

STOPS AND OTHER SOUND-SYMBOLIC DEVICES
EXPRESSING THE RELATIVE LENGTH
OF REFERENT SOUNDS IN ONOMATOPOEIA

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1. Introduction

Phonetic symbolism or a symbolic connection between the sound shape of a word and its referent has seriously attracted attention of many linguists since Sapir's "Study in phonetic symbolism" was published in 1929. Sapir's study started off a long series of experiments whose aim was to assign specific symbolic meanings referring, for example, to shape, color, brightness and size to sounds, based on native speakers' intuitions. The subjects of these experiments were either confronted with artificially created words or with words coming from various, often exotic, languages. Their judgements were then treated as a basis for assigning specific symbolic functions to individual sounds. The sound [i], for example, was found to appear in English words connoting small size and [a] in the ones that referred to big objects (Sapir 1929). Jespersen (1933) in his contribution to the search for the universality of sound symbolism found many confirming instances of the vowel [i] occurring in words carrying the meaning of "small, insignificant, weak and rapid" (Brown 1958: 118) in several Indo-European languages. It wouldn't be fair, however, to claim that there are no opponents to assigning sound-symbolic values to individual speech sounds. They even quote counterexamples to the observed regularities (cf. Brown 1958: 119). It is important to realize, however, that the rules of phonetic symbolism do not apply regardless of the environment in which a given sound-symbolically charged unit (feature, sound, morpheme) is set. As this paper will attempt to show, the phenomenon of phonetic symbolism is a multilevel

one with a hierarchy of sound-symbolic devices, which depending on their patterns of cooccurrence in the same environment seriously affect each other.

Onomatopoeia being a class of words designed to imitate all sorts of sounds that may be heard in the world surrounding us is by definition a very abundant source of data for linguists looking for sound-symbolic connections between words and their referents. The phonosymbolic elements in onomatopoeia, however, will be less likely to connote such properties as size, color and shape but will rather be restricted to imitating sounds or the manner in which they are produced. O-word corpora will prove to be a real goldmine for those researchers who expect to find symbolically charged sounds/sound classes among those that show patterns of overrepresentation (when confronted with lexicon samples) when subjected to a sound frequency analysis (cf. Sobkowiak 1990; Kwiatkowski 1992; Żuchowski 1993). The main focus of this paper is on a single aspect of phonetic symbolism in onomatopoeia, namely the somewhat previously neglected sound-symbolic function of stops. The study will be performed on three corpora of o-words; English, Polish and French. A hypothesis will be tested in which it will be claimed that o-words containing stops tend to refer to short and abrupt sounds and actions, whereas those onomatopoeic words which do not contain stops tend to refer to prolonged or gradually occurring sounds and actions. It will also be claimed that the stops' ability to perform their sound-symbolic function may be seriously affected by other phonosymbolic devices.

2. The data

The empirical data used for this paper consists of three corpora of onomatopoeic words: the English corpus of 250 o-words originally compiled by Sobkowiak (1990) based on Kloe's English-Spanish dictionary of onomatopoeia and other sources, the 191-item Polish corpus compiled by Kwiatkowski (1992) and the author of this paper, based on Polish language dictionaries, comics and poems, the French corpus of 146 items, most of which were acquired by Sobkowiak from The University of California, Berkeley and later on made available to me for my research.

3. The phonosymbolic role of stops in English, Polish and French onomatopoeia

It was suggested in several works on sound symbolism that stops appearing in onomatopoeic words carry the notion of brevity and abruptness of the action referred to (cf. Leech 1969; Brown 1958). To my knowledge, however, no one has made an attempt at testing this hypothesis based on the whole corpora of o-words. Instead, linguists restrict themselves to providing single examples, which although indicative of the phenomenon may by no means be treated as a proof of a statistically founded regularity.

The following sections will present the results of an attempt at analyzing the English, Polish and French corpora of o-words in order to test the claim that o-words containing stops tend to refer to brief and abrupt sounds or actions, whereas onomatopoeic words not containing stops tend to imitate prolonged sounds and actions. Other phonosymbolic means of expressing the referent-sound length will also be examined in relation to the sound-symbolic properties of stops.

