

ALINA MACIEJEWSKA

University of Natural Sciences and Humanities in Siedlce  
Faculty of Humanities

ORCID ID: <https://orcid.org/0000-0001-5665-8520>

## Semantics of the Language Sign in Speech Therapy Studies and Procedure

### SUMMARY

Studying the comprehension of a word is one of the basic stages of the speech therapy diagnostic procedure. Hence, the procedure itself, is to check whether an examined person knows what given words mean. The methods used, however, allow to register only a limited range of semantic structure. The article demonstrates possibilities of describing words' meaning applied by the scholarly disciplines that actually deal with those units i.e. psychology and linguistics. Thus while introducing ongoing alterations of scholars' views on the formation of the semantic structure of words in speech development, the author urges the need to instigate a study on the meaning of the basic unit - word in both the research on speech development and disorders, and speech therapy procedures.

**Key words:** lexical semantics, word, semantic structure

*A speech therapist is a guy who's „working” in a language* - Professor Stanisław Grabias with that catchy and quite popular phrase, describes to his students the area of speech therapists' interests and activities. This, however trivially sounding, phrase indicates that for speech therapists there are no secrets in neither the form, the content of language signs nor the relations between the signs and rules. Interestingly, from a limited number of segments, these signs along with the rules, allow users to build almost infinite variations of forms and an unlimited number of texts and adapt constructions to the needs, communication situations, the role of the sender and the rank of the recipient. It seems that after years of research, we can quite well determine how children, in their stages of development, master forms of language signs. On the other hand, we know

relatively little about how children understand and build the meaning of words. We mainly make hypotheses, refer to models, use intuitive beliefs, especially that the adequate use of a word form also proves knowledge of its meaning<sup>1</sup>.

## SEMANTIC RESEARCH IS A CHALLENGE FOR INTERDISCIPLINARY RESEARCH

Given that communication is a reconciliation of meanings, and understanding is a guarantee of successful communication, then from the perspective of diagnosis and programming of speech therapy, it seems absolutely necessary to determine how children master the meaning of the smallest units of meaning in a language<sup>2</sup>. Hence, the vitality to recognise the strategies children, in the subsequent stages of their development, use to build the semantic structure, and to see how and to what extent they actually understand the statements / linguistic behaviours of people around them. These questions may seem trivial on the account of the experience of adults, who in communicating with children, would rather believe that despite a different scope of experience, language skills, level of cognitive development, etc., children use the form of expression in the generally accepted sense. Surprisingly, differences reveal, but only in a few conflict situations, amusing misunderstandings or experiments designed to study children's understanding of the world. Publications discussing development and disorders of speech and language embedded most strongly the structuralist understanding of language that the basic unit of the system is an expression.

This language sign is defined by form and meaning, two inseparables just like „two sides of the same coin” (de Saussure 1991). Interestingly, in linguistics, despite the widespread use of the term meaning<sup>3</sup>, when semantic research was undertaken<sup>4</sup> it was with reluctance or, somewhat varying interest. A satisfactory definition in linguistic, philosophical or psychological literature (cf. e.g. Lyons

---

<sup>1</sup> Semantics is the science dealing with meaning i.e. the aspect of assigning language signs to a wide range of non-language objects. At the beginning of 19<sup>th</sup> century it distinguished from lexicography practice. The first notion suggested for the area was semasiology and Ch. K. Reising, 19<sup>th</sup> century latinist was considered the creator of the term. During his linguistic lectures, he stressed the need to have a second pillar next to grammar i.e. semasiology. This discipline was to explain the meaning of words and their development. Today, we consider semantics as part of more general academic field – semiotics, responsible for sign systems. (EJO, 1993, pp. 479).

<sup>2</sup> Lexical semantics.

<sup>3</sup> As very common metaphor compares meaning and its place in the language system description to a snake winding though all language sub-systems that is impossible to catch.

<sup>4</sup> U. Eco (1998) claims that the fear of meaning in the linguistics is mainly due to the term's ambiguity and controversy.

1977, Grzegorzczkova 1993) is also rare to find. Moreover, it is not easy to set homogeneous and precise criteria for the separation of semantic units, resembling the methods lexicographers apply to define and distinguish definition features and select the material constituting the basis of the definition (cf. e.g. Apresjan 1972, Bartmiński, Tokarski 1993 etc.)<sup>5</sup>. The methods of combining form and content (and thus the separation of language units) proposed by semantics did not establish a satisfactory role of meaning or the ways of registering it. Quite the opposite, they brought considerable distrust, reluctance even towards application of semantic methods in the description of the language system, at times, going as far as to reach no recognition for the proposed ways of describing the meaning of words. The situation changed with the dissemination of cognitive linguistics and cognitive sciences<sup>6</sup> research results, which accentuated questions on the meaning and how a human brain creates it. It seems that this is one of the major challenges of the 21<sup>st</sup> century – the century, which was announced to be the research-on-meaning-age (Bergen 2017). Undoubtedly, new possibilities arise from brain activity imaging techniques. These achievements allow making meaning one of the most important areas of research, and determine new formulas for interpreting ways of understanding the meanings of language units.

