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Connotation Disorders as an Indicator of Disintegration of the Language System

SUMMARY

The present study focuses on disorders of speech coherence and describes them using the concept of connotation. Connotation is the term that has become established in science with several meanings. The author makes a review of these meanings and shows how the phenomenon of connotation is associated with language disorders. Early studies on connotation in the philosophical-logical dimension go back to the 19th century and are connected with the works by J.S. Mill, while K. Bühler is regarded as the founder of the linguistic theory of connotation. Within linguistics, connotation was perceived in different ways, and knowledge about it developed with the development of this discipline. Studies by N. Chomsky show that it is formal and semantic relationships between words used in an utterance that determine its coherence. Chomsky himself did not use the concept of connotation but he presented two levels of coherence disorders in his works. The principles of connotation are presented there as rules of subcategorization and selection. The author of the paper emphasizes that the connotation properties of verbs are a factor that determines the syntactic pattern. The paper shows the proposal of including investigations on connotation in the issues of logopedics. The author draws attention to the occurrence of connotation disorders in schizophasia, aphasia, and dementia. It should be stressed that the disintegration of connotation relationships looks different in each of these disorders. Connotation disorders are related to the improper functioning of the brain, particularly to disorders in the frontotemporal region.

Key words: connotation, schizophrenia, schizophasia, aphasia, dementia, Alzheimer's disease

INTRODUCTION

Connotation is an ambiguous concept (Majer-Baranowska, 1988; Lipski, 2017). S. Grabias (1981: 195) regards it as one of the least defined semantic concepts. I have included the connotation theory in my considerations for the purpose

of investigating language disorders in schizophrenia. I seek to present theoretical foundations, my conception of connotation and its applicability in studies on speech disorders.

THE STRUCTURALIST UNDERSTANDING OF CONNOTATION

In Polish post-war linguistics, connotation is understood as “co-denotation” and consists in that certain classes of words not only directly denote a given phenomenon but, at the same time, they indirectly co-denote others connected with the former in some way, and consequently, by appearing in the text they open in it “an empty slot”, as it were, for other words that denote this phenomenon indirectly. For example, an adjective not only denotes a characteristic but, at the same time, “co-denotes” or connotes an object in which this property may be inherent, and hence, having appeared in the text, it opens, as it were, an empty slot for a noun. Similarly, an adverb opens a slot for a verb or an adjective, etc. This type of connotation specified by K. Bühler (2004) is termed “categorial-semantic connotation” because it consists in “some semantic categories connoting the units of other semantic categories” (Gołąb et al., 1968: 296).

Apart from categorial-semantic connotation, Z. Gołąb et al. distinguish “a connotation type closely connected with the semantic schemas of a language. This connotation consists in that some grammatical forms (e.g. the oblique case, personal verb forms) connote other forms, hence, also specific word classes. For example, the accusative in Polish and in all ancient Indo-European languages is first all connoted by a transitive verb”. This type of connotation is defined as formal connotation. It is fulfilled not by whole words but by their morphemes, which express a given grammatical category, e.g. through the accusative ending [córka]-ę [daughter] → [kochać, rodzić [love, bear {daughter} etc.]. Formal connotation is the reverse of government in the broad sense of the word (Gołąb et al., 1968: 296).

THE LOGICAL-PHILOSOPHICAL CONCEPT OF CONNOTATION

The concept of connotation has a longer tradition, however. In modern times it was presented at greatest length in logic. The foundations for understanding it were laid by John Stuart Mill (1806–1873), who is generally recognized as the founder of the logical concept of connotation. Mill arrived at his reflection on connotation from analyses of name discrimination. He divided names into *connotative* and *non-connotative* [co-signifying/co-denotative – non-cosignifying/non-co-denotative] of which pair the latter are wrongly called *absolute*. Mill treats this distinction as one of the most important, thinking that it goes deeper into

the nature of speech (Mill, 1962: 49). The term “non-connotative” only signifies either an object or an attribute. According to Mill, objects are signified, *inter alia*, by first names, e.g. *John*; names of towns – *London*; names of countries – *England* and others. Attributes are denoted by concepts: *whiteness*, *length*, *virtue*, *height*, etc. The term “connotative” indicates an object, and *implies* an attribute. For example, the word *white* denotes all white things, such as snow, paper, fog on the sea, and so on, while it *implies/indicates* or in the language of schoolmen, *connotes* the attribute *whiteness*. This name is applied to all beings that are believed not to have it (Mill, 1962: 49–50). To Mill, connotation denotes a set of attributes inherent in all referents of a name, and only in them. The concept of connotation was introduced by Mill as a synonym of a more colloquial term “the meaning of a name”, and restricted to the meaning of names, or, to be precise, to the meaning one-argument predicates, because he excluded individual (singular) names from it (Polański, 2003: 310). In the theory of meaning, the scholar separated the content of meaning from indication of the object, i.e. he separated *connotation* from *denotation*. The division means that pointing to (indicating) objects to which a concept relates (i.e. *denotation*) is one thing, and the content of the concept, i.e. *connotation* is another. The latter denotes a set of attributes characteristic of the denoted subjects. Mill argues that connotative names were also called denotative or signifying *because* the subject they signify is denoted by them, i.e. it receives its name because of the attribute that they connote. Snow and other objects are called *white*, since they possess an attribute that is called *whiteness*; John and Thomas and other people are called by the name *man*, because they possess attributes that, as we understand it, constitute mankind. A certain attribute or attributes signify objects and give them a common name (cf. Mill, 1962a: 50–51).

