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Methodological Basis of Research on Interaction in Aphasia

SUMMARY

The proposed interactional approach in studies on aphasia changes the perspective of examination and interpretation of this disorder by focusing on the analysis of aphasic language facts and by using linguistic methods of their description. Earlier studies on aphasia emphasized the types and degrees of language disorders. The logopedic management oriented towards diagnosis and treatment of speech disorders in patients with brain damages also prompts the interest in the retained brain capabilities in this group of patients. It is the preserved language skills that determine effective interaction with the patient suffering from speech disorders, the most essential grounds for the process of programming a therapy being communication efforts made by aphasic patients in order to realize the intended objective. The specificity of language behavior in aphasia is the resultant of two processes: disintegration and compensation which are determined, on the one hand, by difficulties in the actualization of units of the language system, and on the other hand, by communication strategies adopted by patients. From the standpoint of logopedic management procedures and the functioning of aphasic persons in society, what is the most important are their preserved interaction skills. The specificity of interaction in which aphasic persons take part involves the utilization of three elements: 1) a verbalized or non-verbal communication; 2) an utterance about a communication in two functions: the organization of a communication and the semiotic status of the factors; 3) the sender's and the receiver's knowledge resulting from textual and non-textual determinants. The analysis of the three interaction categories: text, context and metatext, allows us to devise the model of interaction behaviors in aphasic patients, in which, through the description of language structures, we can arrive at the conclusions about the condition of cognitive structures.

Key words: interaction, speech, aphasia, text, metatext, context

1. LOOKING FOR RESEARCH PERSPECTIVE

Each of the existing ideas of aphasia is in its nature based on a complex of data and statements concerning anatomy and physiology of the nervous system, psychology of linguistics etc. Among various, interdisciplinary concepts of describing this disorder, originating from different theorems concerning the functional organization of brain, the significance and properties of healthy persons' speech, its connection with other psychical functions and psychological processes conditioning its normal or disturbed course, etc, one should choose the stipulations that, although formed on the grounds of various sciences, are not internally contradictory and have been verified in empirical research. These findings give a broad and coherent outlook on the aphasic phenomena as possible and are useful for explication of language material, indicating the directions of its interpretation. As aphasia, as a unit of speech pathology, is expressed in a paradigm of language symptoms, the methodological findings concerning the essence of speech and language are of fundamental importance for its description.

The linguists' remarks on the language functioning in people with aphasia raise serious interpretational doubts. Lack of theoretical differentiation between knowledge about language and efficiency in using it caused concluding about the status of the language system on the basis of manifestations of disorders in accomplishing specific utterances by patients with injuries to the subordinate brain hemisphere, which, consequently, led to comprehending aphasia as a manifestation of language system disintegration [Jacobson 1989, Zarębina 1973, Kania 1976]. Such a methodological approach, however, refers to all sort of linguistic studies. This was aptly commented upon by Krzysztof Korzyk:

“one of the paradoxical properties of linguistic concepts, theories or models suggested for the explanation of language phenomena is that these structures ultimately refer not as much to a homogeneous, autonomous sign system called language, but rather to a group of various phenomena, usually treated by linguists as the manifestations of this abstract object's existence. These manifestations are, first of all, (1) utterances and texts – products of a special kind of human activity (physical, psychical/mental and social), usually defined as speaking, (2) the above-mentioned activity, approached from different theoretical perspectives and (3) its variously conceptualized biological “substratum” – “bio-psychical language substrate.” [Korzyk, in: Awdziejew 1999: 9].

Differentiation of the ontological status of two different phenomena: a system, understood as a mental being and a specific type of language behavior, which is a physical fact, is an important methodological postulate. It gains special importance in studies on speech pathology. These phenomena, though interdependent, are not identical. Methodological standards of linguistics demanded studying texts and presenting their properties as features of the system. As a result of such approach, the border between the two spheres in which the language works – *langue*

*and parole*¹ gets blurred. Ferdinand de Saussure did not at all postulate strict distinction between an individual's speech (*parole*) and language, which is owned by the whole community and which, being contained in the language awareness of each individual, determines a definite structure of individual speech (*langue*). However, he pointed out to the need for strict theoretical differentiation between these two planes, simultaneously being conscious that such a strict differentiation cannot be performed in practice [Ivić 1975].