The tradition of lexicological, logical, philosophical and linguistic studies simply confirms the challenge's extend that semantic research faces. And let us not disregard the level of difficulty of the research on the formation and development of the words' meanings in a child's language, as they require proven methods, precise techniques that allow registering meanings and taking into account many factors from the cognitive, linguistic, cultural, to social aspects<sup>7</sup>. Therefore, it is fairly difficult to settle for the thesis that when a child takes a form of expres-

---

<sup>5</sup> Probably for these reasons, in the efforts made by linguists, both attempts to eliminate meaning and its primary treatment can be found. I illustrate selected views with quotes from excellent language researchers from different periods. L. Bloomfield (1933/35) wrote: „To put it briefly, in human speech, different sounds have different meanings. To study this co-ordination of certain sounds with certain meanings is to study language.” N. Chomsky believed that if the meaning and related aspects of language were proven to play a role in linguistic analysis, [...] it would be a serious setback to the language theory foundations (1955, 141). However, the excellent language researcher and semantic A. Wierzbicka (2006, 25) claimed that if we really want to precisely study the relationship between sounds (or language forms) and meanings our requirements for this accuracy and consistency of semantic descriptions should be as high as the requirements for describing these forms and sounds.

<sup>6</sup> Neurobiologist D. Eagleman (2017, 42) says that the problem of meaning has not been solved yet. We still cannot say that the meaning person retrieves comes from associations they acquired in course of their live experience.

<sup>7</sup> The search for solution is a multigenerational discussions on language and thinking relation. All that we can allocate from the very different convictions of philosophers, from the statement that language is the dress of thought (S. Johnson XVIII c.) to the believe, that God gave people speech and speech created though (Sheley XIX c.).

sion from the surrounding, it also takes the meanings attributed to it<sup>8</sup>. We should keep in mind the strenuousness required to deduce the meaning of a word that is created in the minds of people with speech disorders.

## THE EMERGENCE OF THE MEANING OF WORDS-CONCEPTS FROM A PSYCHOLOGICAL PERSPECTIVE

It is hardly possible to argue with the belief that cognitive and linguistic developments are closely related<sup>9</sup> and conditioned by the formation of concepts<sup>10</sup>. In psychology, it is assumed that meaning arises in the process of cognitive reflection of the word's meaning and sign's differentiation from what is actually identified (Włodarski, Matczak 1987, 210). It is a two-way relationship because it requires „extracting” the reality element represented by a word from the overall situation, i.e. from the „mental image” of the surrounding world whilst using elements of language to assign them. The development of speech allows not only a better extraction and remembrance of reality objects and their relations, but also impacts patterns of concepts' scopes and enables to acquire knowledge about elements of the world that are not sensory recognised. Naturally, psychology apprehends the fact that many factors influence the process of creating meanings (concepts) e.g. the development of individual physiological, neurological, psychological characteristics of a child, the influence of environment, the child's ability to explore it, language patterns and participation in communication, to mention just few of them. However, conditions and ways that allow children to isolate elements of the world and build knowledge about the world and language can be difficult to determine. Many years of research shows that sensory perception of the world focuses on the coherence<sup>11</sup>, whereas recognising familiar components of things, finding similarities and differences tends to organise the accumulated knowledge and build one's own image of the world (Grabowska, Budohoska 1995). When a child notices other elements of the whole object, he or she verifies the existing structure, puts new hypotheses, tests abilities, and moulds the elements of knowledge. Undoubtedly, the child's curiosity and activity are allies in training the cognitive and language systems. The research of psycholo-

---

<sup>8</sup> The model compares a word (form and meaning) to a package child unwraps and finds the content.

<sup>9</sup> Theories of Piaget (1992) and Wygotski (1989) are most often used to explain the types of these relationships and determinants of these processes.

<sup>10</sup> The model of these mutual relations is the so-called semantic triangle of K. Ogden and I.A. Richards (1923).

<sup>11</sup> This is a feature of the human mind, and one of the most important skills is inference by analogy (Maciejewska 2015)

gists and psycholinguists shows that sensory perceptibility of traits<sup>12</sup> determines the order of appearance, in the individual dictionary, of names that correspond to different categories of describing reality. However, it should be remembered that the results of research from the late twentieth century indicate that building the knowledge structure (categorisation and concept formation) depends on processes deeper than the perception of designation features (Gleason, Ratner 2005, 212).

### ON DEVELOPING THE MEANING OF WORDS IN CHILD'S LANGUAGE

Building a semantic structure is arranging the knowledge<sup>13</sup>. The skill that guarantees that along with creating its structures and discovering rules is conditioned by the human mind's ability to perform the reason-based analogy (Maciejewska 2015). N. Manamara (1993) argued that children reveal the reason-based analogy ability before they are 12 months old. Other researchers' experiments indicate that the ability to create semantic categories can be seen in much younger children<sup>14</sup>.

The most frequently reproduced description of the process of creating word's meaning in a child's language can be found in W. Stern (1923). It begins with attempts made by children to imitate the surrounding speech sounds. Adults try to attribute, these unconsciously repeated sounds, to the elements of the surrounding world – labelling fragments of reality. Subsequently, in course of the child's life, with the maturation of the brain structures, growth of possibilities and range of environment exploration, with more varied communication ways, and the development of language and communication skills, the meaning gets clarified and it modifies. Other models (Jurkowski 1975) studied the impact of child's actions on his/her emotions thus considering that meanings arise as a result of associations, perceptions, impressions, images and designates that affect the child<sup>15</sup>. Addition-

---

<sup>12</sup> That information often derives from works published years ago (e.g. Kowalski 1962).