The two foregoing ways of understanding the concept of connotation are the foundations of its interpretation.

CONNOTATION IN SELECTED LINGUISTIC INTERPRETATIONS

In literature there are also other concepts of connotation:

- in glossematics, connotation is a combined meaning (French *signifié*) of the form and content (the signifiant and signifié) of language elements. It occurs when “the combined formal and semantic properties of an expression are interpreted as the expression plane (...) assigned to something outside of it. ‘A connotative language is, therefore, one whose expression plane is constituted by the expression plane and the content plane of a denotative language’ (cf. Hjelmslev, 1953, after: Polański, 2003: 311) or a language of pure representation. A connotation is, for example, a meaningful use of a foreign-language expression in the text:

the point is then not the meaning itself of the expression but the additional content resulting from the fact of its use. When, for example, Stendhal uses Italian words in the French text, he wants to additionally convey the idea of freedom, passion, and vehemence associated with Italians in the world he creates. The language of literary works provides many examples of connotative language: in a literary text, the meaning of an expression is inseparably connected with the fact of using this one rather than another expression. In the context of a literary work it is the choice of an expression that is more meaningful than its content” (Polański, 2003: 311). “Indicators of connotation or connotators (French connotateurs), are either expressions themselves: their uses refer to something outside of their meanings, e.g. to the epoch, style, etc., or are suprasegmental elements, e.g. intonation, tempo, and others” (Polański, 2003: 311);

- in stylistics, connotation is a set of secondary and occasional semantic features of a word that are usually its emotional background and associated with it due to the properties of the contexts in which this word often appears. For example, a nightingale connotes loves, May night, the smell of bird cherry, etc. (Sławiński, 2005: 258);
- in contemporary (especially French) semiotics – connotation is a second-degree meaning developed on the foundation of linguistic meaning under the influence of cultural and communicative conventions, it is characteristic of, e.g. allegory, myth, and symbol present in the literary, advertising, ideological and religious texts, etc. The semantic system built upon language semantics is sometimes termed a “connotative” or “secondary semiotic system” (Sławiński, 2005: 258–259);
- in psycholinguistics – *connotativeness* is “an emotional attitude to the content of a word, which accompanies denotative meaning, e.g. the word *democracy* may evoke different emotional associations in different recipients of linguistic information” (Szulc, 1984). In psychology, connotative meaning was extensively studied by Charles E. Osgood (Kurcz, 1987; 2005). According to his approach, connotation is treated as “references to all emotional and cognitive processes that a sign invokes except for the corresponding concept” (Kurcz, 1976). On the basis of his research, Osgood concluded that connotative meaning is an indicator of the subject’s stance on a given concept and shows his/her attitudes and values. Consequently, I. Kurcz suggests that in studies on connotative meaning understood in this way, the term “connotative meaning” should be replaced by the term “emotive meaning” (Kurcz, 1976: 179);
- in his lexicographic studies, L. Zgusta classifies as connotation the elements of meaning that contribute a constructive value to the designative

- function: emotionality, a tinge resulting from a word belonging to a specific style, lexical novelty, and the like (Zgusta, 1971). Nikolai Georgievich Komlev classes the following as the connotative value of a word: 1. ideas, 2. affiliation to styles, 3. cultural values, 4. emotionality, 5. elements of knowledge of reality. It also happens that connotation is referred only to notions (i.e. associations, images of former sensations) shared by a certain group of people within a specific culture (Meyer, 1974; Pisarkowa, 1976; Kosyl, 1978), or to associations of both social and individual nature (Leech, 1983). In the latter cases, emotionality remains a separate component of meaning, other than connotation. Geoffrey Leech sees it in the group of associative meanings which comprise: 1. connotative meaning, 2. stylistic meaning, 3. affective meaning, 4. reflective meaning (resulting from presenting the word in its ambiguous culture), 5. collocative meaning (result from limitations of the scope of use) (Leech, 1983);
- connotation is identified with association, *inter alia*, by J. Apresjan (1980) – connotations reflect cultural traditions connected with utilization of phenomena; by A. Wierzbicka (1999) – connotation is an emotional load, an association connected with value judgments, evidenced by collocations in which a given unit is encountered; or by R. Grzegorzczkowska (1995), who regards connotative (associative) elements as information about certain irrelevant attributes associated by the speakers with the phenomena named. The meanings of expressions are not only references to objective actual phenomena but also to thought phenomena, experiences, emotions, notions connected with phenomena (Grzegorzczkowska, 1995: 59).