3.1.1. The phonosymbolic role of stops in English o-words

When analyzing the corpus of English o-words with respect to the sound-symbolic role performed by stops it must be emphasized that there are also other ways in which the relative length of the referent sound or action is rendered by phonosymbolic means. A sound-symbolically oriented analysis of the 250-item corpus reveals that whenever a word contains a prolonged vowel as in *whoosh*, a diphthong as in *cry*, or what may be called a prolonged consonant as in *grr* (usually marked by repetition of the letter in the graphemic form), it tends to imitate a prolonged sound or action even when it contains a stop/stops at the same time. It thus seems that the symbolic message of abruptness carried by stops tends to be blocked or made ineffective whenever a word containing a plosive also contains one of the above mentioned prolonged segments. The 255-item corpus of English o-words contains 55 such words and they are listed separately in Appendix Two.

Another group of o-words which constitute special cases and should be discussed before the analysis of the phonosymbolic role of stops is performed, is a group of onomatopoeic words (many of which function both as nouns and verbs) ending in a *Consonant+l* cluster (as in *bubble*, *crackle*, *rattle*, *whistle*, etc.) and in a *C+r* cluster as in *stutter*, *jabber* and *murmur*. Malkiel (1990) observed that certain English verbs (he did not indicate that a significant number of them are of an onomatopoeic character), namely those ending in *C+l*, have much in common with respect to their meaning. As Malkiel phrases it, they all refer to states and activities which are "unusually, even inordinately and sometimes perversely, exciting to the average onlooker, speaker or listener" (Malkiel 1990: 184). He also says that these states and activities are "mostly abnormal", "atypical", "occasionally grotesque" or, at least "unlikely to leave the average witness wholly indifferent" (Malkiel 1990: 184). Indeed, all the items ending in *C+l* which have been isolated from the corpus of English o-words do conform to the above quoted features of actions or states referred to. In fact, in the case of an entirely onomatopoeic corpus they will mostly refer to startling or unusual sounds or actions (e.g., *gargle*, *rattle*, *gobble*, *sizzle* etc.). Malkiel further suggests that the properties shared by the verbs included in the

group discussed above are closely tied to the phonosymbolic function performed by the *C+l* ending.

The analysis of the English corpus of o-words enabled me to isolate another group of verbs which exhibits many similarities to the one discussed above. It is a group of words ending in *C+r*. The items included in this group will generally conform to the semantic guidelines which applied for words ending in *C+l*. The members of this group, however, will even more often imitate complex, repeatedly occurring sounds resulting most often from an unusual manner of speech as in *stammer, stutter, whisper* and *chatter* and sometimes from other sources as in *flutter, clatter, sputter* and *patter*. Considering the above indicated features shared by all onomatopoeic words ending in *C+r*, it seems plausible to suggest that the *C+r* ending plays the phonosymbolic role motivating the choice of referents for o-words containing this ending just as it was proposed by Malkiel for the verbs with the *C+l* ending. It is very relevant for the subsequent discussion of the phonosymbolic function carried by stops that both o-words ending in *C+l* and those ending in *C+r* always refer to actions which produce complex, prolonged sounds and this phenomenon is never affected by the presence of stops. This suggests that the phonosymbolic function performed by liquids in the *C+{l/r}* ending takes precedence over the phonosymbolic function of brevity otherwise carried by stops.

There are seven cases of o-words in the English corpus, which do not contain stops but contain affricates: *chuff, jar, smooch, munch, choo choo, chirr* and *achoo*. It is assumed here that affricates are, in a way, an intermediate stage between stops and fricatives from the point of view of the way in which the air is released by the articulators in the oral cavity. That is why affricates are, on the one hand, unable to play consistently the sound-symbolic role assigned to plosives and, on the other hand, their presence in o-words not containing plosives may disturb these words' general tendency to refer to prolonged sounds. That is why they will not be included in the list of o-words containing stops as well as in the list of words not containing stops prepared for the assessment of the phonosymbolic relevance of the presence/absence of stops in onomatopoeia, in order not to bias the results of that analysis.

