those whose phonological shape resembles that of common English nouns that are declined regularly in Polish (Group A), and those that have a phonological shape similar to English loanwords that are not declined possibly due to their phonological shape (Group B). Real English words were similarly split into those of a shape that would allow for declension (Group A) more readily than the phonological shape of the other set (Group B). A list of the stimuli is provided in Table 3:

Table 3

Group A nonce words	corlax, delray, ponsect, wug
Group B nonce words	menlee, benview, dolation
Group A real words	sixpack, milkshake, screenshot
Group B real words	Playstation, futon, lotion

If it is indeed the case that all modern English nouns are treated as masculine animate in the singular accusative, then Group A words – both real and nonce – should be inflected this way by the majority of respondents. Group B real words, based on previous observation of how these are used among native Polish speakers in natural speech, should be declined less frequently. Group B nonce words are the most interesting case: If these are not declined as masculine animate, then we should consider this as evidence that the masculine animate accusative singular may be phonologically conditioned; if these are declined, then we have evidence that whatever phonological conditioning may have been relevant in the past is no longer applicable, and that in its current state, the rule treats all English common nouns, regardless of phonological shape, as masculine animate in the accusative singular.

4.3. Design

The questionnaire included 13 fill-in-the-blank questions, one for each of the words listed in Figure 3 above. The instructions were very simple: “How would

you use the following English words in the sentences below?” The aim of these simple instructions was to make the respondent assume that all words in the questionnaire were English words, whether or not he had seen them before. The generalized format of each of these questions is shown in (6) and an example, with translation, is presented in (7):

- (6) *sentence with gap for insertion*
- a) *masculine undeclined stimulus*
 - b) *stimulus declined in masculine animate accusative singular*
 - c) *stimulus declined in feminine accusative singular*
- (7) Jeszcze muszę spakować _____ ale nie wiem czy się zmieści.
‘I still have to pack _____, but I don’t know if it will fit.’
- a) corlax
 - b) corlaxa
 - c) corlaxę

The fill-in-the-blank sentences contained verbs such as *pack, find, buy, order, etc.* These verbs require their complement to be in the accusative case, but they crucially do not require understanding of the definition of the complement noun, therefore again trying to turn the focus away from the fact that the respondents had no familiarity with the nonce stimuli.

The three multiple choice options were chosen as in Experiment 1, with two differences. First, based on the finding in Experiment 1 that few nouns are assigned the neuter gender, there was no overtly neuter option (although the neuter accusative singular morpheme is null, so one could argue option (a) could also be interpreted as neuter). Second, there was no “other” option that would allow participants to write in their own version. This was primarily intended to force the respondents to use the “English” word without searching for a Polish equivalent, and had the additional side effect of again bringing the focus away from the fact that the “English” word was unknown to the respondent and might not even have a Polish equivalent at all.

4.4. Results

The proportion of speakers who declined each word in the masculine animate accusative singular, along with the proportion who chose one of the other options, is listed in Table 4⁴:

4 As a result of a technical difficulty, four of the fourteen respondents did not answer the second page of the questionnaire. Therefore, Figure 4 has been adjusted to reflect this difficulty: Percentages for stimuli marked with an asterisk are calculated out of

Table 4

	nonce words				real English words			
		Declined	Undeclined	Fem.		Declined	Undeclined	Fem.
A	corlax	57%	43%	0%	sixpack	71%	29%	0%
	delray	93%	7%	0%	milkshake*	90%	10%	0%
	ponsect*	70%	20%	10%	screenshot	79%	21%	0%
	wug*	80%	10%	10%				
B	menlee	85%	15%	0%	Playstation	0%	100%	0%
	benview*	70%	30%	0%	futon*	60%	40%	0%
	dolation*	60%	40%	0%	lotion*	10%	90%	0%

4.5. Discussion

Recall that, if we are indeed dealing with a productive rule that treats all English loanwords, including common nouns, as masculine animate in the accusative singular, then the words in Group A (both real and nonce) should be consistently declined. This is indeed the case (with the exception of *corlax*, which was declined by about half of the speakers but nevertheless supports our hypothesis), which confirms the suggestion that this is a productive rule.

The rule was also hypothesized, based on observation, to have some phonological exceptions, which predicted words in Group B to be declined less frequently. This is the case for the real words in Group B, which are already in use in Polish, and such is the convention. It is possible that their phonological shape may have precluded their being declined when they first entered the Polish lexicon. The nonce words in Group B are a pleasant surprise, however. These were predicted not to be declined frequently if the rule in its current state is phonologically conditioned. It appears, however, that they are declined in a way that does not distinguish them from words in Group A. This suggests that, whatever phonological conditioning there may have been previously, this phonological conditioning no longer applies. In its current state, the rule in the grammar that assigns gender to English loanwords may be even more productive than it has been in the past, applying to all English common nouns, including those that

only the 10 respondents who filled out the entire experiment, while those not marked with an asterisk have frequencies based on responses by all 14 participants. Despite this technical difficulty, the frequencies in Figure 4 show promising results, which will be discussed in the following section.

were previously phonologically precluded from being treated as masculine animate in the accusative singular.

5. Conclusion

Based on evidence in this paper, it is clear that the masculine gender is the default assigned to English borrowings, unless the phonological shape of the item matches the common phonological shape of lexical items belonging to one of the other two genders. There are even exceptions to this however, as some nouns with neuter-like endings may undergo a transformation and in order to avoid being assigned the neuter gender.

Even more interesting is the status of the masculine gender animacy split among English loanwords. While most of the borrowings are inanimate common nouns, they are nevertheless treated as animate in the accusative singular. A comparison of semantic and/or phonological minimal pairs shows that this is a significant diachronic shift in the treatment of loanwords that occurred likely as the result of analogical extension, and the second study in this paper tested the productivity of the most up-to-date status of this change. Because all nonce words, even those that might have been phonologically precluded from being declined using the animate accusative *-a*, were declined by a majority of the respondents, we can safely conclude the Polish grammar now treats all modern English borrowings, regardless of whether they are animate or inanimate, common or proper nouns, as animate. Further research may be done to consider whether this same rule applies to modern borrowings from other languages. Nevertheless, modern English borrowings clearly constitute a subcategory of the Polish lexicon that is consistently treated in a manner that is new to the language.

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