THE CONCEPT OF TEXTUAL CONNOTATION

Grzegorzczkowska (2004: 51) stresses that the term “connotation” is characterized by high ambiguity. She links the term with semantics, in which connotation is understood in two ways: 1) in opposition to denotation – as a set of properties characteristic of the denoted object and 2) as associative properties, only associated with the denoted object (e.g. in the sentence: *To pojęcie ma negatywne (pozytywne) konotacje*). [This concept has negative (positive) connotations]

The conception of connotation in semantics is contrasted by Grzegorzczkowska with syntactic connotation, where at least two of its understandings can be distinguished. In the first understanding introduced by Bühler, connotation means “opening slots in the text by some word forms for other forms”: the presence of an adverb (e.g. quickly) indicates the presence of a verb, the appearance of an inflectional form of the noun (e.g. women) signals the occurrence of some superordinate word (e.g. five, there are no) in another place in the text. In the

latter case, connotation is a consequence of accommodation, i.e. the imposition of specific forms by the superordinate upon its subordinates. Connotation in this sense is a textual phenomenon and a group-forming means – it signals the semantic dependency between the subordinate/the dependent and the superordinate/the governor. Grzegorzczkova believes that a separate term should be applied to this type of connotations, e.g. opening a slot in the text, textual connotation or the like (Grzegorzczkova, 2004: 52).

I believe that it is a statement that organizes these issues because the rich tradition of using the term “connotation” in science largely blurs its sense in the syntactic context.

* * *

I would like to strongly emphasize that the present study is devoted to connotation disorders in the utterances of people suffering from paranoid schizophrenia. I use the term “connotation” in the sense of syntactic connotation, which is the most proximate to the concept of connotation as understood by Bühler. The understanding of connotation as a decisive phenomenon in the process of building utterances goes beyond what is usually called “categorical-semantic connotation” in Polish linguistic literature.

The concept of connotation may denote different linguistic phenomena in different methodological studies or orientations. Tokarski (1987: 81; 1988: 35) distinguishes four types of understanding of the term:

- 1) syntagmatic connotation consisting in some semantic categories opening room for other semantic categories or in some grammatical forms opening room for other grammatical forms;
- 2) rare: the organization of lexis into thematic circles causing domination of thematic models in the text (Skubalanka, 1966: 16);
- 3) usually in studies in the field of logic: a set of crucial attributes jointly connoted by a name, i.e. those that are inherent in the referent of a name, and
- 4) in some interpretations of semantics – the complementary content of a word, overlapping with its intellectual semantic component.

The perception of the term “connotation” that is part of my understanding of the term comes closest to the understanding in point 1.

GENERATIVE-TRANSFORMATIONAL UNDERSTANDING OF CONNOTATION

Even though generative-transformational grammar does not explicitly speak of connotation, N. Chomsky’s theory addresses the issue of semantic relationships

between components of an utterance. The principles of connotation are usually presented in it as subcategorization and selection rules (Bobrowski, 1998).

Chomsky (1965; 1982) argued that the formally strictly defined distinction between features of strict subcategorization and selection features exactly corresponds to a certain important distinction present in the process of language use. The issue is the occurrence of the lexicon element in a particular text, which is restricted by the contextual features of this element. By violating such rule, a deviant sentence can be built in every concrete case. In his 1965 work, the founder of generative-transformational grammar provides the following examples of defective sentences:

- Those breaking subcategorization rules:
 - (1) a) *John found sad*
 - b) *John elapsed that Bill will come*
 - c) *John compelled*
 - d) *John become Bill to leave*
 - e) *I persuaded great authority to Bill*
- Those failing to observe selection rules:
 - (2) a) *colorless green ideas sleep furiously*
 - b) *golf plays John*
 - c) *the boy may frighten sincerity*
 - d) *misery loves company*
 - e) *they perform their leisure with diligence*

Type 1 sentences, i.e. those breaking the rules of strict subcategorization and Type 2 sentence that break selection restrictions are termed by Chomsky (1982: 202) “deviant constructions”.

According to Chomsky, grammar should have formal means to express differences of this kind. His proposal of grammar takes into account the dissimilarity between entirely correct sentences and Type (1) and (2) sentences which are generated directly by the system of grammar rules. In addition, he distinguishes between Type (1) sentences generated as a result of relaxing the rules of strict subcategorization, and Type (2) sentences generated because of non-observance of selection rules (Chomsky, 1982: 203).

THE CONNOTATION OF THE VERB AS A DETERMINANT OF THE SYNTACTIC SCHEMA

Grzegorzczkova (2004: 5), like M. Grochowski (2012: 142), observes that a severe deficiency in the traditional description of syntax (represented, *inter alia*, Z. Klemensiewicz (1937; 1957), Szober (1959)) is the total failure to perceive the phenomenon of connotation (valency, implication), i.e. the semantic-

syntactic properties of verbs, which generally determine the syntactic form of an utterance.

Each empirical simple sentence, even highly elaborate, contains some kind of frame, based on the semantic-syntactic requirements of the verb used in the sentence. Individual syntactic positions required by the verb can be more or less extensive, sometimes empty (Grzegorzczkowska, 2004: 49).

