

# The role of morphological naturalness in the production of innovative verbs in English and Polish: a comparative study

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*This paper constitutes an attempt to shed some light on the formation of innovative verbs by Polish and English-speaking children. It argues that verbal innovation can be accounted for on the grounds of Natural Morphology, proposing that children opt for cognitively simple, i.e. unmarked derivational patterns. Consequently, they come up with iconic coinages that are either metaphorical (in the sense of Natural Morphology), or diagrammatic and, at the same time, morphotactically and semantically transparent. As might be easily predicted, iconicity manifests itself in the two languages in question through the use of different derivational mechanisms stemming from typological divergences between English and Polish.*

**Keywords:** Natural Morphology, iconicity, word-formation, children's speech, corpus-based research

## 1. Introduction

The aim set to this paper is to provide partial evidence that a substantial proportion of English and Polish innovative verbs in children's speech is far more iconic, that is more morphologically natural than their adult equivalents. The Polish corpus to be analysed here comes from the longitudinal studies carried out by the author of this article in the years 2000 - 2003 as well as the corpus collected by Chmura-Klekotowa (1967, 1971). As far as English is concerned, child utterances are derived either from the author's corpus, or from the extensive research carried out by Clark (1993).

Early lexical innovation is studied within the framework of Natural Morphology (Dressler, *et al.* 1987, Galeas 1998) and it is suggested that it is children's striving after transparency of encoding and their tendency to perceive lexical elements in terms of opposition and contrast that are two main factors entailing the phenomenon of iconicity in the production of innovative verbs both in Polish and in English.<sup>1</sup> As might be expected, due to typological differences between the two languages in question, the strategies used by Polish and English-speaking children are affected by morpho-syntactic features of their mother tongues.

## 2. Natural Morphology

The theory of Natural Morphology (Dressler *et al.* 1987, Galeas 1998) proposes that what is cognitively easy for the potential language user is also easily accessible, especially to children and consequently universally preferred (Dressler and Karpf 1995). The notion of naturalness is explained by naturalists in relation to the extralinguistic foundations of language, such as psychological limitations of perception and receptive processing, limitations of memory and restrictions on storage and retrieval of information (Wurzel 1994). They maintain that human capacities determine the degree of naturalness of particular

morphological processes. Galeas (1998) has proposed the existence of eleven parameters of cognitive simplicity that express preferences, or tendencies in human languages, governing the choice of morphological operations and rules with respect to the ease of morphological processing, i.e. the degree of their naturalness, understood as unmarkedness.<sup>2</sup>

Several parameters are of primary importance from the point of view of the discussion to follow. First of all, it is the parameter of diagrammaticity which implies that a word is diagrammatic if it is perfectly segmentable and semantically motivated, as it is the case with the word *sing-er* in which morphotactic transparency reflects analogically semantic compositionality because it is composed of the verbal base followed directly by a derivational agentive suffix and its meaning equals the meaning of its constituents. At this point it is worth emphasising that the discussion of compositionality has got a long tradition as it dates back to Marchand's (1969) word-formation, drawing on the concept of grammatical syntagma developed by Saussure. *Compositionality principle* assumes that simple linguistic signs, such as morphemes are relatively unmotivated as regards the relationship between form and meaning (apart from onomatopoeia), while complex items are in principle motivated because they can be semantically interpreted on the basis of the meanings of their constituents and an underlying pattern. Another parameter is that of morphotactic transparency defined as boundary recognisability, not disrupted by alternation, as in the word *want-ed*. The principle of morphosemantic transparency implies that the meaning of a complex word is a function of the meaning of its constitutive parts, as in the word *haircut*. Finally, the principle of metaphoricity applies to a partial similarity between a base and its derivative, as in the pair *hate – to hate*, the elements of which do not show the analogy of structure (they are morphotactically unanalysable) but the analogy of meaning.

These parameters are deeply rooted in the semiotic theory of Charles S. Peirce (1965) as *Natural Morphology regards semiotics as a superordinate framework or metalevel* (see Galeas 1998: 7). Therefore, the theory of Natural Morphology has adopted the triad of signs (an index, an icon and a symbol) put forward by semiotics for the purpose of morphological analysis (Peirce 1965, Wurzel 1994, Dirven 2001). With respect to the morphological analysis carried out in this paper, the iconic sign needs to be elaborated on as it is extensively employed in the creation of lexical innovation. Peirce (1965) defines an icon as the sign which shows a relation of similarity between the signifier and the signified, and he distinguishes three types of an icon: an image, a diagram and a metaphor. An image directly represents features of an object and it is usually an onomatopoeic word, such as *twitter*, which imitates sounds produced in a human environment. A diagram exhibits a relation of analogy between the signifier and signified, for example in the comparison of adjectives the morpho-phonological form of the comparative and superlative degree reflects the intensity of gradation conveyed by an adjective itself. Lastly, a metaphor exhibits parallelism between the signifier and the signified. Any type of morphological conversion is a metaphor as its output is identical in its form and similar in its meaning to the base.

The advocates of Natural Morphology have provided substantial evidence both from diachronic change and from language acquisition to substantiate their theory (Dressler *et al.* 1987, Dressler and Karpf 1995). It has been found out that adults prefer less marked categories when addressing children and, consequently, unmarked elements are acquired before marked ones. For example, Mac Whiney (1987) has shown that while acquiring the basics of a morphological system, children rely far more frequently on regular patterns, namely semantically and morphotactically transparent affixation than on opaque ones, making significantly fewer errors in the former case than in the latter. Moreover, opaque

WFRs are more often replaced by transparent ones, whereas natural patterns hardly ever give way to unnatural ones. As a result, in the early stages of their linguistic development children tend to opt for transparent derivatives, e.g. Stern and Stern (1928) quote transparent derivational couples, such *Dieb – dieben* and *stehlen – Stehler*; by which German children attempt to avoid the opaque pair *Dieb* ‘thief’ – *stehlen* ‘steal’. Striving for transparency can be noticed cross-linguistically, for example note the pair *build – unbuild* ‘take apart’ in English (see section 5 below), or *obcina-czka* from *obcina-ć* ‘cut’ for *fryzjerka* ‘hairdresser’ in Polish.