<sup>13</sup> Each structure is based on the grouping and assignment of individual elements into a category. For example, the basics of grammatical classification of words (including understanding of meanings in these activities) have been developed using categorisation (Aristotle), i.e. including all elements in the collection of the same features. This grouping of units resulted, among others, in the development of basic grammatical categories (basics of linguistics). The need to categorise is a property of the human mind. Studies of children's language skills have shown that they recognise the basic grammatical categories of words in a natural way; this ability allows 3-4 years old children to easily include new units in inflectional and word-formation paradigms (the Berko experiment (1956), in which they used the potential word *vug* is the most frequently cited evidence. The results of M. Przetacznikowa, M. Kielar (1973) only confirmed this ability in Polish children).

<sup>14</sup> In classical literature, these abilities are often attributed to excessive expansion or narrowing of the meanings, especially of the first words in children's language.

<sup>15</sup> Professor S. Szuman created a team describing the development of a child's speech and language based on empirical work (named the Szumanowski's team). He claimed (Szuman 1968.6)

ally, it was emphasised that the behaviour of immediate environment strengthened the meanings. Although it was assumed that the first meanings were physiological, it was indicated that they were fluctuating as a result of transformations, remodelled due to specific family uses (Jurkowski 1975) and were featured by the individuality of the child<sup>16</sup>. More importantly, it was recognised that the development of meanings / concepts is influenced by the development of language<sup>17</sup>. As the speech development progresses, along with the denotation and reference function, the symbolic function of language units begins to shape, thus the concept is formed.

Undoubtedly, one cannot but to admit the influence on the views of linguists of the psychological theories, that explained the meanings and ways the human brain collects and stores them. However, the knowledge about the development of concepts turned out to be insufficient to establish the development of the word's meaning in ontogenesis. Years after along with the recognition of the validity of semantic description of language units, it became increasingly important to examine how children, using words and making statements, think about a given object and how they discover relationships between concepts, lexical, and grammatical phenomena, between syntax, pragmatics, culture and etc. Now, in terms of numerous papers on child's speech and language development, the semantics was frequently present in the lexis development studies (e.g. Smoczyński 1955, Szuman 1968, Geppertowa 1968, Kaczmarek 1977 et seq., Zarębina 1994). In the description of semantic phenomena the theory of semantic fields<sup>18</sup> – though little applied – and the method of centres of interest (Miodunka 1980)<sup>19</sup> appears to be vital. As the history of meaning research demonstrates, such an analysis of semantic features, although promising, did not fully satisfy linguists, psychologists, or logicians<sup>20</sup>, but it became an inspiration in the study of the semantics of a child's language (see semantic models, below). And

---

that behind every understood word there is an object reflected by the mind and that creates content of a given word.

<sup>16</sup> Forming any meaning is also circumscribing of an individual - an excessive narrowing of the meanings or shifting them through their excessive expansion, see e.g. Kaczmarek (1977).

<sup>17</sup> L. Kaczmarek (1977), in the well-known description of the development of a child's speech, emphasised the role of meaning in language acquisition, distinguishing the stage of one-class and two-class semantic signal.

<sup>18</sup> Problems with specifying the term of the semantic field and other e.g. word, conceptual, content fields see R. Tokarski (1984).

<sup>19</sup> Determining sets of semantic components, by means of distinguished semantic features (sems), allowed analysing, defining both similarities and the most important features (semantic cores) in the zero-one assigned components operations.

<sup>20</sup> A. Wierzbicka set completely different requirements for the semantic description (e.g. 2006). In the method based on the description of the meaning of the word using elementary semantic units, she drew attention to the need to determine the repertoire of units describing the meaning of the word.

similarly, in lexical studies, recording the development of skills<sup>21</sup> to define words was the way to describe the meaning of words in a child's language. The research clearly proved that curiosity of a healthy child, leading to the determination of how things are called<sup>22</sup> or what words mean, is demonstrated in different ways in different communication situations (Boniecka 2001)<sup>23</sup>. Four-year-old children can quite freely use different types of definitions. When working with children with delayed speech development or persons with speech and language disorders, we should remember that definitions do have meaning, providing one knows the language, and that the ability to define / build definitions is undoubtedly passed on through the linguistic habit of the environment<sup>24</sup>.

### FORMATION OF THE SEMANTIC STRUCTURE OF WORDS IN SPEECH AND LANGUAGE DEVELOPMENT – SELECTED MODELS<sup>25</sup>

It seems that the best known concept of semantic development is E. Rosch's (1973, 1977) category of prototypes, that refers to the idea of recognising meaning as a semantic field with a diverse structure. It is an interpretation of how the semantic structure forms and how a child masters names. The field's semantic scope consists of all examples belonging to the head category. The best examples (or example of a given category) are the centre of the field, i.e. the prototype. The fewer similar features in the next identified (included in the field) unit / units, the further from the centre hence they constitute the so-called peripheral categories. In semantic development, the structure of the parent category is gradually filled

---

<sup>21</sup> In the oldest lexicographers' studies, the description of meaning and understanding was identified with the effectiveness of defining. The methods developed by lexicologists focused attention on descriptions: what the word refers to or how objects are defined. Since significance was one of the main tasks and research in lexicography. In turn, these lexicographic practices, established onomastics – answering how things are called, and semasiology to look for answers what objects words define.

<sup>22</sup> This behaviour, it announces, is the typical for nine months olds (appearing naturally) finger pointing gesture. In addition to the function of showing objects, distinguishing them from the background, etc., waiting for the sound form, it is practicing common attention field. More details see: J. Cieszyńska, M. Korendo (2006).