The set of sentence schemas in Polish is based on the connotative properties of verbs and additionally adjectives (with types with a nominal predicate, e.g. *Ktoś jest żądny władzy* [Someone is greedy for power]), while the patterns of non-sentence utterances generalize the empirical types of verbless utterances, in which the absence of a verb is not elliptical (is not a result of shortening) (Grzegorzczkowska, 2007: 113).

Among the schemas based on the connotative properties of verbs, several main groups can be distinguished. The most important are presented below.

- 1) Nominative-blocking schemas based on so-called improper verbs, e.g. *Świta* [dawn is breaking] (V), *Mdli go* [He feels sick] (V – N_{acc}), *Należy się uczyć*, [one should learn] *Warto to zobaczyć* [it's worth seeing] (V – Inf.), *Janowi szkoda pieniędzy* [for John it's a waste of money] (V – N_{dat} – N_{gen}).
- 2) Schemas that connote one actant in the nominative, e.g. *Jan śpi, spaceruje* [John is sleeping, walking] (N_{nom} – V).
- 3) Schemas that connote one actant in the nominative and express the predicate by an adjective or a noun combined with an auxiliary verb *być*, *stać się* [be, become] and others, e.g. *Jan jest miły* [John is nice], *Jan stał się opryskliwy* [John became brusque] *Jan jest studentem* [John is a student] (N_{nom} – V_{copula} – Adj/N_{instr}).
- 4) Schemas connoting two actants, mainly based on verbs that signify actions directed at an object or denote sensations and point to their cause, e.g. *Jan czyta książkę* [John is reading a book] *Jan boi się psa* [John fears/is afraid of a dog] (N_{nom} – V – N_{acc}/N_{gen}).
- 5) Schemas connoting three actants that refer mainly to the transmission of objects or values (information), e.g. *Jan daje koledze książkę* [John is giving his friend a book] *Jan sprzedaje sąsiadowi samochód* [John is selling his friend a car] (N_{nom} – V – N_{dat}, N_{acc}).
- 6) Schemas connoting four actants (rare) that refer mainly to the situation of causing the transfer of objects, e.g. *Rodzice przenieśli syna ze szkoły publicznej do prywatnego gimnazjum* [Parents transferred their son from a state school to a private high school] (N_{nom} – V – N_{acc}, Adv, Adv).
- 7) Schemas connoting complementations of events (expressed by a sentence or an infinitive), e.g. *Jan wie, że Piotr przyjechał* [John knows that Peter has arrived] (N_{nom} – V – Sent), *Ojciec każe synowi uczyć się* [Father tells son to learn] (N_{nom} – V – N_{dat}, Sent) (Grzegorzczkowska 2007: 113).

The patterns of non-sentence (verbless) utterances are characterized by a great diversity. Some of these utterances are ellipses (shortenings) that refer to sentence patterns. There are, however, autonomous types, which are mainly impressive-expressive, e.g. *Uwaga!* [Attention!], *Cisza!* [Silence!], *A to ciekawe!* [Now, that's interesting!], *Jakie piękne!* [How beautiful!], etc.

Formation of empirical utterances means building up groups within sentence schemas* (and non-sentence patterns) by using the rules of extension, syntactic subordination of components and transformation of schemas, and the application of rules of making compound sentences (Grzegorzyczkowa, 2007: 114).

In careful, particularly written, utterances it is possible to detect sentence schemas whose pivot is the **semantic-syntactic** (connotative, valency) **properties** (requirements) of the **verb**, for the verb is the main “governor” of the sentence, a carrier of the basic semantic predicate that gives the sentence a semantic shape by opening slots for actants of the named situation, expressed by means of nominal groups. In Poland, we owe the first descriptions of connotative properties of verbs to K. Polański (1966) and Z. Gołąb (1967). The analyses by these scholars showed that the number of such schemas is limited. An abstract schema can be found in every empirical sentence, it is upon it that further operations of building up and transforming groups are based.

THE APPLICABILITY OF THE CONCEPT OF CONNOTATION IN SPEECH DISORDERS

T. Woźniak and A. Czernikiewicz (2002) used the concept of connotation in the Short Evaluation Scale of Schizophrenia (SESS, Polish KSOS) in the context of studies on language disorders in schizophrenia. Connotation is understood as the possibility of concatenation of words, provided for by the system. Each word has a property consisting in opening a slot in the text for next words, e.g. the use of an adverb requires being complemented by a verb (*ładnie* [nicely] → *śpiewa* [s/he sings]), and the use of an adjective requires complementation by a noun (*blond* [blond] → *włosy* [hair]). The property in question may also be understood as the required occurrence of another, specific component in the text line, which complements the content of the first one, e.g. *fedrować* [to mine] (*co?* [what?]) *węgiel* [coal]; *całować* [kiss] (*czym?* [with what?]) *ustami* [with the mouth]; *czytać* [read] (*co?* [what?]) *gazetę/książkę* [a newspaper/book] (*jaką?* [what kind?]) *codzienną/ciekawą* [daily/interesting] This is the fundamental sentence-making mechanism that signals the syntactic frame of the sentence.

Untypical combinations of words that do not appear in the utterances of other language users will be treated as disorders of linear connotation.