If children’s tendency for the transparency of encoding in so many world languages seems to be universal, it might seem justifiable to try to account for creating lexical innovations within the framework of the theory of Universal Grammar, in the light of which children possess an innate language faculty leading them in their acquisition of language, seen as the result of biological maturation. In this view, grammatical principles become available to a child at some genetically determined time. However, modern theories have invalidated the theory of Universal Grammar on many grounds. First of all, it is nowadays agreed by the majority of researchers that linguistic development is preceded by the cognitive one (Haiman 1980, Goldberg 1995, Meints *et al.* 1999), which means that linguistic structures are built step by step by young learners once they have attained an adequate level of cognitive development. Secondly, a lot of researchers, e.g. Croft (2001), Tomasello (1995) and Dąbrowska (2000) have criticised the fact that generativists minimized the significance of features characteristic of individual languages, while differences between particular languages are fundamental. Dąbrowska (2000) has stated that the majority of languages manifest features characteristic only of these languages, not any others, e.g. the semantic functions of particular cases are characteristic only of Polish, not of any other Slavic language. Yet another argument against generative theory rests on the nature of first language acquisition. Generativists have claimed that the process of acquiring the language is uniform, while empirical data has invalidated this claim, as it has turned out that individual differences are tremendous (Nelson 1981, Goldfield and Snow 1989, Richards 1990, Bates, Dale and Thal 1995). To take just one example, Wells (1985) has discovered that the differences in ‘the linguistic age’ can amount to as much as 30-36 months. Moreover, there is a lot of variation in the way in which children acquire their language, as *analytical* children master single words, mainly nouns, that they later learn to combine with other words, but *holistic* children acquire the whole phrases which are only later on broken up into single words or morphemes (Nelson 1981, Peters 1977).

Finally, a critical attitude to the generative theory of first language acquisition has been fostered by its standpoint on linguistic creativity. On the basis of empirical data it has been found out that children are not as creative as generativists have maintained (Tomasello 1992, Lieven *et al.* 1997, Dąbrowska 2000). For example, Lieven *et al.* (1997) regularly recorded one child for five hours per week for six weeks with a view to establishing the origin of multiword utterances in the child’s speech. It turned out that as many as 63 % of utterances were repetitions of adult utterances just heard by the child. According to Richards (1990), Gathercole, *et al.* (1999) and Tomasello (2003), children acquire prefabricated fragments of language and their utterances assume the form of highly stereotypical formulas. Linguistic creativity, understood as conscious application of rules emerges little by little with various parts of the grammatical system often developing asynchronously. As, for example, Tomasello (2003), Dąbrowska and Kubiński (2003) maintain, drawing on Langacker’s (1997, 1988, 2000) usage-based model of acquisition, constructions regarded as stereotypical

formulas are basic units subject to acquisition. As the child acquires more and more formulas, the representations of newly acquired formulas overlap with those that have been acquired earlier by the reinforcement of their recurring common features. This leads to the formation of generalisation, which means that it is only then that the child breaks the whole units into their basic constituents and in this way actively creates their symbolic representation.

Following this approach, according to which the system of grammatical knowledge is actively constructed by the child on the basis of his/her accumulating linguistic and extra-linguistic experience, Dressler and Karpf (1995) have proposed the idea of stages in the morphological development: premorphology, protomorphology, and morphology proper, each of them deeply rooted in the child's cognitive development. In this view, premorphology represents the rote-learning phase of language acquisition in which the child's speech production is limited to some inflectional forms that are lexically stored. It is also the phase in which extramorphological operations occur, with no system of grammatical morphology being dissociated yet from a general cognitive system. The notion of an *extragrammatical operation* was put forward by Dressler and Merlini (1994) and it corresponds, at least to some extent to the term *expressive morphology*, introduced by Zwicky and Pullum (1987). It can be described as a set of morphological operations either primitive and acquired early, or sophisticated and acquired late which, on the one hand, are like morphological rules, but, on the other, violate some principles of morphological grammar. Examples of extramorphological operations performed by children are: reduplications (*opa opa* 'jump'), onomatopoeic reduplications (*tup tup* 'thump'), truncations (*ko* from *kolczyk* 'earring'), surface analogy (*samka mamka* 'myself-DIM-FEM mummy-DIM' from *sama mama*) and blends (*bandzia* from *babcia Wandzia* 'granma Wandzia'). These extramorphological operations are among the first ones that children acquire. As regards the fact that they go against principles of morphological grammar, surface analogies, truncations and blends are unpredictable; blends, surface analogies, truncations and reduplications are not restricted to distinct classes of bases; finally, most truncations do not produce new words as word-formation rules do.

As soon as syntax starts to develop, there comes the need for morphological marking of syntactic categories which is when the child enters the protomorphological phase (Dressler and Karpf, 1995). At this stage of language development (s)he begins to make overgeneralisations concerning the morphological structure of words on the basis of rote-learned forms, in this way constructing morphology but also using it creatively to make first analogical formations (cf., e.g. MacWhinney 1987, Dressler & Karpf 1995). This phase is characterised by morphotactic and morphosemantic transparency, biuniqueness and constructional iconicity. Protomorphology is understood as the stage at which the morphological system together with its subsystems start to develop, preserving some properties of extragrammatical operations, without having been transformed into modules and submodules.

Lastly, morphology proper is characterised by the emergence of the subsystem of inflectional and derivational morphology together with better class differentiation. It is also referred to as modularised morphology, as it is then (according to Dressler & Karpf 1995) that the child actively constructs modules and submodules, ending up with the acquisition of adult-like morphology.<sup>3</sup>

As regard the use of the framework of Natural Morphology for the discussion of language acquisition, numerous studies have been made to analyse the emergence and development of inflectional categories (e.g. Dressler and Karpf 2005, Dziubalska-Kořaczyk

1997, Fabiszak 1997), however, to the best of my knowledge, its application for the study of lexical innovation remains marginal.

In what follows it is proposed that the formation of iconic verbs in both Polish and English-speaking children can be regarded as one of the processes taking place at the protomorphological stage at which the parameter of morphosemantic transparency entailing constructional iconicity is frequently relied on by children with the aim of avoiding markedness, that is morphological unnaturalness.

### **3. A brief overview of the most common verbalisation patterns in English and Polish**

In many languages, including Polish and English, novel verbs are created from nouns (Clark 1993), however, the derivational patterns differ from language to language, depending on the range of morphological processes that are available.

As far as the derivation of English verbs is concerned, the most productive pattern is forming verbs from nouns by means of conversion (Szymanek 1998). This derivational mechanism has been operating in English for centuries and is extensively used by speakers of English nowadays. Apart from conversion, English relies also on suffixation and, to a much lesser degree on prefixation. The most productive verbalising suffixes are: *-ate*, *-ify* and *-ize*. When it comes to prefixes, they are mostly used to denote reversal, e.g. *un-*, *dis-* and *de-*. Since the acquisition of reversal by children has been heavily researched and it is going to be elaborated on in this paper as well, it needs to be added that prefixes are not the only way to express reversal, as the notion of undoing may also be realised by means of verb particles, e.g. *on* and *off*, as in the pair *turn on – turn off*, or suppletively, i.e. by words unrelated in form, e.g. *lose* and *find*.