Data on speech pathology clearly prove that it is possible to study language and speaking separately. Thus there is a terminological differentiation between "competence" – understood as a propriety of an individual's mind, knowledge of grammatical rules that develops in the general process of growing up and socialization – and performance – understood as language activity (speaking), the form obtained by this knowledge in individual utterances, which are affected by various factors of biological-physical, psychological and social character – is of fundamental importance for description and interpretation of speech disorders and thus also for explaining the mechanisms of interpersonal communication [Panašuk 2000b, 2001b].

The justifiability, possibility and even necessity of differentiating the language (*langue*), speech (*language*) and speaking (*parole*) in particular individuals thus appears to be clearly visible in the linguistic studies of language pathology manifestations. Admittedly, here it is better to replace Saussure's opposition with the notions introduced by Noam Chomsky - *competence* and *performance*, as we are referring to a definite person, who, as a result of various factors of biological, anatomical and physiological nature, shows an apparent dissociation between the knowledge of signs and rules of combining them into larger entities, and the ability to use it. And although F. de Saussure himself stated that "a man who is deprived of the possibility to use speech retains his language, if only he understands vocal sounds that he hears" [Saussure 1991, 42], yet the researchers-structuralists concluded about the disintegration of *parole* on the basis of pathology in the sphere of *langue*². This is indicated, for instance, by the titles of some linguistic studies³.

¹ According to F. de Saussure's definition "language (*langue*) is a set of necessary conventions assumed by a community to enable the individuals to use their ability to speak. The ability to speak is something different from language, but it is something that cannot be accomplished without language. What is understood as speaking (*parole*), is an act of an individual who is accomplishing their ability of speech by means of a social convention, which is language. Speaking contains the notion of accomplishing what is allowed by the social convention" [Saussure 1991, 40, note 10].

² Structuralists criticized Ferdinand de Saussure's psychologism, indicating that it is in contradiction to other theses of his theory. Today a return to psychologism is observed in the form of the so-called mentalism of Noam Chomsky's generative-transformative grammar, or cognitive linguistics.

³ Cf. E.g.: *Disintegration of phonological system in aphasia (on the Polish language mate-*

“However, there exists a certain reality (...) I mean the pathological cases, when speech becomes limited to single-sentence utterances or to reproducing ready-made sentences, and the ability of joining words in new sentences vanishes, or the situations when this ability is undermined, but as the patient cannot manipulate the morphological components of the word, the operations of inflexion or derivation are abolished. In another case the vocabulary may remain intact, but the ability to recognize and reproduce new words is disturbed, because the phonemic components cease to be an autonomous instrument for making differentiations for the patient, whereas a normal listener or language user can distinguish the words he has never heard and used before.”

R. Jakobson, 1989, part 1: 136.

Besides, the description of language disorders in aphasia requires considering the complex nature of the language itself, the character of which results directly from the three relationships [cf. Henz 1988], comprising different aspects of human linguistic activity:

- 1) towards subjective reality;
- 2) towards objective reality;
- 3) towards society.

Additionally, assuming the differentiation made by logicians, between: on one hand – language referring to facts that are external to it, and on the other – “metalanguage” that refers to the language itself as a specific being, another relationship can be distinguished:

- 4) “language-object” – “metalanguage”.

Man, facing the objective (external) reality surrounding him, uses language to formulate judgments on this reality and his place in it. The essence of man’s relationship towards the world surrounding him is the ability to connect language signs with individual objects and phenomena of the extra-language reality⁴.

An individual, trying to get acquainted with and understand the objective reality, therefore transforms it in some way. Man’s cognitive experiences, formed during philo- and ontogenetic development, find their reflection in the structure of the general and individual languages themselves. Language records these experiences in notional structures, and at the same time makes them possible, being a form of abstract thinking. The position of language determinism in human cognition, based on the idea of Wolfgang von Humboldt, studies by Edward Sapir and

rial) by Józef Tadeusz Kania [Kania 1976] or disintegration of language system in aphasia (*on Polish material*) by Maria Zarebina [Zarebina 1973]. However, Leon Kaczmarek in his published voice in discussion after Wolfgang Dressler’s paper on phonological disorders in aphasia distinctly postulated that “language phenomena should be differentiated from substance. For verbal utterances of early preschool children, or even “dislalians are perceived by us – despite frequently very big deformation of substance in the segmental plane, i.e. faulty realization of phonemes. In these cases language communication, though more or less hindered, still exists” [Kaczmarek, after: Mierzejewska 1978, 24].