DISORDERS IN THE FUNCTIONING OF THE BRAIN AND THEIR EFFECT ON SPEECH

Schizophrenia is defined as a brain disease (Felthan, Horton, 2013: 222). According to the latest version of the American Psychiatric Association DSM-5 classification (2013), it is characterized by pathological changes in at least one of the following five domains: delusions, hallucinations, disorganization of thinking (speech), severely disorganized or abnormal locomotor behavior (including catatonia) and negative symptoms (DSM-5, 2018). According to Liddle's classification (1996) three schizophrenic syndromes are distinguished: 1) psychomotor poverty syndrome, 2) disorganization syndrome, and 3) reality distortion syndrome (erroneous assessment of reality) (Czernikiewicz, Woźniak, 2012). Each of the distinguished syndromes involves structural and functional brain injuries and neuropsychological symptoms. Language disorders occur as part of the psychomotor poverty syndrome and disorganization disorders and are associated with structural damage to and dysfunction of the frontal lobes (Czernikiewicz, Woźniak 2012)

A pioneer in the studies on the brain mechanism of speech is A.R. Luria (1967, 1976), who, like other researchers, points to the location of an injury and the resulting consequences. Different locations of injuries produce different symptoms. This prompted the scholar to formulate the theory of dynamic functional systems, which is substantiated by clinical trials.

According to Luria (1967: 55), in the cerebral cortex highly diversified systems of concurring regions developed, upon which complex mental functions are based. "Higher mental functions, which actually represent complex functional systems, can be disturbed because of the damage to any link in this cooperating dynamic syndrome".

Observations conducted by A.R. Damasio (1992) on patients with aphasia, mainly those with amnesic aphasia, where the main deficit affects access to the internal vocabulary, showed that the inability to generate nouns is characteristic to the damaged temporal lobe, while the inability to generate verbs occurs more often in frontal injuries. These observations are also confirmed by the results of studies conducted by a research team supervised by J.M. Wepman (1956: 468–477) and by a team collaborating with L.V. Jones (1963: 94–107). Similar conclusions can be drawn from the studies carried out on the material of Polish by J. Panasiuk (2012a; 2012b). Her research shows the different frequency of occurrence of individual parts of speech in two types of aphasia: kinetic motor aphasia and in acoustic-gnostic aphasia. In a patient suffering from kinetic motor aphasia (contiguity aphasia in R. Jakobson's interpretation) the dominant symptom was the reduced length of utterances "due to difficulties in the realization of the verb

and its associated adverbials”, thus, producing the so-called “telegraphic style” as a result (Panasiuk, 2012b: 465). The second case was a patient with acoustic-gnostic aphasia (selection aphasia in R. Jakobson’s typology), who produced long texts full of neologisms, characteristic of the aphasic jargon. In the case of the former patient (kinetic motor aphasia; contiguity aphasia) nouns accounted for as much as 41.5% while verbs for only 4.5% of all the parts of speech used. In the other patient (with acoustic-gnostic aphasia; selection aphasia) nouns accounted for 5.5%, and verbs for 14.5% (Panasiuk, 2012b: 466). The observed difference indirectly confirms different locations of nominal and verbal parts of speech, and the fact that a different site of injury and a different type of aphasia generates utterances with a different quantitative component within parts of speech. In kinetic-motor aphasia, in which difficulties pertain first of all to actualization of verbs, and in acoustic-mnemonic aphasia, in which the use of noun is disrupted, particles function as metatextual operators and organize the content coherence of dialogue (Panasiuk, 2012b: 501). These reports are not confirmed by the results of studies by B.L.J. Kaczmarek. The percentage of verbs in particular aphasia groups as classified by Luria remained in the area of 18% in the subjects tested by Kaczmarek. In the utterances of patients with acoustic-gnostic, i.e. receptive, aphasia, this percentage was the lowest, amounting to 15.2%, the highest being in the case of kinesthetic-motor, or expressive, aphasia – 21.1%. H. Mierzejewska concludes that difficulties in producing nouns and verbs are not a factor that differentiates both types of aphasia (receptive and expressive) but are the result of the severity of speech disorders observed in these patients (Kaczmarek, 1995: 49–54).

Woźniak (2013: 852) observes that auditory, visual and sensory sensations are integrated in the temporal lobes, while the frontal lobes are largely associated with motor functions, with activity. Injuries of the frontal lobes may cause agrammatisms, disintegration of syntactic patterns and the so-called telegraphic style (devoid of verbs). Damage within the temporal lobes results in disorders in speech comprehension, the appearance of neologisms and incomprehensibility of the text.

The significance of the frontotemporal region of the brain in the functioning of the lexicon is also confirmed by research into schizophasia. Schizophasia is a speech disorder most often occurring in the course of chronic schizophrenia. Schizophrenia involves neurotransmission disorders and differences in neuronal connections in the frontotemporal region. It has thus a similar location to language. Of interest can, therefore, be the observations of schizophrenic utterances precisely in the area of lexis. Studies conducted by Woźniak (2000: 113–139) on schizophrenic lexis also reveal a number of abnormalities.