In Polish deverbal derivatives constitute by far the largest category of derived verbs, characterised, at the same time, by the largest degree of internal differentiation resulting from the ambiguity and morphological multifunctionality of prefixes, employed for their formation (Grzegorzczkova 1998). It needs to be emphasised that the use of prefixes is quite extensive and can be regarded as one of the most characteristic features of Polish derived verbs. In Polish prefixes are used not only to express semantic differences, e.g. *od-pisać* ‘copy’ and *prze-pisać* ‘rewrite’, but they also encode aspectual distinction, as in *pisać* ‘write’ (imperfective aspect) and *od-pisać* ‘copy’ (perfective aspect). Apart from prefixation, which is the most widespread mechanism of creating verbs, Polish also employs suffixation to create verbs from nouns, e.g. *koncert* ‘concert’ → *koncert-ować* ‘give a concert’, or verbs from adjectives, e.g. *chor-y* ‘ill’ → *chor-ować* ‘be ill’. Needless to say, Polish as a typically inflectional language does not use conversion at all.

### **4. Data**

The research into lexical innovation in Polish and in English was part of a larger project carried out in the years 2000 – 2005 the aim of which was to look into the morphological development of Polish and English-speaking children in terms of both its inflectional and derivational aspect. It was based on the corpus collected in the course of longitudinal studies conducted in the years from 2000 to 2003 in the form of audio-recordings and parental diaries

of three Polish children, aged between 1;6 and 6;0 and three English-speaking children at the age of between 1;2 and 3;8. Apart from my own corpus I have drawn on the results of elicitation studies of children between 2;0 and 7;0 carried out by Chmura-Klektowa and famous diary studies of Baudouin de Courtenay of his own children (Chmura-Klektowa 1964, 1970, 1971; Baudouin de Courtenay 1974) for Polish. As for English, I have also relied on the extensive corpus collected by Clark (1993) consisting of diary studies of a boy at the age between 1;8 and 5;11 as well as her less systematic observations of other children and examples from published diary and vocabulary studies (for details see Clark 1993: 143).

## 5. The study of verbal innovation in English and in Polish

As has been postulated many times, (see, e.g. Chmura-Klektowa 1971, Clark 1987, 1993) verbs are the second largest group of morphological neologisms in most languages, including English and Polish. The age at which the first novel verbs appeared in the corpora to be analysed is above two for both languages, while the innovative verb spurt can be observed around the age of three.

Children's lexical innovation in English has been studied quite extensively (Bushnell and Maratsos, 1984; Carey, 1978; Clark, 1979, 1982, 1987, 1991, 1993; Gelman et al. 1989; Tomasello, 1988, 1992, and others), especially when compared with that in Polish which enjoys a far narrower scope of publications (Szuman 1955, Przetacznikowa 1975, Chmura-Klektowa 1968, 1971). What should be emphasised at this point is that the acquisition of Polish has usually been described in terms of grammatical development (Smoczyńska 1985, Dąbrowska 2000, 2003), while lexical development seems to remain a neglected field of study.

As regards the study of verbal innovation in English one of the most exhaustive analyses is the one done by Clark (1993) who has emphasised the role of cognitive simplicity in this process. She found out that a vast majority of innovative verbs (72 per cent) are formed through denominal conversion, i.e. from nouns already familiar to children, which is tantamount to the transparency of meaning. The second most popular method of verb formation is deadjectival zero-derivation. Clark (1993) also investigated strategies adopted by children to express reversal and what she noticed is that in order to avoid suppletion children indiscriminately employ either a negative prefix *un-*, e.g. *un-tight* for *loosen*, or they use contrastive particles, as in *stand down* from *stand up* for *lie down*. As far as Polish is concerned, the most extensive and comprehensive contribution to the understanding of the way in which children develop their subsystem of derivational morphology was made by Chmura-Klektowa (1967, 1970, 1971). With respect to verbal innovation, she found out that producing verbs from nouns by means of suffixation is a productive option (this is also for true for other Slavonic languages, such as Russian, or Servo-Croatian), e.g. *doktor-ować* 'treat' from *doktor* while reversal is most frequently expressed by means of contrastive prefixes, especially by the prefix *od-*, as *od-boleć* 'un-hurt'.

In the following an attempt will be made to prove that innovative verbs produced by Polish and English-speaking children are characterised by morphological naturalness, i.e. cognitive simplicity.<sup>4</sup> It will be argued that some of them exhibit metaphoricity, while others diagrammaticity and morphosemantic transparency, far greater than that of their counterparts used in the adult language.

### 5.1. Iconic innovative verbs in English

As conversion is the most productive pattern for coining innovative verbs by children in English, it seems justified to make it a starting point of the present analysis. Consider a list of chosen examples of innovative verbs created through conversion in (1):

(1)	<b>iconic denominal innovative verb</b>	<b>adult counterpart</b>
	a. [D, 4;2:6] <i>scissor</i>	‘open with scissors’
	b. [D, 3;9:20] <i>axe</i>	‘tap with an axe’
	c. [D, 3;5:17] <i>wheel</i>	‘make wheels turn’
	d. [D, 3;3:8] <i>marble</i>	‘roll like marbles’
	e. [D, 3;0:8] <i>wrench</i>	‘undo with a wrench’
	f. [D;9:1] <i>needle</i>	‘mend with a needle’
	g. [D, 2;3] <i>trousers</i>	‘put on trousers’
	h. [D, 2;7] <i>broom</i>	‘hit with a broom’
	i. [D, 3;0] <i>match</i>	‘light with a match’
	j. [E, 2;0:11] <i>argument</i>	‘argue’
	<b>iconic deadjectival innovative</b>	<b>adult counterpart</b>
	k. [2;6] <i>sore</i>	‘feel sore’
	l. [2;8] <i>dark</i>	‘make dark’
	m. [2;10] <i>pink</i>	‘make pink’
	n. [E, 2;6:1] <i>sharp</i>	‘sharpen’
	o. [1;9] <i>tall</i>	‘get taller’

The above listed innovative metaphorical verbs exhibit similarity to the words they have been derived from. Not only is their form identical to the nouns or adjectives they have been created from, but they also show a close resemblance to their meaning. Iconic denominal verbs are derived from the nouns denoting the names of the instruments by means of which the action is performed, e.g. *needle* (1f), or *wrench* (1e), or the objects on which the action is performed, e.g. *wheel* (1c) or *trousers* (1g). Iconic deadjectival verbs are derived either from adjectives by which the subject is characterised, e.g. *tall* (1o) or *sore* (1k), or from adjectives denoting the features that the subject is capable of bringing about, e.g. *dark* (1l), or *pink* (1m). Thus, there exists a close resemblance between each derived verb and its base.