To conclude the above discussion, it has been shown that there definitely are cases in which the hypothesis granting stops an unrestricted sound-symbolic function of indicating shortness and abruptness of sounds imitated in onomatopoeia will not be valid. It is then postulated that stops appearing in English onomatopoeic words will indicate the shortness and abruptness of sounds referred to, provided they do not appear in words containing long vowels, diphthongs and prolonged consonants. Also, the presence of *C+l* and *C+r* suffixes will pose a restriction to the phonosymbolic function performed by stops. Considering the above restrictions only the o-words that do not violate them were

included in the corpus on which the phonosymbolic role performed by stops was to be tested. These items were further divided into two groups: one of them contained words in which stops were present and the other one was made up from the remaining o-words. Each of the two groups was then divided into two subgroups, or categories; the first one contained o-words referring to short and abrupt sounds and actions and the other one was made up from words which referred to prolonged sounds or actions. The items in each group were then counted. The results of the analysis are presented in Table 1 below.

	Onomatopoeia containing stops		Onomatopoeia not containing stops	
	N	%	N	%
Number of o-words	92	100.0	46	100.0
o-words referring to short sounds and actions	81	88.0	3	6.5
o-words referring to prolonged sounds or actions	11	12.0	43	93.5

Table 1. The phonosymbolic role of stops in English o-words.

As seen in Table 1 there is a very significant preference for o-words containing stops to imitate short and abrupt sounds and actions. O-words not containing stops, on the other hand, in most cases tend to imitate prolonged sounds. Interestingly, the majority of o-words not containing stops and referring to prolonged sounds (74%) contain the same types of prolonged segments, which were said to bar stops from performing their phonosymbolic function.

3.2. The phonosymbolic role of stops in Polish o-words

The analysis of the sound-symbolic function of stops in Polish o-words was carried out in the same fashion as the analysis performed for English o-words. First, as it was the case with the English corpus, the presence of a prolonged vowel or consonant would normally block the notion of brevity and abruptness carried by stops and it would indicate a prolonged referent sound regardless of the presence of stops. In the Polish corpus of onomatopoeia, however, there are only five such cases, namely *bu(u), pi(i), be(e), brr,* and *tss*, with all the three instances of the prolonged vowel being optionally realized in the graphemic form.

Also, as was the case with English onomatopoeia, those items which did not contain stops but contained affricates were, due to their intermediate character, excluded from the analysis of the phonosymbolic relevance of the pres-

ence/absence of stops in Polish o-words. I did not, however, exclude those cases of o-words whose only affricate was the sound [t] being part of the infinitival suffixes as in {-eć}, {-oć} or {-ić}. I decided not to do so in view of the fact that the purely grammatical function performed by these suffixes would be superior to any possible symbolic connotations of affricates as they might be exhibited should these sounds appear without any grammatical motivation.

A phonosymbolically oriented search of the corpus allowed me to identify a group of o-words which share the {-ot} suffix and in terms of their meaning have much in common with the English o-words ending in *C+l* and *C+r*, which were discussed in the previous section. They also refer solely to prolonged and complex sounds and actions as well as they often leave the listener startled or uneasy about their nature as in *belkot*, *gruchot*, *grzmot*, *łomot*. Although most of the Polish o-words ending in {-ot} are nouns, the majority of them may be rendered as verbs when equipped with the {-ać} suffix, e.g., *furkot-furkotać*, *łomot-łomotać*, which makes them even more similar to the English o-words ending in *C+r* and *C+l*, which in most cases function as both nouns and verbs. Two of the words included in this group (there are 25 altogether, all of them listed in Appendix Three), namely *plegotać* and *mamrotać* are different from the others in that they are already in a verbal form which may not be changed into a nominal form by extracting the {-ać} ending but they still clearly belong to the rest of the group. The similarity between the Polish o-words ending in {-ot} and the English ones ending in *C+l* and *C+r* is made even more pronounced by the fact that a number of the former translate directly into the latter, e.g., *furkot-flutter*, *mamrotać-mumble*, *chichotać-chuckle*, *giggle* etc. Summing up, it seems plausible to claim that the {-ot} suffix does have a symbolic effect on the Polish o-words it appears in.