⁴ This aspect of language functioning was assumed by structural linguistics.

Benjamin Lee Whorf⁵, the linguistic views of Jost Trier, or philosophic ideas of Ludwig Wittgenstein, Kazimierz Ajdukiewicz and Hans George Gadamer, is assumed by Stanisław Grabias, building the methodological foundations for studying speech disturbances [Grabias 2007]. Human processes of learning about the world take place through the categories contained in language, thanks to language man gets detached from biological way of getting oriented in reality, which is characteristic of other living beings [Grabias 2001].

An inherent feature of a human being is aiming at contacting other members of a given community, the will to transmit the information about himself and the world to the surroundings. The wish to be noticed in the social milieu and will to express oneself are combined with the need of 'reception of the surroundings' response. In such optics verbal behavior is treated as an element of global human social behavior. The subject of interest for a language researcher becomes not a language code, but speech activity, described by S. Grabias – after Alfred Schulz – in the categories of interactions. The following elements of interaction become significant: participants – type of relationship and contact, situation, time, place, number of participants,, subject and form of utterance, as well as the intention of transmission and its pragmatic functions [Grabias 1997, 2007]. In human behavior, perceived in the interaction perspective, everything – each movement or gesture, and even lack of them – is the carrier of contents – a sign⁶.

Each sign –as Charles Sanders Peirce stated– is translatable into other signs that develop it further. Signs are equivalent “when each of them can interpret the other”, and it has to be emphasized here that the basic, direct, selective interpreter of any sign is “everything that is contained explicitly in the sign itself, regardless of the contexts and circumstances of the utterance” in which that sign occurs. “For a symbol cannot indicate any particular thing, it indicates the kind of thing, besides it is a kind itself and not a particular thing” [Peirce after: Jakobson 1989, p. 1, 383-384]. Because of the metalinguistic operations performed by man on words and syntactic structures, two levels of language should be distinguished, i.e. “object language” – describing the world that is external to the language, and the “subject” language – used to define the signs of language code itself, i.e. “metalanguage”. Such differentiation was based on the contemporary logics, though it was already distinctly anticipated by the ancient Greeks and the tradition of India and developed in the mediaeval times. The metalanguage operations are not limited to science only, but they constitute an integral part of human language activity. Whenever the speaker and/or listener check if they use the same code,

⁵ The relationship of language towards subjective reality – thinking and cognition – is the object of cognitive linguistics.

⁶ The trend of examining language in social behavior was initiated by sociolinguistics and interaction linguistics, accomplished recently within the theory of communication .

the utterances are oriented at the code, so they fulfill the metalinguistic, glossing function.

Methodology of studying the manifestations of language disorders in persons with brain damages, facing such complexity of language description perspectives, poses additional problems since the description is to concern speech disorders – a higher, complex mental action, the cause and condition of which is the language itself.

2. THE NOTION OF SPEECH

Speech, in a modern approach, worked out for the needs of speech therapy by Stanisław Grabias, is “a set of actions that a man performs using the language, learning about the reality and transmitting its interpretation to other participants of social life” [Grabias 2001, p.11]. In every kind of human communicative behavior the author distinguishes the exponents concerning the sphere of individual behavior and the manifestations of behavior, which is common to all members of a given community. Thus, the human language behavior is not only a text producing process and its perception, but it is first of all the expression of man’s cognitive abilities and rules of man’s functioning in the society.

The quoted definition diverges from approaches that commonly function in literature, for speech is most frequently identified with either only communicative kinds of behavior of man, or with biologically conditioned process of speaking⁷. The author, however, interprets human verbal behavior in three spheres of reality at the same time: in the sphere of biological-physical, mental and social phenomena [Grabias 1997].