When talking about coining innovative verbs, the process of reversative verb formation must be mentioned as well, as it is highly iconic. According to Clark (1993), children opt for two methods of forming verbs for undoing actions. Young children (between two and three) use particles to express reversal; however, as this is not a productive way of coining verbs for undoing actions, older children overgeneralise the negative prefix *un-*, using it quite indiscriminately.

First of all, consider some instances of expressing reversal by means of particles:

(2)	<b>iconic innovative verb</b>	<b>verbal base</b>	<b>adult counterpart</b>
	a. [D, 2;2:6] <i>sink up</i>	<i>sink down</i>	‘rise to the surface’
	b. [D, 2;6:] <i>button down</i>	<i>button up</i>	‘undo’
	c. [D, 2;3:29] <i>stand down</i>	<i>stand up</i>	‘lie down’

As can easily be remarked, the underlying principle of this type of reversative verb formation is the principle of contrast. According to Chmura-Klekotowa (1967), young children are characterised by an aptitude for observing opposing features and meanings, which leads to the juxtaposition of prefixes performing a distinctive semantic function. Consequently, the verb *sink up* (2a) has been coined to convey the opposite meaning to the verb *sink down*; *button down* (2b) has been coined to express the opposite to *button up*, etc. Thus, replacing one particle with its opposite is tantamount to changing the meaning of the whole prepositional verb into its opposite. Therefore, such a reversative verb is iconic, as its signans shows a relation of analogy with its signatum, i.e. the addition of the opposite signans makes the whole signatum acquire the opposite meaning.

Nonetheless, here we can talk only about contextual iconicity, as these reversative verbs are iconic only when compared with the verbs they have been derived from. If deprived of the context, their iconicity would not be that apparent. For example, the meaning of the verb *stand down* taken out of verbal and situational context would give rise to a variety of interpretations. However, if it is evident that the child has said *I am standing up* when rising from a horizontal position, it is possible to interpret the utterance *I am standing down* as a description of the opposite process, i.e. ‘I am lying down’.

In other words, when interpreted in the context, the meaning of such a complex verb is semantically compositional, i.e. its meaning is a function of the meaning of its constitutive parts, e.g.

*button + down* = ‘fasten something by pushing its buttons through buttonholes’ + ‘do something opposite to what was done previously, i.e. buttoning up’ = ‘undo’

*tuck + out* = ‘put a piece of clothing into a particular place or position’ + ‘do something opposite to what was done previously, i.e. tucking in’ = ‘untuck’

Evidently, this way of forming reversative verbs is possible thanks to the fact that children have learnt that the pairs of particles, such as *in – out*, *up – down* are used to express contrasting meanings.

Another way of forming reversative verbs, which is much more productive than the use of particles, is the addition of the prefix *un-*. Consider the following examples:

(3)	<b>iconic innovative verb</b>	<b>verbal base</b>	<b>adult counterpart</b>
a.	[D, 2;9:24] <i>un-tight</i>	<i>tight</i>	‘loosen’
b.	[D, 2;10:20] <i>un-disappear</i>	<i>disappear</i>	‘reappear’
c.	[D, 3;1:5] <i>un-build</i>	<i>build</i>	‘take apart’
d.	[D, 3;4:3] <i>un-hang</i>	<i>hang</i>	‘take down’
e.	[D, 3;4:8] <i>un-crumple</i>	<i>crumple</i>	‘smooth out’
f.	[D, 4;3:15] <i>un-blow</i>	<i>blow</i>	‘deflate’
g.	[D, 4;3:17] <i>un-string</i>	<i>string</i>	‘take off’
h.	[D, 4;5:14] <i>un-light</i>	<i>light</i>	‘extinguish’

On the basis of the above examples it is evident that reversative verbs formed by the addition of the negative prefix *un-* are perfectly diagrammatic because they represent the first degree of diagrammaticity, i.e. agglutinative affixation. They are both morphotactically transparent



and semantically motivated, as the addition of the prefix *un-* equals the acquisition of reversative meaning. Let us consider the example (3d):

*un + hang* = ‘do something opposite to what was done previously, i.e. hanging’ + ‘put something in a hanging position’ = ‘take down’

As is easily remarked, reversative verbs functioning in child language are iconic, whereas their adult counterparts are formed suppletively, i.e. they are arbitrary. Their symbolicity stems from the fact that there is nothing in the derived verb that would resemble in any way its base, as in, for example, the pair of opposites: *hang – take down*.

On the whole, in English we can distinguish two kinds of innovative verbs coined by children. First of all, there is either deadjectival or denominal verbalisation. Secondly, there is the formation of reversative verbs by means of either the addition of particles or the prefix *un*. Whatever process is employed by the child, the verb derived in the course of it is much more iconic than its adult counterpart.

## 5.2. Iconic innovative verbs in Polish

As far as innovative verbs coined by Polish children are concerned, prefixation plays a crucial role in this process, as in Polish prefixes are of primary importance for verb formation because they express a wide variety of both semantic and aspectual differences.<sup>5</sup>

On the basis of the empirical data it is possible to differentiate three ways of forming verbal neologisms dependent on prefixation: omitting an initial syllable considered to be the perfective prefix, e.g. *grywa* for ‘na-grywa się’, i.e. ‘it is being recorded’; confusing prefixes, e.g. *za-kasować* for ‘s-kasować’, i.e. ‘punch’; and forming reversative verbs by using prefixes conveying the opposite meaning, e.g. *wy-ktadać* from *wktadać*, i.e. ‘put in’ for ‘wyciągać’, ‘take out’.

The cognitive mechanisms responsible for the formation of these iconic verbs can be accounted for on the grounds of the theory of apperception, put forward by Rozwadowski (1903). According to this Polish linguist, whose ideas have given rise to the modern cognitive theories of language, apperception is the process during which the attention of an individual is focused on single point, the one that is the most salient. This element is referred to as the identifier and it is believed to be responsible for placing the word within a certain class of words. All the rest of less salient elements are known as diversifiers, as they are capable of distinguishing between words belonging to the same class.<sup>6</sup>

Thus, it is the verb stem that children’s attention is focused on, whereas prefixes seem to be treated as ‘less important’, and as a result tend to be either deleted (I), confused (II), or misused (III).<sup>7</sup> In other words, the verb stem is considered to be the identifier and the prefix the diversifier. As already stated, the identifier places the word, in this case the verb, within a certain class, whereas the diversifier distinguishes this verb from other verbs belonging to the same class. For example, if we take one of the coinages produced by Polish children, *wy-wiązać* for ‘od-wiązać’, i.e. ‘undo’, the identifier is *wiązać* ‘tie’, because it places this verb within the class TIE, whereas *wy-* is the diversifier because it makes the verb *wiązać* different from other verbs, such as *przy-wiązać* ‘tie to’, *za-wiązać* ‘tie up’, *po-wiązać* ‘tie together’, *prze-wiązać* ‘tie with’, etc.<sup>8</sup>