<sup>23</sup> It turns out that the earliest questions to which adults respond by naming the object indicated by the child are quite quickly supplemented by questions about features, cause, purpose, condition, etc. (Szuman 1968). Research shows that four-year-olds use almost all methods of definition (Boniecka 2001, Maciejewska 1999).

<sup>24</sup> The belief that the basic, same range of words (about 50 initial words) can be found in a child's language turned out to be false. Studies of multilingual children have shown significant similarities in their lexical resources, but not their identity

<sup>25</sup> M. Haman (1993) and M. Kielar-Turska (1989) write about that in Polish papers.

by successively explored and in-taken grouped objects around the nucleus. The distance from the nucleus determines the similarity to the best pattern example. The inclusion of objects is carried out on the basis of a comprehensive concept creation model<sup>26</sup>. The resulting structure is largely unpredictable. It corresponds to the process of structuring knowledge of the world in which three levels can be distinguished. The first, considered basic, is the earliest one mastered by a child. It arises as a result of the most sound example emerging from the environment including its features that the child perceptually extracted. The sum of these features, independently distinguished by the child, determines the category prototype. Therefore, the words that define objects from this level, are those which a child learns the earliest when dealing with the environment. They belong to the vocabulary of the basic lexical scope, have a specific meaning, are quickly discovered, easily memorised, because phonologically and articulately they are relatively easy and short. The second level – the superior one, appears later and requires the ability to develop the features of distinguished objects and to generalise them. It brings more difficulty, since the child must choose from many perceptual features those similar in all objects. At this stage, the name and the language information it contains is important. The process of shaping concepts / meanings at this level is controlled by an adult. The third level (called sub-level) is the next stage in building the semantic structure. It consists of names that accurately reflect the features that identify the designations. The hierarchy within the category is changing, just as the category core can change.

This model allows to indicate ways of shaping the subjective and sensory interpretation of the complexity of the world, perceived primarily through the senses (less often functional features), and to structure the distinguished designates<sup>27</sup>.

E. Clarc (1979 et seq.), however, explains slightly different, the description of the development of meaning in the youngest children using semantic components. The basis of the model is the assumption that mastering the meaning of a word is a process related to perceiving the world, experience and capabilities of the child, and appears before mastering the name. Although it begins in early ontogenesis and undergoes many modifications, it can be distinguished by a certain regularity. The dominant strategy is to detect and verify opposites. At a specific stage of development, children make hypotheses that they verify in subsequent experi-

---

<sup>26</sup> L. Wygotski (1989) used the term - complex to call the stage of shaping concepts arising as a result of combining subsequent objects on the basis of recognised relationships already established objectively, not on the basis of the subjective impressions of a child.

<sup>27</sup> Studies verifying the theory of prototypes have shown that in categories with a high degree of specificity, prototypes are permanent, both in the language of children and adults. They do not depend on the age or social environment in which the child is brought up. It is different, though, in abstract categories, there prototypes gradually stand out and are shaped as the child grows and develops language influenced by the environment, culture.

ments. The children use perceptual-motor experiences before they reach the age of two. Usually, a known object carries one perceptual trait, but the repertoire of trait grows with age. The sequence of familiarised traits' definitions characterises with some regularity and depends on the complexity of the semantic name and its frequency in the language of the environment. The visually recognised features: shape, size, and less often colour are the classification foundations. Additionally, the child's attention is attracted by movement, then follow the features of auditory and sensory perception, less often however those related to taste, finally the child uses functional features. Thus following rules are distinguished: at earliest, the child learns words with general meaning, otherwise speaking, semantically simpler names appear earlier, and linguistic strategies (semantic hypothesis based on language skills) can be seen in children from 2 to 3 years of age (by the age of 3 they use them freely). The older the child, the more often she/he uses semantic language strategies. When she/he is uncertain of his language knowledge, she/he refers to his knowledge of the world. Although E. Clarc assumes<sup>28</sup> that the process of mastering meanings is structured, first conditioned by cognitive and later language capabilities, it cannot be reduced to an individual act, but it is a form of many efforts, actions and strategies that intertwine. E. Clarc's model refers to the linguistic theory of the semantic field, but it applies other principles to assign words to field<sup>29</sup>, because the detection of opposing features, usage of individual perceptive features (in addition, not always relevant from the point of view of adults, but important for a child in a given situation) decides on a different or at least slightly different strategy of creating fields and classifying words.

K. Nelson's (1974 et seq.) model refers to the same semantic theory. Considering features of the child's cognitive and linguistic development, K. Nelson claims that building a meaning is the result of the child's creation of basic categories of things based on experiences related to interacting with objects<sup>30</sup>. Interest in the world, the child's activity, needs and goals determine the boost of perception of objects in the environment and distinction of functional and perceptual features of objects. Features of the objects that characterise its function are the core of the name's meaning, while the features of sensory perception appear as the processes of perception and processing of sensory data improve. The process of field building, or names grouping, is based on remembered features. At an early stage of semantic development, meaning determination is done using general features that are later followed by specific ones, all that occurs by functional categories. The nucleus of meaning is the distinguished main feature that determines the scope of

---

<sup>28</sup> Views evolved in her later works.

<sup>29</sup> On the semantic development of words in the language of four-year-olds, including shifting the boundaries of the semantic field, see A. Maciejewska (1999).

<sup>30</sup> For young children, the most important are movement and activities.

meaning, the inclusion or exclusion of a concept / name from the field. Therefore, for this reason, the created structure can easily stretch<sup>31</sup>.