The biological-physical sphere concerns the activity of transmitting (respiratory, phonatory and articulatory), as well as receiving apparatus (the organ of hearing), conditioned by the work of brain centers. According to traditional

⁷ “Speech is an act in the process of communication” – as Leon Kaczmarek said. This process is enclosed in a precisely defined cycle, in which the starting position is occupied by language, which is the basis for the process of speaking that consists of cerebration and production of the phonic substance, the result of which is the form of utterance, and the final stage is understanding, consisting of three elements: hearing, reception and language analysis [Kaczmarek 1988: 22]. Medical sciences, describing speech, seek the biological conditionings of respiratory, phonatory and articulatory actions [Foniatrya kliniczna 1992: 222]. This phenomenon is similarly interpreted in certain psychological and pedagogical works. Halina Mystkowska [1970: 8] presented the following definition: “Speech must be (...) interpreted as a function of human organism: nervous system, organs of speech, movement and hearing”. Similarly a specific biologism is a feature of Irena Styczek’s approach. According to her, speech is a set of activities involving transformation of observations, notions and mental processes into appropriate sound symbols, which are double-checked by proprioceptive impulses and hearing impulses [Styczek 1970], .

approaches, the cortical nervous structures that control speech functions create the so-called “speech area” located in the medium part of the hemisphere that predominates for speech. The clinical observations, neurological data and experimental studies indicate the significant functional differentiation of particular areas within the speech area. However, in the light of recent clinical studies confirmed in modern neuro-image methods, it becomes obvious that besides the centers located within the “speech area” the functioning of other brain structures as well is indispensable for the correct course of language activities.

The mental sphere of language behavior is related – as Noam Chomsky stated – to the functioning of an abstract system of signs and grammatical rules in human mind. They allow for constructing complex signs by using simple signs. The knowledge of how to use them is what an individual doesn’t have to be aware of [Chomsky 1968]. In the linguistic theories this knowledge corresponds to linguistic competence, and in S. Grabias’s interpretation : ”he mental ability allowing to build any number of sentences from a finite set of language elements and distinguish grammatically correct sentences from incorrect ones” [Grabias 1997b, p. 34). These abilities are characteristic of all the users of a given language⁸. The character of an utterance is determined not only by grammar, but also the conscious or unconscious rules of using the language in various situations created by the community and the speaker’s experiences, defined by Dell Hymes as communicative competence.

The social conditionings of language can be described in the categories of communicative competence. It consists of language social rules (determining the manners of accomplishing the language social roles), language situational roles (allowing to build utterances that are adequate to situations), as well as pragmatic rules (allowing for effective accomplishment of intentions).

S. Grabias also distinguishes cultural competence, i.e. knowledge of the surrounding reality, the system of values that is obligatory in a given culture, as well as the awareness of the manners of interpreting the reality, being the effect of the popular knowledge about the world that is inherent in the language. This knowledge is formed with the participation of language [Grabias 1997a].

In the case of language disorders caused by damage to cortical structures, difficulties are observed in the accomplishment of all the types of competence, and aphasia is defined mainly by lack of access to a language competence or a difficulty with updating it.

In the notion of speech suggested by S. Grabias two types of actions can be distinguished according to their ontological status and the functions imma-

⁸ Individual behavior in turn, defined as language skills by S. Grabias, are characteristic of each individual separately and comprise the manners of text realization, where mental and physical features of the speaker are revealed [Grabias 1997b].

nently contained in them⁹. The first of them is performed in the so-called internal speech¹⁰, and it results in the thought up text deprived of the substantial form. Such a form of language use either serves non-communicative cognitive processes that organize the knowledge of reality in the speaker's mind, or it organizes knowledge with an intention of transmitting it and constitutes a quasi-communicative activity. Another type is the behavior taking place in the external speech, which is in the sound form (secondarily graphic or gesticulatory) and makes language communication possible [Grabias 1997b]. The above-quoted definition of speech seems to be the most useful for studying aphasia, as its scope comprises three kinds of behavior fulfilling separate functions. These are:

- Human cognitive actions that are performed exclusively by means of language and they result in notionally ordered knowledge that is kept in the mind and is the representation of reality.
- Communicative language activities that are revealed against the background of the coherent mimic and gesticulatory behavior that constitutes the so-called paralingual codes of speech.
- Socializing and group-creating activities that underlie the formation of language behavior model that is obligatory within a given group [Grabias 1997].

The ability of communicating by means of language is one of the inherent features of human species. It can be accomplished in the form of a phonic series or a system of graphic signs in a verbal or non-verbal form. Speaking, understanding, writing, and reading in accordance with one's own or the speaker's intention are common actions that are inseparably connected with the everyday life of man in the society.