What is pertinent from the above discussion of Polish o-words ending in {-ot} to the analysis of the phonosymbolic function of stops appearing in the same words, is that as it was the case with the English o-words ending in *C+l* and *C+r*, they all refer to complex and prolonged sounds and actions with the stops having no apparent phonosymbolic effect in their presence. The hypothesis assigning stops the phonosymbolic function of carrying the notion of brevity and abruptness will then again have to be restricted only to the cases when other, more effective phonosymbolic means of indicating the length of sounds imitated in o-words are not present. The following Table 2 presents the results obtained for the phonosymbolic function of stops in Polish onomatopoeia. The division into groups and categories is the same as it was done for the English o-words in Table 1.

	Onomatopoeia containing stops		Onomatopoeia not containing stops	
	N	%	N	%
Number of o-words	132	100.0	32	100.0
o-words referring to short sounds and actions	96	72.7	7	21.9
o-words referring to prolonged sounds or actions	36	27.3	25	71.1

Table 2. The phonosymbolic value of stops in Polish o-words.

It is clearly visible that although there is a tendency for Polish o-words containing stops to imitate short and abrupt sounds, it is much less pronounced than it was for the equivalent class of English o-words. This may be at least partly explained by the fact that 14 out of the 36 o-words containing stops and referring to prolonged sounds and actions come from the hunter's jargon (cf. Kwiatkowski 1992) and imitate usually phonetically complex voices of birds and other animals. Most of these words contain stops, which repeated several times throughout the word, help reinforce the rhythmic complexity of the referent sound. It seems that the sound-symbolic properties of this group of o-words fall to a large extent within the model of structural symbolism, where the rhythmic patterns play a significant role in conveying the symbolic message (for a discussion of structural and elemental/segment-oriented sound symbolism cf. Taylor – Taylor 1965). In structural symbolism also the length of the sounds imitated tends to be rendered by the variation of word length rather than various sound qualities. Among the 96 Polish o-words containing stops and imitating short sounds, 75 (78%) are monosyllabic and only 2 words (2%) contain three syllables (these two words imitate a series of distinct, short sounds and that is why they were included in that list). On the other hand, only 5 words (13.9%) out of the 36 items containing stops and referring to prolonged sounds are monosyllabic and as many as 8 (22.2%) contain three syllables. This clearly indicates that in the case of Polish o-words, word length is another factor which may take precedence over the phonosymbolic function of abruptness performed by stops.

3.3. The phonosymbolic role of stops in French o-words

The analysis of the phonosymbolic role of stops in French onomatopoeia was conducted along the same lines as the two previously presented analyses performed for English and Polish onomatopoeia.

It was observed that also in French o-words, the use of prolonged vowels and/or consonants would indicate the imitation of a prolonged sound or action.

There are 21 such words in the French corpus, which at the same time contain stops whose phonosymbolic function of indicating shortness and abruptness is suspended in the presence of prolonged segments.

In the case of French onomatopoeia no groups of o-words were identified to possess sounds or morphemes which would make stops phonosymbolically ineffective in a shared lexical context.

It is word length, however, which as a means of indicating the length of sounds imitated seems to be much more often employed in French onomatopoeia than in English or even Polish. The repetition of the same or slightly altered syllable two or three times, for example, is used here as a means of indicating that a particular referent is to be identified as a series of clearly separate short sounds (hence quite a few bisyllabic and three syllable words containing stops in my "short sound" category). Words with more than three syllables, however, (there are no such words among Polish and English onomatopoeia) always refer to relatively long sounds, no matter if they contain stops, or not. In these words, stops will function mostly on a structurally-symbolic plain, mainly helping to imitate the rhythmical pattern of the referent as in *taratata* (the sound of a trumpet), or *patapatapon* (imitation of a horse's galloping). Apparently in such polysyllabic words, elemental sound symbolism as exhibited in the phonosymbolic message of shortness normally carried by stops, gives way to structural symbolism, with the phonosymbolic function of brevity otherwise performed by stops being switched off.