In what follows three groups of innovative verbs in which prefixation plays a crucial role are going to be presented:

I. Omitting an initial syllable considered to be the perfective prefix:

(4) **iconic innovative verb**

- a. [K, 2;6:24] *ø-gląda-ć* (adult: *oglądać*)  
IPFV-watch-INF  
'watch'
- b. [K, 2;7:29] *ø-bija-ć* (adult: *ubijać*)  
IPFV-beat-INF  
'beat'
- c. [K, 2;9:1] *ø-wali-ła* (adult: *roz-waliła się*)  
IPFV-crumble-PST.3SG  
'(it) crumbled'
- d. [K, 2;9:30] *ø-mienimy* (adult: *za-mienimy się*)  
IPFV-exchange-FUT.1PL  
'we will exchange'
- e. [K, 2;10:24] *ø-prawić* (adult: *na-prawić*)  
IPFV-mend-INF  
'mend'
- f. [K, 3;3:4] *ø-lewa-m* (adult: *prze-lewam*)  
IPFV-pour-PRS.1SG  
'I am pouring'
- g. [K, 3;6:24] *ø-stawi-ć* (adult: *po-stawić*)  
IPFV-put-INF  
'put'
- h. [K, 3;6:24] *ø-prasza* (adult: *prze-prasza*)  
IPFV-apologise-PRS.3SG  
'he is apologising'
- i. [K, 3;10:12] *ø-przątam* (adult: *s-przątam*)  
IPFV-tidy-PRS.1SG  
'I am tidying'

The source of this kind of lexical innovation goes back to the phenomenon of improper segmentation of input, which is very common in children's speech. Children either regard two words as one word, as in the sentence *Dlaczego sójka odwiedziła po-ciotunię?* 'Why did the jay visit her [after-aunt]';<sup>9</sup> or do the opposite, i.e. divide indivisible words into two parts, as has been shown above, where every verb is treated not as an indivisible whole, but as a prefix and stem.<sup>10</sup> For instance, the verb *oglądać* is believed by children to consist of the prefix *o-* and the

stem \**glqdać*; the verb *ubijać* is considered to be composed of the prefix *u-* and the stem \**bijać*, etc.

The initial syllables of all these verbs are regarded as prefixes on the grounds of one of the principles of Natural Morphology, namely the transparency of encoding. Transparent encoding takes place if a given signans represents one and only one signatum. To children's knowledge, the initial syllable of the verb is the signans, whose only function is to represent the prefix. As the prefix is the diversifier, it merely modifies the meaning and grammatical form of the verb and is therefore omitted in children's speech, which is characterised by the tendency to disregard both grammatical and semantic subtleties. Hence, the omission of the initial verb syllable can be observed in the speech of the Polish children. Within the framework of Natural Morphology this process is referred to as subtraction, as it involves the deletion of the morphological material and therefore represents the least natural degree of diagrammaticity. The diagrammaticity of these verbs stems from the fact that subtraction of the initial syllable believed to be a prefix equals subtraction of meaning. In other words, to children's knowledge, these verbs become imperfective once their 'prefixes' are taken away.

## II. Mixing up prefixes:

(5)	<b>iconic innovative verb</b>	<b>adult counterpart</b>
	a. [M, 2;8:19] <i>u-rw-ij</i> PFV-tear-IMP 'tear out'	(adult: <i>wy-rwij</i> )
	b. [M, 3;1:22] <i>o-strugaj</i> PFV-sharpen-IMP 'sharpen'	(adult: <i>za-strugaj</i> )
	c. [Z, 2;1:4] <i>wy-sych-a</i> PFV-wither-PRS.3SG '(it) withers'	(adult: <i>u-sycha</i> )
	d. [K, 2;12:23] <i>wy-lep-ić</i> PFV-mould-INF 'mould'	(adult: <i>u-lepić</i> )
	e. [K, 3;1:2] <i>za-plami-lam</i> PFV-stain-PST.1SG 'I have stained (it)'	(adult: <i>po-plamiłam</i> )
	f. [K, 3;1:12] <i>wy-kle-j</i> PFV-stick-IMP 'unstick'	(adult: <i>od-klej</i> )
	g. [K, 3;4:14] <i>wy-wiąza-ć</i> PFV-tie-INF 'untie'	(adult: <i>od-wiązać</i> )

h. [K, 3;5:7] *za-su-ń*  
PFV-move-IMP  
'move (it) closer'

(adult: *przy-suń*)

Mixing up prefixes should be understood as using the prefix which is incorrect from the adult point of view because it does not combine with a particular verb even though it has got a similar meaning to the prefix that is conventionally used in this context, expressing at the same time perfectivity (see 8a and 8b). The grounds for this process are both grammatical and semantic, as in Polish verbal prefixes, apart from functioning as markers of perfectivity, frequently also convey a distinct meaning. For example, all the prefixes from the above sample, *o-*, *u-*, *wy-*, *za-*, *prze-*, *po-*, *od-* and *przy-* are not only used to denote completed actions, but many of them also express an independent meaning. The meaning of some of these prefixes is as follows:

- (6)
- a. *prze-* 'across', 'through'
  - b. *za-* 'completely', 'as far as possible'
  - c. *wy-* 'from the inside', 'away from'
  - d. *od-* 'away', 'away from'
  - e. *po-* 'a few times'
  - f. *przy-* 'to', 'in the direction of'

As already stated, the iconicity of the verbs from this set is both grammatically and semantically motivated. It is grammatically motivated in the sense that all the verbs produced by children are meant to express completed actions and for that purpose the children studied used perfective prefixes. What is iconic in this particular aspect of verb formation is the fact that all the verbs are still diagrammatic although incorrect from the adult point of view because incorrect prefixes have been attached to the verb stems. In other words, these verbs are diagrammatic because the addition of the prefix equals the addition of grammatical meaning:

- (7)
- a. *wy-klej* = 'complete the activity expressed by the verb' + 'use the glue'
  - b. *o-strugaj* = 'complete the activity expressed by the verb' + 'sharpen', etc.

As far as the semantics of these verbs is concerned, the meaning of prefixes attached by children to the verb stems is similar to the meaning of the verbal prefixes used by adults:

- (8)
- a. *za-plamiam* (child language) = 'completely' + 'I have stained myself', i.e. 'I have stained myself' completely for *po-plamiam się* (adult language) = 'a few times' + 'I have stained myself', i.e. 'I have stained myself a few times', or
  - b. *za-suń* (child language) = 'as far as possible' + 'move', i.e. 'move (it) as far as possible' for *przy-suń* (adult language) = 'in the direction of' + 'move', i.e. 'move (it) in the direction of'.