3. INTENTIONALITY OF LANGUAGE BEHAVIOR

All actions have one thing in common: an intention or a desire lie at their basis. Intentionality¹¹ of human activities is, according to John R. Searle [1995], im-

⁹ Mariusz Maruszewski wrote: "Man as the only living species acquired this ability as the result of the long –lasting evolutionary process and it constitutes one of the main prerequisites both of the developmental achievements of the whole human species, as well as a sine qua non condition of full participation in the social lives of particular human individuals [...] the ability of communicating also plays a very important role in the regulation of man's own activity, constitutes a tool for the organization of his own activity and affects the way of understanding the surrounding world and the ability of thinking about it [Maruszewski 1974: 6].

¹⁰ To designate the "internal speech", the term "cerebration" was used in linguistics" [cf. J.B. de Courtenay after: Kaczmarek 1988].

¹¹ Intentionality is one of the basic notions of 20th century philosophy, vastly discussed in Edmund Husserl's phenomenology. Husserl took the category of intentionality over from Franz Brentano, who in his treatise *Psychology from empirical point of view revived this notion of scho-*

manently contained in the activity itself and distinguished by the three features: it always contains some content, always comprises some conditions to be met and it usually has its causative power.

[...] Intentionality is the feature of mind thanks to which it creates internal representations of objects and states of things in the world. But our minds are simultaneously in constant causative contact in the world. When we see objects, they give rise to visual impressions. When we remember events from the past, they evoke our present recollections. If we are going to make a movement, this intention makes our body move. In each case we deal both with the causative and intentional element. For the intentionality to work and for our survival in the world, the mind's ability to create representations and causative connections has to mesh in some regular way. This is performed in the form of an intentional causative connection. [...] in this case the cause and effect work as they do, because the reason is either the representation of effect, or the effect is the representation of cause." [Searle 1999, p. 167-170].

According to J. R. Searle the category of intentional causative relationship is crucial for the explanation of human behavior, because it is always based on specific causes, but when rational intentional behavior is in question, then its explanation must at the same time refer to the content and neuro-biological factors. This feedback takes place within the intentional causative relationship. This relationship is not determinist in nature, as the intentional cause itself does not imply that an action must be completed. In other words, the intentional causes do not constitute a sufficient condition for action, just like the neuronal factors, which are coupled with them¹².

Speech – set of language activities – allows for man's existence in a social group, the communicative and cultural competences enable us to understand the relationships between the participants of social life, while language competence and ability allow for successful accomplishment of one's own communicative intentions [Grabias 1997b, 2001].

lastic origin and made it a discriminant of mental states. For F. Brentano each mental event was characterized by intentionality, which was characteristic of human mind only. In Husserl's thought intentionality refers to consciousness and means that it is always the consciousness of something. Consciousness is simultaneously comprehending an object, thinking about it and giving a sense to it, because an object is revealed exclusively through the intentional project of consciousness directed at it. In the analytical philosophy of John R. Searle and in psychology intentionality is a feature of conscious and intentional act, state or action [Searle 1995].

¹² J. R. Searle comments on it as follows: "When I explain my own behavior, stating that my convictions and desires made me act, I usually do not suggest that I could not have behaved differently. Usually, when I conclude from my convictions and desires about what I should do, a certain gap appears between the causes of my decision (in the form of convictions and desires) and my actual decision, and another gap between the decision and performance of an action. These gaps appear because the intentional causes of behavior are not enough to determine the behavior." [Searle 1999: 171–172].

When the accomplishment of an intention is hindered by speech disorders, and an individual is a *homo loquens* and language fulfills the existential function, the procedure of intention accomplishment is adjusted to the aphasic patient's communicative abilities. The man uses disintegrated language facts so as to accomplish the assumed intention in the best possible way. Therefore he creates specific ways of bypassing his difficulties and takes communicative strategies that could enable him (at limited repertoire of language resources) to accomplish his intention. These strategies compensate the language difficulties of persons with aphasia and are the expression of their active attitude towards language in social interactions.

Such an opinion has already been clearly expressed by R. Jakobson:

The analysis of speech “convincingly indicates the significance of studying and correlation of various phases in the whole act of speech, from its source to the listener: intention, nervous stimulation, gradual producing of transmission, hearing, perceiving, and understanding. Numerous examples of isolationist restriction of research to one particular phase of this process without taking into consideration the next phases or cases when subsequent phases mix, affected the analyses and deprived them of effective classification criteria. The situation of each phase in the whole speech process requires careful explanation” [Jakobson, 1989, p. 1, 137].