T. Barrett's (1978) model explains the development of meanings of older children, who are already quite fluent in language, and are looking for both positive examples, that allow to include given name in the semantic field, as well as the negative ones that could exclude them<sup>32</sup>. In this model, the development of meanings is explained by the so-called hypothesis of contrasting factors<sup>33</sup>. And the creation of a semantic field defined by its semantic components allowing differentiation of its resources is the bedrock of semantic structure's growth. In the process of knowledge acquisition, the field is divided, modified, completed by individual particles forming the more general approach. The model proposed by T. Barrett describes the final stage of shaping the semantic structure, because it assumes the free use of the language system by the child<sup>34</sup>.

Slightly different, because using the assumption of innate human language skills (N. Chomsky), FC Keil (1979 et seq.) constructs another model. Here, shaping language expressions meaning is associated with the development of the child's conceptual system and conditioned by innate predispositions to shape mental structures. Consequently, the semantic system formation does not derive from experiencing the world, processing perceptual data, but from innate ontological categories. The hierarchy of meanings / concepts is created as a result of operations enabling distinguishing a word (object) and assigning to it specific properties based on predicates. All reasonable properties form a „tree"-like structure. When a child learns a new word, it is enough to learn its one attribute (predicate). This alone, allows to develop a hypothetical definition and place given word on the appropriate „branch of the tree," or in the right place in the hierarchy<sup>35</sup>. And so, the meaning expands by other attributes from this level. What's more, a child verifies the relevance of meaning by statements she/he formulates. The development of meanings depends on the ontological categories that create separate conceptual fields, and each of them is governed by its own system of rules of formation and development. The location of the object in the category structure determines the ways that inform about the meaning.

The foundations of S. Carey (1983 et seq.) model, based on determining the scope of concepts and ways of associating words with them, are different. She

---

<sup>31</sup> M. Kielar-Turska (1993) claims that the theory easily explains changes in the semantic field, but it does not explain sufficiently the differentiation of meanings.

<sup>32</sup> T. Barrett (ibid.) claims that the ability to determine opposing features appears in children older than 3 years.

<sup>33</sup> Both perceptual and functional features are oppositely perceived by children.

<sup>34</sup> Rather describes reproducing the semantic structure that adults give children and ways to use it.

<sup>35</sup> Hierarchies of younger children are more flattened.

claimed that the road to mastering meanings / concepts is long, and at the beginning children base on naive knowledge of life and body functions, causes of physiological phenomena and detection of similarities in life activities of known and familiarised organisms, objects. Discovering similarities, methods of modifications including cognitive development and the scope of experience are responsible for gathering knowledge. Children's concepts and meanings of words are formed based on their own naive theories for which reference is made to knowledge about human<sup>36</sup>. The naive picture of the world is verified by the knowledge accumulated in various experiments, which in turn allows the creation of classifications and hierarchies depending on the development of children's theories about reality.

### RESEARCH ON THE MEANING IS A CHALLENGE FOR COGNITIVISTS

Questioning the meaning of words and suggesting explanations, puts cognitivism anew<sup>37</sup>. So far, the notion of meaning has not been defined, but it is clear that reading/ recognising/understanding the meanings of words and language behaviours is the most important everyday activity of a human. Any awkwardness in giving meanings to language units quickly excludes a child / adult from a social group or assigns them a place on the outskirts of social life.

Certainly, professor Stanisław Grabias rightfully argues that the study of meaning is difficult because it is about watching processes of change that are taking place in one's mind<sup>38</sup>. The research on the linguistic image of the world of children (Borowiec 2014, Maciejewska 2007, 2008) prove that the meaning of a word / concept does not have to be and is not the same for all members of the language community, but it must be constructed in a way as to guarantee effective communication.

---

<sup>36</sup> For a four-year-old, knowledge about people is the basis for giving similar characteristics to animals, toys, less often to birds or insects.

<sup>37</sup> Primarily in the content of language signs reveals the way the brain / human mind accumulates and organises knowledge. Words and texts available for research are the path that leads to the disclosure of cognitive structures (Dąbrowska, Kubiński 2003).

<sup>38</sup> S. Grabias appreciated cognitive analysis. He wrote (Grabias 2008,18) about the fact that the semantic structure extracted from cognitive analysis attests the way in which the examined person organises knowledge. The semantic / conceptual structure is created according to socialised schemes, while the impaired brain creates it according to subjective criteria. It should also be recognised that a person learns a specific repertoire of meanings and relevant lexemes, and creates the remaining ones by decoding knowledge about the lexical-semantic system, rules of creating units and customs regarding their use. He concludes that the construction of new words and their meanings takes place using the noted similarities in form and content as well as the relationships that exist between them.

The latest results of neurocognitive science studies provide new arguments in the meaning discussion. They confirm that the creation of words meaning is conditioned by the individual experience in sensory perception of the world's element and prove that the knowledge gained in this way is used in decoding words and texts<sup>39</sup>. Moreover, they recognise that the boundaries of semantic and formal identity of language units are determined by anatomical structures, developmental features, and environment of a human, while the framework and customs of their use are determined by the specificity of the language structure and language group culture<sup>40</sup>.

Probably, the latest results of neurocognitive scientists research using brain imaging techniques will provide new interpretations of meaning, including its formation and ways of interpreting words, units of text. In speech therapy procedures, however, the knowledge of the semantic development of the smallest significant units of language-words, including knowledge of the linguistic description of this process and its limitations in language development disorders and speech disorders should be taken into account.