Thus, all these verbs are both morphotactically and morphosemantically compositional because the addition of a prefix brings about a grammatical and semantic change to the structure of the verb, which, as a result, becomes perfective and acquires a different shade of meaning. For example, the addition of the prefix *wy-* to the verb *-klej* makes the whole verb

perfective and semantically different from the verb *klej* ‘stick’. As the confusion of these prefixes is semantically and grammatically motivated, the meaning of the whole verb coined by children can not only be conjectured but also is close to that functioning in the adult language.

III. Forming reversative verbs by using prefixes conveying the opposite meaning:

- | (9) <b>iconic innovative verb</b>   | <b>adult counterpart</b>        |
|---|---------------------------------|
| a. [K, 3;1:12] <i>wy-klej</i> from <i>przy-klej</i><br>PFV-stick-IMP<br>‘unstick’                           | (adult: <i>od-klej</i> )        |
| b. [K, 3;3:17] <i>od-miesza-m</i> from <i>miesz-am</i><br>REV-mix-FUT.1SG <sup>11</sup><br>‘I will sort’    | (adult: <i>posegreguję</i> )    |
| c. [K, 3;7:18] <i>od-farbowa-lam</i> from <i>farbowa-lam</i><br>REV-dye-PST.1SG<br>‘I have removed the dye’ | (adult: <i>usunęłam farbę</i> ) |
| d. [K, 4;0:1] <i>od-włoży-sz</i> from <i>włoży-sz</i><br>REV-put-FUT.2SG<br>‘You will take out’             | (adult: <i>wyciągniesz</i> )    |
| e. [K, 4;3:22] <i>od-szy-lo=się</i> from <i>szyło się</i><br>REV-sew-PST.3SG =REFL<br>‘It has come off’     | (adult: <i>odpruło się</i> )    |
| f. [G, 2;2:10] <i>od-martwilem</i> from <i>zmartwilem</i><br>REV-worry-PST.3SG<br>‘I comforted’             | (adult: <i>pocieszyłem</i> )    |

The underlying principle of this kind of innovative verb formation in adult language goes against the principle of transparency of encoding, as reversative verbs are formed suppletively. As far as the children’s approach in this respect is concerned, the only way of expressing reversal is to attach the prefix *od-* to the verb stem. This method of reversative verbs formation stems from the fact that many verbs form their opposites by being prefixed with *od-*, e.g.

- (10) a. *dać* ‘give’ – *od-dać* ‘give back’  
 b. *nieść* ‘carry’ – *od-nieść* ‘carry back’  
 c. *jechać* ‘go’ – *od-jechać* ‘go away’

Hence, by analogy with this type of reversative verbs a significant number of verbs expressing reversal are formed by means of the reversative prefix *od-*. These innovative

reversative verbs created by children are diagrammatic because the addition of the prefix *od-* equals the addition of reversative meaning, e.g.

*od-włożysz* = ‘do something opposite to the activity expressed by the verb’ + ‘put in’ for ‘wyciągniesz’, i.e. ‘you will take out’.

Since in adult language reversative verbs are most often formed suppletively, it can safely be proposed that the notion of reversal is much more iconic in child language than in adult language.

As far as innovative verbs are concerned, apart from creating prefixation oriented verbal neologisms, Polish children also resort to denominal verbalisation:

(11) <b>iconic innovative verb</b>	<b>adult counterpart</b>
a. [K, 3;3:1] <i>grzebien-iować=się</i> from <i>grzebień</i> comb-INF=REFL ‘comb one’s hair’	(adult: <i>czesać się</i> )
b. [K, 3;7:5] <i>za-guzik-ować</i> from <i>guzik</i> PERF-button-INF ‘button up’	(adult: <i>zapiąć guziki</i> )
c. [K, 3;11:6] <i>kosmetyk-ować=się</i> from <i>kosmetyk</i> cosmetic-INF=REFL ‘make up’	(adult: <i>robić makijaż</i> )
d. [K, 3;11:16] <i>wózk-ować</i> from <i>wózek</i> pram-INF ‘push a pram’	(adult: <i>pchać wózek</i> )
e. [K, 3;12:13] <i>wilcz-yć</i> from <i>wilk</i> wolf-INF ‘howl like a wolf’	(adult: <i>wyc jak wilk</i> )
f. [K, 4;4:6] <i>rower-ować</i> from <i>rower</i> bike-INF ‘ride a bike’	(adult: <i>jechać na rowerze</i> )
g. [K, 4;6:12] <i>komputer-ować</i> from <i>komputer</i> computer-INF ‘use a computer’	(adult: <i>korzystać z komputera</i> )
h. [G, 4;9:12] <i>wachlarz-yć</i> from <i>wachlarz</i> wachlarz-INF ‘fan’	(adult: <i>wachlować się</i> )

Definitely, the above coinages are motivated by economy, as they express the concept they stand for very synthetically, far more synthetically than their adult counterparts. What is more, their formation seems to be triggered by analogy with quite a productive pattern of denominal verbalization in Polish, i.e. noun + the infinitive suffix *-ować*, as in *dyrektor* ‘director’ → *dyrektorować* ‘be a director’. All these innovative verbs are iconic because they are morphosemantically compositional, and in a majority of cases diagrammatic. It means that the addition of the infinitive suffix to the noun base, which in children’s coinages denotes an instrument, or an agent (*X + -ować*) makes the noun become a verb which means ‘use an X’ (for an instrument), or ‘behave as an X’ (for an agent). What is more, all these innovative verbs are metaphors from a semantic point of view because they are characterised by their similarity to the objects they have been derived from. Thus, the verb *za-guzik-ować* (12b) ‘button up’ is metaphorical because it exhibits resemblance to the object it denotes. It has been derived from the name of the object that the activity is performed on, i.e. *guzik*, ‘button’, and it names the activity performed on this object. If we take the verb *kosmetykować się* (12c) ‘make up’, it has been derived from the name of the object used as an instrument in the process denoted by the verb, i.e. *kosmetyk*, ‘cosmetic’, and it names the activity performed by means of it.

## 6. Conclusion

On the whole, the above findings coincide with those presented by Clark (1993) and Chmura-Klektowa (1967, 1970), the only point of divergence being the omission of an initial syllable considered by the child to be the perfective prefix (see section 4 above) which was not attested by Chmura-Klektowa. However, in my corpus this strategy was adopted only by one girl, so it is possible that it is exclusively idiosyncratic, and any claims concerning its universality would be hasty and unjustified at this point.