Considering the above, it will be postulated that stops occurring in French o-words will imitate the shortness and abruptness of the referent sounds as long as they do not appear in words containing prolonged segments (vowels and consonants) and/or words containing more than three syllables. Table 3 presents the results obtained for the phonosymbolic function of brevity as exhibited in stops occurring in French o-words which comply with the above restrictions. The division into groups and categories is parallel to that seen in Tables 2 and 3.

	Onomatopoeia containing stops		Onomatopoeia not containing stops	
	N	%	N	%
Number of o-words	75	100.0	45	100.0
o-words referring to short sounds and actions	66	88.0	5	11.1
o-words referring to prolonged sounds or actions	9	12.0	40	99.9

Table 3. The phonosymbolic value of stops in French o-words.

The data presented in Table 3 show that also in the case of French onomatopoeia there is a very clear tendency for stops to occur in o-words imitating short sounds and actions. The absence of stops, on the other hand, will in most cases indicate that a given word refers to a prolonged sound or action.

3.4. Conclusions

The three analyses of the phonosymbolic ways of indicating the relative referent-sound length in English, Polish and French onomatopoeia have demonstrated that there is an obvious tendency for o-words in these languages to be phonosymbolically affected by the presence or absence of stops. The former would in most cases indicate that a given word refers to a short and abrupt sound or action, whereas the latter would be typical for o-words referring to prolonged sounds or actions. It has, however, been observed that plosives do not perform their phonosymbolic function of abruptness in all contexts. Whenever a word containing a plosive also contains a prolonged vowel, a diphthong or a long consonant, it refers to a prolonged sound or action. Also, English o-words ending in *C+l* and *C+r*, as well as Polish onomatopoeia ending in {-ot}, refer to complex and prolonged sounds despite the fact that most of them contain plosives. Word length (given in syllables) is another factor which in some cases takes precedence over stops as a phonosymbolic means of indicating the length of the sound imitated. This is particularly visible in French and Polish o-words, as in the English corpus 97% of all o-words are either mono- or bisyllabic, which means that onomatopoeic words in this language do not favor word length as a phonosymbolic device to the extent in which it is visible in Polish and French, where one can find words containing three, four or even (in the case of French) five and six syllables. In order to demonstrate how syllabic word length affects the phonosymbolic message relating to the imitated sounds' length in o-words containing plosives and those that do not contain them, the average number of syllables per word was counted for the items within each of the groups and categories from Tables 1, 2, and 3. Table 4 presents the results of this analysis.

	English o-words		Polish o-words		French o-words	
	o-words cont. stops	o-words not cont. stops	o-words cont. stops	o-words not cont. stops	o-words cont. stops	o-words not cont. stops
The ratio of syllables to words in o-words ref. to short and abrupt sounds	1.03	1.0	1.21	1.4	21.59	1.0
The ratio of syllables to words in o-words ref. to prolonged sounds	1.27	1.1	12.0	1.44	2.66	1.42

Table 4. The relation between the syllabic length of o-words and the length of the sounds imitated in English, Polish and French onomatopoeia.

The figures in Table 4 show that o-words containing stops and referring to short sounds and actions are in all three languages shorter in terms of their syllabic length than the words containing plosives and referring to prolonged sounds. The difference, however, is most pronounced in Polish and French onomatopoeia. Interestingly, words not containing plosives and referring to prolonged sounds are, with the exception of French o-words, not significantly longer than those referring to relatively short sounds.

The above shows that syllabic word length as a feature of structural symbolism does constitute a significant phonosymbolic factor which in the case of polysyllabic words tends to deprive stops of their phonosymbolic function of indicating the brevity of the sounds referred to.

The final conclusion to the discussion presented in this paper will be that stops as carriers of the notion of brevity may not be analyzed in isolation from other phonosymbolic devices, which in many cases are able to affect, or even neutralize their sound-symbolic function. One might then postulate a hierarchy of phonosymbolic devices which possess different ranks on what might be called a scale of sound-symbolic effectiveness. It seems plausible that this ranking system will also be exhibited outside the range of the sound-symbolic means of expressing the relative referent sound length in onomatopoeia discussed in this paper and will eventually help solve many puzzles and inconsistencies in the behavior of phonosymbolic devices encountered in the sound symbolism research.