### LANGUAGE SIGN SEMANTICS AND SPEECH THERAPY PROCEDURE

It seems that in speech therapy practice the dominant way of examining the understanding of words, which stems from the belief that a child / patient is able to recognise an object and give its name<sup>41</sup>, is an insufficient evidence of a proper understanding of the meaning of a language unit. A precise discovery of the child's ability to create meanings, at various stages of development, and assessment of both the complexity and individual characteristics of the semantic structure of

---

<sup>39</sup> Cognitivists believe that the meaning of a word is not an abstract, its framework is determined by the experience of an individual. Building a semantic structure is a process conditioned by the experience of the world (embodied virtual experiences), and understanding is a simulation process in which recorded reactions participating in the perception of the world, action, creating our interactions with the world are used (see Bergen 2017). It seems that the imaging capabilities of the brain will be able to answer the questions: does the simulation change when the senses and memory weaken, how does it develop, when the senses and / or memory function much differently?

<sup>40</sup> This is indicated by the results of research on the semantic structure of the words: home and mother in statements of hearing impaired people, in which both similarities and differences within the group and between hearing and hearing-impaired participants are revealed (Maciejewska 2010/2011).

<sup>41</sup> This procedure refers to the oldest semantic research used in lexicology, or onomasiology, which task was to record what the names were (words / expressions given to the concepts or designations) and semasiology which collected the lexical resources used to name designations. The significant difference was direction of research: from things, concepts to words / phrases, from words to things / concepts.

words in a child's language and the meaning of words in various speech and language disorders, is still beyond the research area, even though information about the meaning of the word provides the most important data on human cognitive and linguistic possibilities, and about the difficulties human faces when acquiring knowledge of the world and language.

The model of forming the meaning of the word, proposed below, includes the stages that can / should designate both areas of speech therapy research (to determine developmental norms), as well as can / should be included in the programming of speech therapy. It could be expected that the results of such an extensive outreach will reveal strategies, children of different ages and at different developmental paces are using, that are the basis for both the semantic structure growth and variations of these skills of people suffering from speech disorders<sup>42</sup>.

Naturally, the semantic analysis of words is conditioned by the level of lexical development and skills that allow building statements evidencing the comprehension of the meaning. When developing any skill there are specific must-have stages i.e. a preparatory – the period of shaping the foundations of understanding, identifying phonic sequences and recognising communication intentions. This is the early period of a child's development at a time when understanding units of language is ahead of the production possibilities. The effort of the environment focuses on learning how to make eye and voice contact with the child and identifying how the child interacts. Among other things, the key is to train the ability to share attention with (see Cieszyńska, Korendo 2006), and using prosody to recognise the intentions of the care-taker and enrich the ways of communicating one's intentions<sup>43</sup>. This skill seems to be decisive in practicing the efficiency of isolating objects<sup>44</sup> and recognising labels for word forms. It shapes the belief that every thing should have its name and every word means something.

The next stage is the time of acquiring names of objects, activities and features. The words have a denoting and reference function. Speech therapy should include tasks that allow the child to recognise objects and photographs, drawings of objects (made in different techniques), identify objects, despite e.g. changes in their appearance, displaying various characteristics. It is a way to collect information about the relationship between form and elements of non-linguistic reality, i.e. determining a specific scope and content of words. The process of indicating

---

<sup>42</sup> Preliminary studies of hearing-impaired students, pupils with dyslexia and children of all ages indicate the existence of both similarities and disparities (Maciejewska 2007, 2008, 2010/11).

<sup>43</sup> Signals – intentions are recorded in children of several months of age. The finger pointing gesture, which appears at the age of about 9 months, is a vital indication of the skill's development. M. Tomasello (2002), supporter of the important role of communication that is preceding the language development, also argued that from that moment (9 months) the child can understand the intentions of adults and at that point appears the ability to decentralise.

<sup>44</sup> The role of the finger pointing gesture (Tomassello 2002, Cieszyńska, Korendo 2006)

characteristic features of an item stabilises the content of the word form<sup>45</sup>, while determining the key as well as minor features allows differentiation and comparison. Therefore, when deducting the meaning, reference is made to the child's knowledge and experience, ways of organising (categorising) knowledge. In this perspective, experimenting in building the scope and content of words certainly reveals an original, child-like view of the world and the use of language.

When the level of cognitive and linguistic development (especially the enrichment of lexical resources), enlarged exploration of the world and ways of communicating with the environment allow the child to define and formulate paraphrases, and explications, the semantic structure, using knowledge of language, starts to build. Grouping words into sets based on synonymy, paronymy, antonymy leads to structuring and enriching lexical resources, and to specifying the resource of semantic fields. On top of that, it substantiate what determines the inclusion or exclusion of a word from the field, and determines the semantic relationships of pairs (strings) of words.

The development of grammatical aptness to the extent that the child creates different syntactic units means that children begin to deduce the meaning of the word based on the assignment / guessing of the word's belonging to the grammatical category, and the form of the word has a specific role in the sentence. The ease of explaining meaning by analogy is expanding, using the same definition types. Knowledge of the world does not have to follow the explanation of the meaning (e.g. tractor street, because tractors go on it, motor street, because motorcycles go on it, car / bicycle street, etc.), because children use potential forms and infer, by analogy, the similarity of form and content between words. At this stage, children recognise the formal similarity of words and word-formation structures. Language puzzles will play an important role in the exercises.