It is hoped that by presenting the results of research into verbal innovation within the framework of Natural Morphology it became possible to provide a solid theoretical background to the early stages of morphological development with respect to lexical innovation and, consequently to ensure a deeper understanding of rules governing the morphological structure of language and strategies used by children during its acquisition.

From the point of view of Natural Morphology, all the verbal coinages discussed in this paper are diagrams and metaphors. As far as the morphological processes employed by the children are concerned, prefixation is not only more diverse in Polish than in English due to the more developed and sophisticated system of verbal prefixes in this language, but it is also relied on to a greater extent. In contrast, English-speaking children recourse most often to metaphoricisation, as conversion is quite a productive derivational process in English. Apart from conversion, another strategy that is made use of in one language but ignored in the other is the use of particles, characteristic of English only. The reason for this is that only English relies on the use of particles for the formation of verbs, whereas Polish opts for prefixation instead.

All this means that the tendencies prevalent in children’s speech are the reflection of the most productive patterns in the adult language. While derivational patterns as such are imitated quite faithfully, the use of particular derivational rules applied to specific lexemes is divergent from an adult norm whenever it goes against the principle of cognitive simplicity, understood as morphosemantic transparency, that is whenever it ‘faces the threat’ of

becoming morphologically unnatural. Because of that, innovative verbs produced by children are much more iconic than their adult counterparts due to the fact that there is always a causal, not arbitrary, link between the derivative and its base. This is achieved by a far-reaching overgeneralisation of derivational patterns productive in a particular language, as has been amply demonstrated above.

#### Notes

<sup>1</sup> For further discussion of premorphology and protomorphology in Polish see Dziubalska-Kołodziejczyk (1997)

<sup>2</sup> A full list of parameters is to be found in Galeas (1998).

<sup>3</sup> For further discussion of premorphology and protomorphology in Polish see Dziubalska-Kołodziejczyk (1997).

<sup>4</sup> For the discussion of the iconic motivation in the production of novel nouns consult, e.g. Konieczna and Kleparski (2005, 2006).

<sup>5</sup> A discussion of the nature of prefixes in Polish can be found in, for example, Bąk (1989: 259) and Fisiak (1978: 107).

<sup>6</sup> The morpheme which is an identifier can be said to be foregrounded, whereas the one that is a diversifier to be backgrounded in the sense of Langacker (1991).

<sup>7</sup> These three groups of iconic innovative verbs have been listed below.

<sup>8</sup> As has already been remarked, the theory of apperception has given rise to the distinction between the profile and the base, put forward by Langacker. Consequently, the verb stem in children's iconic innovations is the profile, and it is foregrounded, whereas the prefix is the base and it is backgrounded (Langacker 1991).

<sup>9</sup> The origin of this neologism should be traced back to the following part of a rhyme by Jan Brzechwa: *Po ciotuni jeszcze sójka/Odwiędziła w mieścica wujka*, 'After the visit at her aunt the jay called on her uncle'.

<sup>10</sup> For the discussion of morphological reinterpretation, or folk etymology in the child language see e.g. Konieczna (2009).

<sup>11</sup> REV stands for the prefix denoting reversal.

#### References:

BAUDOIN DE COURTENAY, Jan. 1974. *Spostrzeżenia nad językiem dziecka: wybór i opracowanie*. Wrocław: Polska Akademia Nauk, 1974.

BATES, Elizabeth, DALE, Philip, Donna, THAL. 1995. Individual differences and their implications for theories of language development In FLETCHER, P., MACWHINEY, P. (eds.) *The Handbook of Child Language*, Oxford: Blackwell, 1995, pp. 96-151.

BAK, Piotr. 1989. *Gramatyka języka polskiego*. Warszawa: Wiedza Powszechna, 1989.



- BUSHNELL, Emily, MARATSOS, Peter. 1984. Spooning and basketing: children's dealing with accidental gaps in the lexicon. In *Child Development*, 1984, no. 55, pp. 893-902.
- CHMURA-KLEKOTOWA, Maria. 1964. Rozwój rozumienia budowy wyrazów i umiejętności tworzenia wyrazów nowych (analogicznych) u dzieci w wieku przedszkolnym. In *Psychologia Wychowawcza*, 1964, no. I, pp.403-418.
- CHMURA-KLEKOTOWA, Maria. 1967. Neologizmy słowotwórcze w mowie dzieci. In *Poradnik Językowy*, 1967, no. 10, pp. 433-453.
- CHMURA-KLEKOTOWA, Maria. 1970. Odbicie tendencji słowotwórczych języka polskiego w neologizmach dzieci. In *Prace Filologiczne*, 1970, no. 20, pp.153-159.
- CHMURA-KLEKOTOWA, Maria. 1971. Neologizmy słowotwórcze w mowie dzieci. In *Prace Filologiczne*, 1971, no. 21, pp. 99-235.
- CAREY, Susan. 1978. The child as word learner. In HALLE, M, BRESNAN, J, MILLER, G. (eds.) *Linguistic theory and psychological reality*, Cambridge: MIT Press, 1978, pp. 181-206.
- CLARK, Eve. 1987. The principle of contrast: a constraint on language acquisition. In MACWHINEY, B. (ed.) *Mechanisms of language acquisition*, Hillsdale, NJ: Lawrence Erlbaum Associates, 1987, pp. 1-33.
- CLARK, Eve, SWAIB, Trisha. 1991. Speaker perspective and lexical acquisition. Paper presented at the Child Language Seminar, University of Manchester, UK, 1991.
- CLARK, Eve, NEEL-GORDON Amy, JOHNSON, Susan. 1993. Convention and contrast in the acquisition of verbs. Paper presented at the Sixth International Congress for the Study of Child Language, Trieste, 1993.
- CLARK, Eve. 1993. *The lexicon in acquisition*. Cambridge: Cambridge University Press, 1993.
- CROFT, William. 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford: Oxford University Press, 2001.
- DĄBROWSKA, Ewa. 2000. Could a Chomskyan Child learn Polish? The logical argument for learnability. In PERKINS, M., HOWARD, S. (eds.) *New directions in language development and disorders*. New York: Plenum, 2000, pp. 85-96.
- DĄBROWSKA, Ewa. 2003. Od formuły do schematu: akwizycja pytań w języku angielskim. In DĄBROWSKA, E., KUBIŃSKI, W. (eds.) *Akwizycja języka w świetle językoznawstwa kognitywnego*. Kraków: Universitas, 2003, pp. 223-254.
- DIRVEN, Rene, RADDEN, Günter. 2001. Kognitywne podstawy języka: język i myśl. In TABAKOWSKA, E. (ed.) *Kognitywne podstawy języka i językoznawstwa*. Kraków: Universitas, 2001, pp. 15-45.
- DRESSLER, Wolfgang, Willi MAYERHALTER, Oswald PANAGAL, WURZEL, Wolfgang. 1987. *Leitmotifs in Natural Morphology*. Amsterdam: John Benjamins, 1987.