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APPENDIX ONE¹

French onomatopoeia

1.1. O-words containing stops and referring to short and abrupt sounds.

badaboum	cot	paf	pst
badadam	couac	pan	tac tac
bang	couach	patapouf	teuf teuf
baoum	coin coin	patastrac	tia tia
bing	crac	patastras	tic tac
bip bip	crac crac	pflac	tin
bloum	cri cri	pif	tio tio
bouach	ding ding	pif paf	tiou tiou
boum	flac	pin pon	ti ti ti
cac cac	fli flap	plaf	toc toc
chut	floc	plouf	top
clac	glou glou	pouet pouet	tskuo tskuo
clap clap	hep	pouf	tut
clic	hic	pouh	yop
cloc cloc	hop	pou pou pou	youp
cou cou	houp	prout	
couic	kie kie kie	prt	

1.2. O-words containing stops and referring to prolonged sounds or actions

co co co	ding dong	tararan
coin coin	piou piou	tireli
cui cui cui	rataplan	tut tut

1.3. O-words not containing stops and referring to prolonged sounds

ah	hi han	mmmmmm	rrou
ahan	hi hi	oh	rrr
aie	ho ho	ohe	snif sniff
chnouff	hou hou hou	ouaf	sssss
choo choo	hon	ouah	vlouf
eh	hum	ouf	vraoum
ha ha	ihihih	ouille	vroum
he he	meuh	ouin ouin	woo woo
hein	miam miam	ron ron	zoum
heu	miaou	rrou	zzzz

¹ The notion of brevity is realized for single instances of a given sound whenever there is an option of a repeatedly occurring sound. Some cases may seem controversial with respect to the choice of category, mostly due to the relative character of the categories of *short sounds* and *long sounds*.

1.4. O-words not containing stops and referring to short and abrupt sounds.

fla	hem	vlan
han	ra	

1.5. O-words in which the phonosymbolic function of brevity carried by stops is suppressed by other phonosymbolic means

1.5.1. O-words containing over 3 syllables

cocorico	patati patata	taratantara
patapatapon	taratata	

1.5.2. O-words containing prolonged segments (vowels or consonants)

bah	crr	pfft
be bee	grr	pffrut
beuh	kss kss	pffut
booff	lpp	pschhh
brr	oooc	pschitt
bzz	oops	tss
coa	pff	vrouutt

APPENDIX TWO

English onomatopoeia

2.1. O-words containing stops and referring to short and abrupt sounds

bang	cluck	gnash	putt	thwack
bark	crack	gulp	rap	tick tack
bash	crash	gush	skim	tick tock
belch	croup	hack	skip	tramp
bong	crunch	hop	slap	grab
bump	crunk	klunk	slurp	trip
burp	crush	knock	smack	whack
chirk	dash	lap	snap	whop
chirp	dit	pit	snip	yap
chuck	dot	plink	spit	yelp
chug	drip	plop	splash	yip
clack	fart	pluck	splat	zap
clang	flap	plump	stomp	zip
clank	flip	plunk	swat	
clap	flop	pull	tap	
click	gasp	pop	thud	
clink clank	glug	pow	thump	

2.2. O-words containing stops and referring to prolonged sounds

ding dong	lisp	ratatat	trumpet
drum	rant	scratch	twang
honk	rataplan	strum	

2.3. O-words not containing stops and referring to prolonged sounds

arf	miaow	sniff	whiff
fizz	moan	snore	whine
hail	moo	sooey	whinny
heehaw	neigh	sough	whirr
hiss	ring	swish	whiz
hoarse	roar	swoosh	whoosh
howl	shoo	vroom	woof woof
huff	sigh	wail	yawn
low	sing	waul	yell
lull	sizzle	whang	zz
mew	sneeze	wheeze	