On the basis of schizophrenic utterances, Woźniak says that the main disorders of the language system in schizophrenia are:

- “1. Disintegration of relationships between name and meaning, manifested in the attribution of meanings to names, while disregarding the relations of similarity and contiguity. As a result, this means transferring a name upon meanings without taking their previous semantic relationship into any account.
2. Disorders of connectivity between adjacent words in the text line, which is manifested, *inter alia*, in the production of utterances based on the mechanism of similarity of sounds (paronymy). This results in the appearance of entirely randomly collocated words in the utterances that have only some common element of sound” (Woźniak, 2013: 852–853).

According to Woźniak (2013: 853), the foregoing phenomena should be interpreted in a broader context as manifestations of the incoherence of the whole utterance. The problem probably does not lie in the appearance of one word form or another but the global disturbance of connotation processes that enable production of a coherent, reasonable text. The cause of the occurrence of these phenomena is the disturbed structure and functioning of the brain in persons with schizophrenia.

In his book on narrative in schizophrenia, Woźniak refers to Elaine Chaika's studies on the material of English: she presents original views on the schizophrenic disintegration of lexical connections in the line of utterance. A significant role in regulating the normal utterance is played by the mechanisms of filtering and rejecting random associations. Chaika adopts a position that seeks causes of schizophrenia-type speech disorders in the lack of possibility of controlling language at one or all its levels. The result is the produced pathological utterances with a diverse degree of pathology intensity – from single interjections to the incomprehensible utterance as a whole, often called “word salad” (Woźniak, 2005: 34). It should also be stressed that language disorders in schizophrenia do not contain abnormalities of syntactic relationships within a sentence. The disorder affects rather the relations between sentences (Rutter, 1979), although the phenomenon of “verbal salad”, defined, *inter alia*, as the loss of grammatical order in an utterance, is treated by many scholars as the most specific characteristic of schizophrenia (Woźniak, 2005: 34). In order to contrast the process of text production by schizophrenic patients with correct utterances, Chaika presents two schemas, two “paths” of discourse production – normal and pathological.

Chaika (1982, cited after: Woźniak, 2013: 854) believes that in the schizophrenic pattern of utterance production the connection between the lexicon and contextual determinant is disrupted, whereby the sentence schema is filled with words combined on the basis of random elements of sound, morphological structure or meaning. As a result, this leads to the phenomenon of the incoherence and incomprehensibility of the text. The sender selects wrong words, deviates from the subject, to finally fail to reach the natural end. She maintains that in utterances

there are relatively few agrammatisms because we make fewer choices at the syntactic level than at the lexical level. In view of the immense number of semantic or formal associations entailed by the use of individual word forms, it is easier to understand the mechanism of speech disorders in schizophrenia. Chaika adopts the thesis excluding the creativity of schizophrenic associations and possible analogies between the language of schizophrenics and poetry. A similar stance on the creative process in schizophrenia is taken by Woźniak (2002).

In light of the foregoing considerations it is becoming obvious that every word is a dynamic construction of many variables, which becomes the fundamental element that develops any utterances. It follows that the syntactic order is largely dependent on lexical connections (Woźniak, 2013: 854).

The shift of discussion on speech pathology in schizophrenia to the syntactic level allows us to perceive new determinants of the functioning of language. The observed syntactic simplification of schizophrenic utterances can be explained by short-term memory disorders found in psychosis (Grzywa, 1986; Borkowska, 2001; 2006). However, characteristically anacoluthic constructions identified in the research should be recognized as typical of schizophasia. Anacolutha in schizophrenia are connected with: 1) production of unfinished and broken off utterances by patients, 2) introduction into the text of incomprehensible word forms or words that are not consistent with one another, and 3) production of incoherent utterances based on the unknown context, not related to the situation (Woźniak, 2013: 854).

Referring to many years of research into the language of schizophrenic persons, T. Woźniak (2013: 854) points out that it is connotative processes in the broad sense that are disturbed in schizophrenia. The system principles of categorial or conceptual connectivity are disrupted, the order of the sentence pattern being maintained.

The need to investigate connotative relations in aphasia is emphasized by the examples of utterances of patients with this disorder, presented in literature. Especially in the case of acoustic-gnostic aphasia, or sensory aphasia, there manifest themselves the so-called aphasic jargon (jargon aphasia) and “word salad” characterized, according to M. Maruszewski, by disconnectedness between the words uttered (Maruszewski, 1970: 177–178). A particularly interesting phenomenon is the so-called jargon aphasia consisting in the use of words that do not have equivalents in a given language. Although the word salad and jargon aphasia accompany disorders of sensory aphasia type, in cases when speech comprehension is disturbed, it is not confined to them only. Cases of jargon aphasia and word salad were reported, in which speech comprehension was retained (Kingsbourne, Warrington, 1963, cited after: Maruszewski, 1970: 178). Interpretations of this fact relate jargon aphasia to disorders in the critical assessment of one’s own