- DRESSLER, Wolfgang, MERLINI, Barbaresi L. 1994. *Morphopragmatics. Diminutives and intensifiers in Italian, German, and other languages*. Berlin: Mouton de Gruyter, 1994.
- DRESSLER, Wolfgang, KARPf, Annemarie. 1995. The theoretical relevance of pre- and protomorphology in language acquisition. In *Yearbook of Morphology* 1994, pp. 99-124.
- DZIUBALSKA-KOŁACZYK, Katarzyna. 1997. Pre- and proto- in Polish phonology and morphology and their interrelations. In *PsiCL*, 1997, no. 33, pp.158-171.
- FABISZAK, Małgorzata. 1997. Polish inflection classes within Natural Morphology. In *Biuletyn Polskiego Towarzystwa Językoznawczego*, 1997, no. 53, pp. 95-119.
- FISIAK, Jacek. 1978. *An Introductory Polish-English Contrastive Grammar*. Warszawa: PWN, 1978.
- GALEAS, Grazia Crocco. 1998. *The parameters of Natural Morphology*. Padova: Unipress, 1998.
- GATHERCOLE, Virginia, Eugenia SEBASTIAN, SOTO, Pilar. 1999. The early acquisition of Spanish verbal morphology: across the board or piecemeal knowledge? In *International Journal of Bilingualism*, 1999, no. 3, pp. 43-67.
- GELMAN, Susan, WILCOX Sharon, CLARK, Eve. 1989. Conceptual and lexical hierarchies in young children. In *Cognitive development*, 1989, no. 4, pp. 309-326.
- GOLDBERG, Adele E. 1995. *Constructions: a construction grammar approach to argument structure*. Chicago: University of Chicago Press, 1995.
- GOLDFIELD Beverley A., SNOW, Catherine E. 1989. Individual differences in language acquisition In GLEASON, J. (ed.) *The Development of Language*. Columbus: Merrill, 1989, pp. 307-330.
- GRZEGORCZYKOWA, Renata (ed.) 1998. *Gramatyka współczesnego języka polskiego*. Warszawa: PWN, 1998.
- HAIMAN, John. 1980. The iconicity of grammar: isomorphism and motivation. In *Language*, 1980, no. 3, pp. 515-540.
- KONIECZNA, Ewa, KLEPARSKI, Grzegorz. 2005. In search of evidence for metonymically motivated nouns in children's speech. In *SKASE Journal of theoretical linguistics*, 2005, no. 3, pp. 43-57.
- KONIECZNA, Ewa & Grzegorz KLEPARSKI. 2006. Motivation in language: the case of metonymically motivated nouns in children's speech. In *Odisea: Revista de Estudios Ingleses*, 2006, pp. 103-118.
- KONIECZNA, Ewa. 2009. De-obscuring the language: folk etymology in modern English and Polish. In *Galicja Studies in English*, 2009, no. 2, pp. 71-79.
- LANGACKER, Ronald. 1991. *Foundations of Cognitive Grammar*. Stanford: Stanford University Press, 1991.

- LIEVEN, Elena, PINE, Julian M., BALDWIN, Dare. 1997. Lexically-based learning and early grammatical developments. In *Journal of Child Language*, 1997, no. 24, pp. 187-220.
- MACWHINNEY, Brian (ed.) 1987. *Mechanisms of language acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1987.
- MARCHAND, Hans. 1969. *The Categories and Types of Present-Day English Word-Formation*. Munich: C.H. Beck, 1969.
- MEINTS, Kerstin, PLUNKETT, Kim, HARRIS, Paul L. 1999. When does an ostrich become a bird: the role of prototypes in early word comprehension. In *Developmental Psychology*, 1999, no. 35, pp. 1072-1078.
- NELSON, Katherine. 1981. Individual differences in language development: implications for development and language. In *Developmental Psychology*, 1981, no. 17, pp. 170-187.
- PEIRCE, Charles. 1965. *Collected papers*. Cambridge, MA: Harvard University Press, 1965.
- PETERS, Ann M. 1977. Language Learning Strategies: does the whole equal the sum of parts? In *Language* 1977, no. 53, pp. 560-573.
- PRZETACZNIKOWA, Maria. 1968. Rozwój struktury i funkcji zdań w mowie dziecka. In SZUMAN, S. (ed.) *O rozwoju języka i myślenia*. Warszawa: PWN, 1968, pp. 383-629.
- RICHARDS, Brian J. 1990. *Language Development and Individual Differences: A Study of Auxiliary Verb Learning*. Cambridge: Cambridge University Press, 1990.
- SLOBIN, Dan (ed.) 1985 *The crosslinguistic study of language acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985.
- SMOCZYŃSKA, Maria. 1985. The acquisition of Polish. In SLOBIN, D. (ed.) *The crosslinguistic study of language acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985, pp. 595-686.
- SZUMAN, Stefan. 1955. Rozwój treści słownika u dzieci In *Studia Pedagogiczne*, 1955, no. 2, pp. 19-95.
- SZYMANEK, Bogdan. 1998. *Introduction to Morphological Analysis*. Warszawa: PWN, 1998.
- TOMASELLO, Michael, MANNLE Sara, WERDENSCHLAG, Lori. 1988. The effect of previously learned words on the child's acquisition of words for similar referents. In *Journal of Child Language*, 1988, no. 15, pp. 505-515.
- TOMASELLO, Michael. 1992. *First verbs: a case study in early grammatical development*. Cambridge: Cambridge University Press, 1992.
- TOMASELLO, Michael. 1995. Language is not an instinct. In *Cognitive Development*, 1995, no. 10, pp. 131-156.
- TOMASELLO, Michael. 2003. *Constructing a language: a usage-based theory of child language acquisition*. Harvard: Harvard University Press, 2003.

WELLS, Gordon. 1985. *Language Development in the Preschool Years*. Cambridge: Cambridge University Press, 1985.

WURZEL, Wolfgang. 1994. Natural Morphology. In ASHER, Ron E., SIMPSON, John M.Y. (eds.) *The encyclopedia of language and linguistics*. Oxford: Pergamon Press, 1994, pp. 2590-2598.

ZWICKY, Arnold M., PULLUM, Geoffrey K. 1987. Plain morphology and expressive morphology. In *Proceedings of the Thirteenth Annual Meeting, General Session and Parasession on Grammar and Cognition*. Berkeley Linguistics Society, Berkeley, California, pp. 330–340.

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