In the interpretation of interactional behavior demonstrated by aphasics what remains a significant fact is that the persons with problems in accomplishing their intentions, which are caused by a language pathology, function in the society and communicate with their surroundings in a specific way that is defined by the kind of difficulty. Thus, a speech disorder is related to an internally conditioned necessity to behave in a particular way and lack of ability to behave differently [Grabias 2001]. „When one person communicates with the other, this other person always more or less understands what the first person's message meant” [Fiske 1999, 59]. It is the specificity of behavior demonstrated by persons with brain damages and aphasia will be the aim and subject of this dissertation.

A methodological difficulty in interpreting the specific kinds of language behavior in persons with aphasia can be the necessity of separating the manifestations of such kinds of behavior which, although they are causally conditioned – in this very case it is the disorder in neurophysiological mechanisms), however they do not meet the category of intentionality, they are the result of pathological reactions taking place in the brain. The patient is frequently unaware of them, so they cannot be initiated and controlled by them. This problem, at least theoretically, seems to be solved by the idea of mental products¹³ and acts initiated in the

¹³ The author inscribed himself into the methodological discussion on the range of physiological and psychological research. It was about the status of such physiological responses of the organism as e.g. getting pale, mimic expressions connected with a certain configuration of facial muscles, trembling of the hands etc. Making a differentiation between acts (e.g. to cry, to think, to speak)

year 1912 by one of the founders of Polish psychology – Kazimierz Twardowski [1965]. The psychical phenomena, according to this theory, are expressed in durable or non-durable psychophysical product, which is observable, repeatable and meaningful. The role of a researcher is to open the meaning of mental state on the basis of a symptom (indication) or sign. In this psycho-semiotic formulation that to a significant degree took advantage of the achievements of the humanities, no strict differentiation has been made so far between a symptom (indication) and a signal of psychophysical products. The theory was applied by Twardowski's disciple – Władysław Witwicki, who differentiated symptoms (indications) and bits of information (signs) concerning mental and especially emotional life. He included into the interpretable products all the intended signs of psychical facts, which are directed to another person in their intention “[...] to make someone aware about a certain status or a certain disposition” [1963, p. 25 – 28].

The division of psychophysical products suggested by Witwicki is based on the criterion of “intentionality-lack of intentionality”. The basis of communication in the light of the theoretical assumptions posed like that is interpretation, i.e. seeking the meaning of observed facts in the course of social interactions.

3. THEORY OF SYMBOLIC INTERACTIONISM

The interactional model of society appeared at the end of the 19th century. In the light of this idea the society was interpreted as a product of mutual influence of individuals, and not as a being determined by innate attributes of particular individuals that constitute them¹⁴. What was regarded as socialization mechanism were social interactions (Georg Simmel) or social actions (Max Weber). The model assumes that all the structures should be understood as systems of interaction between the elements that these structures consist of. In the understanding of humanist sociology these influencing elements are individuals that may be consciously guided by their own values or interests [Hałas 2006].

and the products (e.g. a cry, a thought, a speech) he divided them into durable and non-durable. Kazimierz Twardowski ascribed the feature of durability to products and physical acts, distinguishing a specific genre from among them – psycho-physical acts and products that can, but do not have to be durable. The psycho-physical products are created “thanks to a psycho-physical act, i.e. such a physical act that is accompanied by a psychical (mental) act that affects the course of the physical act and therefore the product that is being created thanks to that act.” [Twardowski 1965: 230].

¹⁴ In the functional interpretation of the social system by Talcott Parsons one of the basic elements is interaction, i.e. actions between individuals. Similarly in “Interactional Symbolism” – the existence of society is possible only thanks to reconstructing and supporting interactional situations. Also in Anthony Giddens's idea of “structuration” the social structure exists thanks to interactions that depend upon the structural conditionings of a given society or a given social group [cf. Hałas 2006].