2.4. O-words not containing stops and referring to short and abrupt sounds

hem	shush	slash
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2.5. O-words containing affricates (not containing stops)

achoo	jar	smooch
chirr	choochoo	
chuff	munch	

2.6. O-words in which the phonosymbolic function of brevity carried by stops is suppressed by other phonosymbolic means

2.6.1. O-words containing long segments

baa	boom	cloop	eek	peep	shriek
bay	bowwow	coo	gnarr	pipe	squeak
beep	bray	creak	grind	pow	squeal
bellow	buzz	croak	groan	prate	teehee
blare	bzz	croop	growl	pule	toot
bleat	caw	crow	grr	purr	troat
blow	cheep	cry	hoot	scrape	tweet
boo	claw	cuckoo	paw	scream	ululate
boohoo	clear	drone	peal	screech	whoop

2.6.2. O-words ending in *C+l*

babble	dandle	gnarl	popples	snarl	whistle
bubble	dribble	gobble	pumble	sniffle	
burble	drivel	grumble	prattle	snuffle	
cackle	gabble	gurgle	rattle	tinckle	
chuckle	gargle	jingle	rustle	trickle	
crackle	giggle	mumble	sizzle	warble	

2.6.3. O-words ending in *C+r*

chatter	gibber	nicker	spatter	titter
clamor	jabber	patter	sputter	twitter
clatter	mutter	pitter	stammer	whimper
flutter	murmur	snicker	stutter	whisper

APPENDIX THREE

Polish onomatopoeia

3.1. O-words containing stops and referring to short and abrupt sounds

bach	chrup	kolnąć	pif paf	smagać
bek	chrząknąć	kołatać	plask	smak
bęc	cmok	kop	plop	stęk
bęk	cyk	krach	plum	strzał
brzdęk	cyt	krop	plusk	stuk
brzęk	czknąć	krząknąć	pok pok	szast prast
buch	człap	ku ku	prask	szczęk
bul	fuk	kwa	pruk	szczkać
bum	gda	kwo	prztyk	tchnąć
bums	gruch	łkać	pst	tfu
bzdzić	gul	łub	psyk	tik tak
bzik	hop	łup	puch	trach
chap	huk	op	pum	tryk
chlap	kap	pac	pyk	trzask
chlast	klak	pach	pyr	tst
chlip	klap	pać	pyrk	tup
chlup	klaskać	palnąć	raźnąć	
chlust	klik	pam	siąknąć	
chrochtać	klop	parsknąć	siekać	
chrostać	klump	pęk	skrzek	

3.2. O-words containing stops and referring to prolonged sounds

brukać	dać	krzyk	skrobać	trelować
buczeć	dedać	ksykać	skwierczeć	turkać
burczeć	gorlić	kwilić	smarkać	wrzask
chrapać	gwar	puchać	syk	źłobić
chrypieć	jodłować	rzępolić	szelest	
ciurkać	krakać	seplenić	świrkać	
ciurlikać	krekorać	siorbać	terlikać	
dachtać	krerać	skomleć	tokować	

3.3. O-words not containing stops and referring to prolonged sounds

chi chi	fur	rumor	ssać	szur
chichrać	me(ee)	rurać	szloch	wiać
cho cho	miau	ryczeć	szmer	wrr
chuchać	mu(uu)	rzęzić	szorować	wyc
frr	musować	rzeń	szum	ziać

3.4. O-words not containing stops and referring to short and abrupt sounds

chrum	hm	rym	zachłysnąć
hau	rum	sza	

3.5. O-words containing affricates (not containing stops)

ciach	ćwir	dzyń	ryczeć
czochrać	dzwonić	mruczeć	trzeć

3.6. O-words in which the phonosymbolic function of brevity carried by stops is suppressed by other phonosymbolic means

3.6.1. O-words containing long segments

bee	brr	pi
ba(a)	bu(u)	tss

3.6.2. O-words ending in *-ot*

bełkot	chrobot	gruchot	łomot
brzechot	klekot	grzechot	
bulgot	druzgot	grzmot	
chichot	furkot	jazgot	