Developing lexical and semantic awareness allows the speech therapist to see which elements of the distinguished object / concept are important, relevant and linguistically described to the speaker, to what extent she/he uses lexical resource, word-formation and grammar skills to explain the meaning of the word. It seems that the next step should be meta-semantic type games that will focus on creating sets of words of similar form and meaning.

Acquiring words according to form similarity, practicing the ability to search for derivatives, determining semantic similarities using word-formation paraphrases is the well-established way to organise knowledge on the relationship of form and meaning between words (see E. Muzyka-Furtak 2017).

---

<sup>45</sup> Both stages should include the necessity to register all language user's utterances, which bring out the word's meaning to any extent, we are talking both paralinguistic and non-linguistic (gestures, drawing, neurophysiological, psychological facts, conventional signs) as well as words applied as synonyms (should they be used to assign the non-linguistic reality to language form).

Thus, the most advanced stage is reproducing and building a semantic-lexical structure using the meta-linguistic relations between form and meaning. At this stage, exercises in creating groups of proportional relation (Wierzchowski 1976) and developing groups of names (Wierzchowski 1999), which show that knowledge of the world creates a language structure, and the language structure reflects human knowledge about the world<sup>46</sup> (cf. Maciejewska 2005, 2015) have the best effect. These are games to create groups of words (also homonyms), properly formulated paraphrases, and comparisons how sets of paraphrases<sup>47</sup> allow identification or differentiation of meanings. The procedure of forming paraphrases and differentiating the meanings of words allow to explain (to experience) to a child / adult that language is a world of signs and rules in which one can act and create.

## CONCLUSIONS

Various research trends attempted to describe the semantic aspect of the language system, while meaning has been treated as that area of knowledge that linguistics should not be concerned with. And although models and techniques for describing the meaning of language units have developed, (as practice shows) it is still a difficult task today. Professor S. Grabias (2012, 59) argues that language is a path to human cognitive functions, to human and world's insight, to learn the knowledge structure in the mind and to acquire ways to make use of it in interactions. To paraphrase, it can be assumed that when examining how a child understands a word we discover the paths on which human thought learns to wander.

Certainly, in diagnosis and speech therapy, if considering the meaning it should be required to adopt a specific definition of the <meaning> term. At this level of knowledge, this seems to be a challenge. The results of neurological and cognitive research herald outstanding impressions in determining how the brain encodes and decodes meaning. This is extremely important for speech therapy. However, to get the answer, or at least to unveil the secret, how the human mind

---

<sup>46</sup> This method is rarely used in language teaching and programming. The idea comes from a method called pregramatic analysis of J. Wierzchowski (1976, 1990), and it is about grouping word forms of similar form and creating paraphrases (connecting phrases) that indicate similarity of form and content. The idea was exploited in the so-called nest word formation. However, fun in searching for words that are formally and semantically similar, this relationship is emphasised by paraphrases, it should lead to the indication that words form a structured group, so one can also conclude that the relations of form and meaning, justify the creation of potential forms.

<sup>47</sup> According to J. Wierzchowski (1976), the need to collect and to apply only the certified uses of the word in specific statements of language users enables avoidance of overlapping meanings in both the researcher's language and sense, and applying criteria resulting from their knowledge of the non-linguistic world.

creates meaning, how the semantic structure develops, what is the extent of its degradation in speech and language disorders, research determined by the scientific methodology and practice of modern speech therapy is required.

#### BIBLIOGRAPHY

- Apresjan JD, 1980, *Semantyka leksykalna. Synonimiczne środki języka*, tłum. Z. Kozłowska, A. Markowski, Warszawa.
- Barrett MD, 1978, *Lexical development and overextension in child language*, in: „Journal Child Language”, v.5, no 2, 205–219.
- Bartmiński J., Tokarski R. (red.), 1993, *O definicjach i definiowaniu*, Lublin.
- Bergen BJ, 2017, *Latające świnię. Jak umysł tworzy znaczenie*, Kraków.
- Bokus B., Shugar GW, red., 2007, *Psychologia języka dziecka. Osiągnięcia, nowe perspektywy*, Gdańsk.
- Boniecka B., 2001, *Definicje i eksplikacje dziecięce*, w: S. Grabias (red.) *Mowa. Teoria - praktyka*, t.1. *Zaburzenia mowy*, 159–174, Lublin.
- Borowiec H., 2014, *Dziecięce rozumienie świata (studium lingwistyczne)*, Lublin.
- Carey S., 1983, *Constraints on Word Meaning – natural Kinds*, [w:] Seiler, Wannenmacher: „Concept Development and the Development of Word Meaning”, Berlin.
- Chomsky N. 2005, *O naturze i języku*. przeł. J. Lang, Poznań.
- Cieszyńska J., Korendo M., 2006, *Wczesna interwencja terapeutyczna*, Kraków.
- Clarc E., 1979, *The ontogenesis of meaning*, Wiesbaden.
- Eco U., 1993, *Wahadło Foucaulta*, Warszawa.
- Dąbrowska E., Kubiński W. (red.), 2003, *Akwizycja języka w świetle językoznawstwa kognitywnego*. Kraków, Universitas.
- Furtak-Muzyka E., 2017, *Wykorzystanie metody gniazd słowotwórczych w terapii surdologicpedycznej*, w: „Logopedia”, t. 46, 157–172.
- Geppertowa L., 1968, *Rozwój rozumienia i posługiwania się przez dziecko pojęciami stosunków określanymi przez przyimki i spójniki*, [w:] *O rozwoju języka i myślenia dziecka*, red. S. Szuman, Warszawa.
- Gleason JB, Ratner NB, red., 2005, *Psycholingwistyka*, Gdańsk.
- Grabias S., 2012, *Teoria zaburzeń mowy. Perspektywy badań, typologie zaburzeń, procedury postępowania logopedycznego*, [w:] *Logopedia. Teoria zaburzeń mowy*, red. S. Grabias, M. Kurkowski, 15–71, Lublin, Wydawnictwo UMCS.
- Grabowska A., Budohoska W., 1995, *Procesy percepcji*, [w:] „*Psychologia ogólna*”, red. T. Tomaszewski, Warszawa, 9–89.
- Grzegorzczak R., 1995, *Wprowadzenie do semantyki językoznawczej*, Warszawa.
- Haman M., 1993, *Rozwój pojęciowy i semantyczny dziecka*, [w:] I. Kurcz (red.). „*Psychologia a semiotyka. Pojęcia i zagadnienia*”, Warszawa, 209–242.
- Jurkowski A. 1975, *Ontogeneza mowy i myślenia dziecka*, Warszawa.
- Kaczmarek L., 1977, *Nasze dziecko uczy się mowy*, Lublin.
- Keil FC, 1979, *Semantics and Concept Development*, Cambridge MA, Harvard UP.
- Kielar-Turska M., 1989, *Język dziecka. Słowo i tekst*. Kraków.
- Kowalski S., 1962, *Rozwój mowy i myślenia dziecka. Analiza rozwoju mowy i myślenia w sytuacjach społeczno-wychowawczych przedszkola*, Warszawa.
- Lyons J. 1984, *Semantyka*, Warszawa.