The theory of social interactionism claiming that the social reality emerges from interactions was adopted as one of the basic research paradigms of the 20th century sociology [Hałas 2006]. The idea that grew on the grounds of American paradigmatic philosophy of Charles S. Peirce, William James, John Dewey, and, above all, George H. Mead, was developed by the American sociologist Herbert Blumer, who was regarded as the founder of “interaction symbolism” theory. The term “symbolic interaction” refers to a certain and specific type of interaction that occurs among people. This specificity results from the fact that people do not respond in a simple way to their actions, but they mutually interpret or “define” them. Human interaction takes place through symbols, through ascribing meaning to the behavior of others – the process of interpretation takes place between a stimulus and a response [Blumer 1969]. For a long time many researchers in human behavior had postulated including in the description of social life such symbols as cultural standards or values, but it was only George. H. Mead [1934] made a deeper assessment of the meaning of interpretation act for understanding complex forms of behavior¹⁵.

The key assumption of G. H. Mead’s idea was the statement that man was equipped with Self /Ego/ ¹⁶, and thus he can be the object of his own actions. With respect to himself he can act identically as towards other people¹⁷. The way man affects himself can be easily empirically observed. Mead regards this ability to affect oneself as the main mechanism enabling man to indicate to himself the things that are situated in his surroundings and controlling his actions¹⁸. A human being faces the world being equipped with the mechanism enabling him to

¹⁵ The idea of society as a symbolic interaction, though often recalled, has seldom been systematically formulated. Partial, usually fragmentary assumptions that social reality emerges from interactions, are recalled in the works by numerous sociologists, first of all by Charles Horton Cooley, William I. Thomas, Robert E. Park. Ernest W. Burgess, Florian Znaniecki, Ellsworth Faris, or James Mickel Williams.

¹⁶ The four basic categories of Mead’s theory of social interactionism are: mind – understood as the process of thinking that brings about the ability of “considering” the alternative possibilities of acting; Ego – defined as individual’s identity with himself, awareness of his separateness; Interaction – defined as mutual influence of two or more individuals, involving mutual behavior affecting; Society – interpreted as a form of community life of people, based on interactions between individuals, which form a self-sufficient community [Mead 1975].

¹⁷ Everybody knows the situations when a person is angry at himself, reproaches himself for various things, is proud of himself, argues with himself, tries to encourage himself, tells himself that he should “do this and that”, or “not to do that”, sets goals to himself, compromises with himself and plans his future actions [Blumer 1984].

¹⁸ “Man indicates to himself everything he is aware of: ticking of the clock, knocking at the door, an acquaintance turning up, his companion’s remark, finding out that he has a task to perform, or that he has caught flu. And the other way round – all that he is not aware of, *ipso facto* does not undergo the process of indication. Man’s conscious life, from the moment of waking up to falling asleep, is an incessant stream of self-indications of the objects he deals with and takes into consideration” [Blumer, 1984: 73].

give directions to himself. Thanks to such a mechanism the interpretation of other people's actions is performed. To interpret somebody's action – means to indicate to oneself that it has a certain meaning. This ability to give directions to oneself has – according to Mead – a double sense. Firstly, it allows to point out to something – that is to bring this thing out of the context, to isolate it, give a meaning to it, or – in Mead's terminology – make an object of it [Mead 1975], and secondly – makes it possible to plan one's action as a response to a certain experience.

The object is everything that man indicates to himself, so it must not be identified with a stimulus. For it is not a factor of external nature, which affects the individual and can be defined in isolation from it. The essence of the object is its meaning given to it by an individual, so the object is a consequence of human disposition to undertake an action. Giving directions to oneself is a continuous process of information flow, where man perceives things, assesses them, gives them meaning, and then, on this basis, makes a decision to act. A human being is in the environment of objects that affect him, but also creates his own objects through his incessant activity¹⁹. This is how – according to G. H. Mead – the symbol-using action is expressed [Mead 1975, Blumer 1969].

Another consequence of the fact that man gives directions to himself is that his actions do not only constitute triggering a response, but are created and constructed by it. Undertaking actions man becomes aware of different factors that he should consider in planning his activity. Namely, he must specify what exactly he wants to do and how he is going to accomplish it, he has to become aware of various circumstances that may turn out to be favorable to these actions, as well as those that may prevent them from coming into effect, and, finally, he must take into consideration the demands, expectations, prohibitions and threats that may be manifested in the situation in which he acts [Mead 1975].

Constructing an action by an individual is always performed in a social context. Group action involves mutual adjustment of individual activities, when particular persons adjust their actions to the actions of others on the basis of recognizing their actual or intended behavior. This is how – according to Mead – a human being “enters into the roles of others”, both into the role of a particular person and a group (the generalized others) [Mead 1975, Blumer 1969, Hałas 2006].