speech, i.e. failure to perceive disorders occurring in it, termed “anosognosia”. Maruszewski (1970: 178) associates jargon aphasia in patients who have retained the function of speech perception with disorders of verbal auditory memory that occur with injuries to the temporal lobe of the dominant hemisphere. Due to these phenomena, there is a certain aspect and degree of similarity between utterances of patients with aphasia and schizophasia-type utterances. Like in aphasia, the phenomenon of connotation disorders can be observed in persons with neurodegenerative diseases such as Alzheimer’s disease. In dementia, connotative connections may disintegrate with the disintegration of the language system. This phenomenon, like in schizophrenia, is not a phenomenon intended by the speaker and is a distinct symptom of the malfunctioning of the brain. Nor do connotation disorders stem from the methods used by patients to compensate for difficulties in actualizing metonymic or metaphorical names. A single case of word collocation with a lost connotative value is not permanent and does not become a systemic phenomenon. The occurrence of untypical word collocations can be treated as an idiolectal oddity but as temporary and ephemeral rather than permanent and systemic. The mechanism of occurrence of connotation disorders, similarly to idiolectal (Woźniak, 2000: 132–133) or non-systemic neologisms (Panasiuk, 2012: 495–498), can be compared to the occurrence of a slip of the tongue in the sense that they are not intended, and emerge as a result of disruptions of the communicative function and, as individual and incidental products, do not become a permanent part of the system (Klemensiewicz, 1969; Grabias, 1981).

Apart from aphasia and schizophasia, the disintegration of linguistic and communicative competence also occurs in dementia (Grabias, 1994). E. Łuczywek (1996: 138) stresses that the pathomechanism of language disorders in persons with dementia continues to be the subject of research. The researcher emphasizes that the mechanism of language disorders in Alzheimer’s disease differs from that in aphasic disorders. The leading symptoms in successive stages of the dementia process are:

- long pauses at the beginning of sentences and at the boundary between sentences, unfinished phrases, the “on the tip of tongue” phenomenon, self-corrections;
- at a later period, the simplification of syntax, semantic paraphasias, naming disorders (if they occur, they do not result from perception disorders but are of semantic origin);
- in respect of fluency (word readiness test, treated by some as a screening test), it is easier for some patients to name words in semantic rather than formal terms; patients use superordinate names more often than subordinate ones;
- loss of control over imagination, the logic of argument deteriorates, and digression and confabulations appear.

Investigators of language in Alzheimer's dementia believe that problems with speech pertain first of all to lexical-semantic processes, while sparing phonology and syntax for a long time. The patients' problems are largely related to the semantics rather than syntax of utterances because their utterances are correctly constructed in syntactic terms (Domagała, 2007: 43). On the basis of conducted studies, A. Domagała concludes that in the case of colloquial utterances, it is lexical problems that are of paramount importance, inflection and syntax being retained. This condition corresponds to disorders in the selection of linguistic units, described by R. Jakobson, with the ability to construct sentences being retained at the same time (Domagała, 2007: 249).

Persons with Alzheimer's dementia produce incoherent utterances, in which following the train of the patient's utterances does not make it possible to comprehend the patient-sender's intentions. The presented phenomenon of incoherence stems from the fact that the speaker "should adopt the receiver's (listener's) perspective and meet his/her expectations, whereas patients with dementia lose this ability" (Domagała, 2007: 186).

Studying untypical lexical collocations in the utterances of persons with Alzheimer's disease could direct research towards connotation disorders. We may be dealing here with a similar pathomechanism as in schizophasia or in some types of aphasia, because the connotation principle plays the crucial role in the process of utterance generation. We can best perceive it in the situations of connotation disintegration, when the selection processes that control it begin to be superseded by random associations, producing a set of erroneous collocations as a result. The fundamental role is played here by memory processes, especially with regard to short-term and operational memory (Borkowska, 2001; 2012), and the related planning of utterances "forward", anticipating the spoken words by several motor sequences.

The presented considerations show a high applicability of the connotation theory in analyzing language disorders, not only those related to schizophasia. Connotation disorders can be also recorded in the utterances of persons with aphasia, as well as with dementia.

The connotation theories presented in the present article reflect the path that this term had taken throughout the development of science of meaning from syntactic studies to contemporary linguistic investigations for psychiatry or neurologopedics. The use of the concept of connotation in neurologopedics and psychiatry is a revival of this almost a hundred-year-old tradition of syntactic connotation. Contemporary studies on connotation emphasize the biological determinants of language, including the process of connotation. This extremely interesting field still requires extensive research.

CONCLUSIONS

The analysis of studies by P.F. Liddle (1996, after: Czernikiewicz, Woźniak, 2012) from the angle of language disorders prompts a conclusion that connotation disorders would be connected mainly with the second of the distinguished syndromes, i.e. disorganization syndrome. In the first syndrome, the utterances of patients with schizophrenia will be limited in form and content. The schizophrenic person will use basic syntax and lexis, and his/her utterances will be short, constructed of single or several words; the utterances will be highly elliptical and incomplete. In the case of the third syndrome, the person with schizophrenia constructs utterances with a highly elaborate form and content, in which the patient gives an account of his/her delusions, often meticulously and in detail. In an utterance characterized by the pressure of speech there will be features of artificial and moralizing language, the disorders being mainly pragmatic.