- Maciejewska A., 1999, *Analiza semantyczna wyrazów w języku dzieci czteroletnich* (niepublikowana praca doktorska).
- Maciejewska A., 2005, *Wyraz w diagnozie i terapii logopedycznej*. „Logopedia”, t. 34, 37–46.
- Maciejewska A., 2007, *Wiedza zakrzepla w języku. Językowy obraz świata DOMU w wypowiedziach pisemnych dzieci z trudnościami w czytaniu i pisaniu*, [w:] *Zaburzenia komunikacji językowej w czytaniu i pisaniu*, red. Maciejewska A., 177–204, Siedlce, Wyd. UPH.
- Maciejewska A., 2008, *Świadomość wyrazu a zaburzenia komunikacji językowej*. „Conversatoria Linguistica”, I/2007, 13–25.
- Maciejewska A., 2010/11, „Zwyczajnie o domu” – językowy obraz świata domu w tekstach studentów. „Conversatoria Linguistica”, IV/2010, 34–44.
- Maciejewska A., 2011, *Świat ukryty między słowami – interpretacja treści zagadek przez studentów z uszkodzonym słuchem*, [w:] *Między znakami – między słowami*, red. A. Maciejewska, Siedlce, 37–70.
- Maciejewska A., 2015, *Analogia w języku i umyśle. Teoria „grup proporcjonalnych relacji” w badaniach nad kompetencją językową uczniów i studentów*. Siedlce.
- Macnamara J., 1993, *Logika i psychologia. Rozważania z pogranicza nauk*. Przeł. M. Zagrodzki, Warszawa.
- Miodunka W., 1980, *Teoria pól językowych. Społeczne i indywidualne ich uwarunkowania*. Kraków.
- Nelson K., 1974, *Concept, Word and Sentence: Interrelations In aquisition and Development*, [w:] „Psychological Review”, 81, 267–285.
- Ogden K. i IA Richards, 1923, *The Meaning od Meaning*, London.
- Piaget, 1992, *Mowa i myślenie u dziecka*, przeł. J. Kołodzka, Warszawa.
- Polański K. (red.), 1993, *Encyklopedia językoznawstwa ogólnego*, Wrocław.
- Przetacznikowa M., Kielar M., 1973, *Rozumienie odrębności gramatycznej i semantycznej klas wyrazów (części mowy) przez dzieci od 3 do 15 lat*, [w:] „Przegląd Pedagogiczny”, 33–51.
- Rosch E., 1978, *Principles of Categorization*, [w:] Rosch E., B. Lloyd (red.), *Cognition and Categorization*,
- Rozwadowski J., 1921, *O zjawiskach i rozwoju języka*, „Język Polski” 6, 129–139.
- Saussure F. de, 1991, *Kurs językoznawstwa ogólnego*, przeł. K. Kasprzyk. Warszawa.
- Szuman S., 1968, *O rozwoju języka i myślenia dziecka*, Kraków.
- Tokarski R., 1984, *Struktura pola znaczeniowego (studium językoznawcze)*, Warszawa.
- Tomasello M., 2002, *Kulturowe źródła ludzkiego poznania*, Warszawa.
- Wierzbicka A., 2006, *Semantyka. Jednostki elementarne i uniwersalne*, Lublin.
- Wierchowksi J., 1976, *Wyraz – analiza pregramatyczna*, Siedlce.
- Wierchowksi J., 1990, *Leksykalno-frazeologiczna struktura języka*, Wrocław.
- Włodarski Z., Matczak A., 1987, *Wprowadzenie do psychologii*, Warszawa.
- Wygotsky LS, 1989, *Myślenie i mowa*, tłum. E. Flesznerowa, J. Fleszner, Warszawa.
- Zarębina M., 1994, *Język polski w rozwoju jednostki. Analiza tekstów dzieci. Rozwój semantyczny. Dyskusja nad teorią Chomskiego*, Gdańsk.