Connotation disorders are probably caused in this case by disorders in the functioning of the frontal part of the brain. Connotation disorders are a marker for the assessment of the health condition of schizophrenic patients and can be regarded as a symptom whose appearance means a worse prognosis of the course of the disease. The persistence or disappearance of connotation disorders may also be an indicator of the efficacy of pharmacotherapy.

By studying connotations in the utterances of patients with schizophrenia, we are able to establish and describe the process of disintegration of the language system that takes place in schizophrenia. Connotation disorders can be recognized as one of major markers of schizophasia. The loss of connotation relationships in the broad sense is specific to schizophrenia and assumes a unique character, which is why it can be a contribution to the differential diagnosis of language disorders in schizophrenia. The mechanism that occurs in connotation disorders shows the disintegration of the thinking process and a strong impact of positive symptoms since connotation disorders occur more often in utterances in which patients give an account of their delusions or hallucinations. I regard the linguistic aspect of schizophrenia as crucial in describing the disease and as very important in the process of diagnosis as well as treatment because it is first of all from the perspective of utterances of patients that the doctor is able to diagnose the disease and probe, as it were, into the schizophrenic person's mind.

Connotation disorders show more transparently than impoverished syntax the disintegration of syntactic collocations that are motivated by the language system and usage. The level of syntactic organization in the utterances of persons with schizophrenia indicates that the impoverishment and simplification of the syntactic system takes place. Such simplification may occur as a symptom of other nosological entities like intellectual disability, aphasia or dementia, but their character in particular conditions is specific.

A connotation disorder is an idiolectal phenomenon, being changeable and ephemeral in the idiolect. It is based on the phenomenon of occurrence of associations, whose process of emergence is often very difficult or even impossible to reconstruct. This stems from the introduction of indirect categories of steps into the reconstruction process (Hunca-Bednarska, 1997): these may be only an artifact created by the interpreter.

An important issue in the description of connotation is semantics and semantic syntax. As proved by the analyses of utterances of persons with schizophrenia, a sentence is very often anacoluthic with the syntactic pattern being realized very well. When describing the phenomenon of connotation in schizophasia, it is necessary to precisely specify the understanding of this concept, distinguishing several subtypes within it. An interesting division has been made by linguists, who divided connotations into formal-grammatical, categorial-semantic, and textual. I am convinced that in schizophrenic utterances there are examples of each type of these connotations. However, not every connotation disorder is a property specific to a schizophrenic utterance. The least disordered is the formal-grammatical connotation in schizophrenia because patients often correctly realize syntactic patterns. With regard to categorial-semantic and textual connotations, it was they that would show the specificity of schizophrenic utterances. The first one, described by Bühler, pertains to the connectivity of some speech categories with others, i.e. adjectives connote nouns, and adverbs connote verbs, adjectives or other adverbs. Bühler called this phenomenon “opening empty slots”, which, if they are not filled, make an utterance elliptical. Thus understood connotation is a textual phenomenon and a group-forming means since it signals the syntactic dependence of the subordinate in relation to the superordinate. There is still the question of semantics. It is not enough for words to belong to appropriate grammatical categories to cause the utterance constructed from them to make sense. This phenomenon was perceived and then described in his *Aspects of the Theory of Syntax* by Chomsky. His famous sentence “Colorless green ideas sleep furiously” is an example of a nonsensical but grammatically correct utterance. The functions of syntactic components in this sentence have been fulfilled. Both formal-grammatical connotation (syntactic accommodation) and categorial-semantic connotation is correct in this sentence. What is unacceptable is the semantic relations of the components of this utterance, it is textual connotation that is responsible for these relations. Chomsky introduced his own terminology and divided connotation disorders into two types: subcategorization disorders and selection disorders. The first type – subcategorization disorders – refers to cases in which a given word is used in the context for which it is not meant, e.g. a transitive verb connotes a noun in the accusative as the object (e.g. *Paweł ogląda zawody* [Paul is watching a contest]). If, for example, a verb in the infinitive appears in this place (*Paweł ogląda plywać* [Paul is watching to swim]) instead of a noun,

we will obtain a grammatically incorrect construction. This stems from breaking the rules of categorial-semantic connotation. The other type – selection disorders – manifests itself when the words in some syntactic relationship, as components of an utterance, are semantically incompatible. This means that one of these words does not correspond with the semantic features of another, e.g. in the sentence *Paweł wlewa kamienie do zbiornika* [Paul is pouring stones into a tank]. We will at once reject this sentence as unacceptable because the direct object of the verb *wlewać* [pour into] is a word with a semantic feature [Liqu], i.e. liquid. A stone has a feature [- Abstr], i.e. it is a concrete noun, and a feature [- Liqu], i.e. it is not a liquid. The process that has occurred in the sentence *Paweł wlewa kamienie do zbiornika* is an obvious example of the disordered connotation of the verb *pour* > *is pouring*. Constructions of this type are the basis of not only unacceptable utterances but also of a manifestation of linguistic creation – a metaphor. However, the thesis should be rejected that a schizophrenic expression in the strict sense, in which the disintegration of semantic relationships is found, is a product of the process of conscious creation.

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