According to the author of this concept, giving directions to oneself cannot be qualified as internal or external “force” that affects the individual and inducing him to undertake an action, for environmental pressures, internal stimuli, biological drives, desires, attitudes, feelings, ideas, etc., do not exhaust or ex-

¹⁹ “In each of his countless actions – less significant – like dressing up, or more important – like preparing to take up a career – a human being indicates to himself different objects, ascribes meaning to them, assesses their usefulness for his actions and makes decisions on the basis of this assessment” [Blumer, 1984: 75].

plain the process of self-direction²⁰. Indicating particular phenomena to himself, man seems to place himself above them and then he can affect them, rejecting or transforming them, according to his definition or interpretation of them. The self-direction process cannot be explained through factors that precede it. This process is something different in itself and has to be considered and examined as such. Therefore, an individual's behavior is a result of the manner in which he interprets phenomena and constructs his action [Blumer 1969].

4. THEORY OF INTERACTION IN SOCIOLINGUISTICS

The notion of interaction in Polish sociology was developed by M. Ziółkowski. According to him "interaction means ways of an individual's acting in specific situations and commonly applied procedures of understanding and mutual adjustment of the partners' actions" [Ziółkowski 1981, 21]. Thus, the actions of an individual and his partners are not free, but depend on the situation that the interaction takes place in, of the rules of life fixed in a given society, as well as the language code carrying cultural heritage. The partners' language actions result from socialization. The researcher distinguishes three stages in the socialization process:

- Man learns how to adjust his behavior to his partners' behavior;
- He gains the skills of defining the meanings of social phenomena, as well as arranging these phenomena according to a certain hierarchy;
- He masters the art of looking at himself from the point of view of other participants in the social life [Ziółkowski 1981, 56].

The idea of interaction was introduced to Polish sociolinguistics by S. Grabias [1997]. In this concept interaction is connected with the biological properties of man, language processes that are specific to humans and the rules of social life, which is the experience of an individual. According to the researcher, the interaction is of linguistic character, is performed through language, because it is language that gives a specific character to human behavior, differentiating human behavior from the behavior of other living beings. Language makes the cognition of reality objective, enforcing intersubjective categories of the outlook upon reality upon individuals. Man learns about the world through the senses, these provide him with subjective knowledge, which is unrepeatable, incomparable, and inaccessible to other individuals. And although the senses of every man work within the biological conditionings of the species, the sensual conditionings provide individual data determining unidentifiable possibilities of human behavior. It is the

²⁰ "This process is separate because a human being indicates to himself and interprets the turning up or appearing of such things, marking certain social demands. What are the demands from this individual, acknowledging the order, finding out that he is hungry, wants to buy something, is aware of having such and not other feelings, that he does not like eating with somebody whom he despises, or that he is thinking about doing a particular thing" [Blumer, 1984: 76].

language that arranges these experiences in its intersubjective structures, which are common to social groups. Language intellectualizes cognition, transforming the biological, sensual orientation into mental outlook.

Language categories have the structures of mental beings. According to S. Grabias these are: grammatical categories – as beings that organize language subsystems, notions – as universal models of ordering experiences, proper to the human species, textual categories – as universal structures conditioning human actions (dialogical forms of utterances) and reflection indispensable to understand the world (narrative forms of utterances). Language is, finally, the most precise tool that makes it possible to build knowledge transmission in accordance with the speaker's intentions and enables him to reach the listener's intentions.

Conditions of behavior creation and reception:

Human behavior is the resultant of the following factors:

- cultural categories of interpretation assumed in a given social group, acquired in the socialization process (they are determined by social background, education, occupation);

- effect of other social groups that interpret the reality differently and have worked out different systems of values.

- Human behavior can be governed by groups that a man has never been a member of, but for some reasons their patterns are accepted by him (personality features)²¹.

- The state of being aware of one's actions, goals and values versus behavior automation [Grabias 1997].

Reception of the behavior of other interaction participants is, however, conditioned by the following variables:

- Reaching the speaker's mental states (this is made through the assessment of the speaker's signals and associating them with mental states, identified on the basis of introspection with one's own states);

- Deciding about the cohesion of behavior (decoding the speaker's mental states against the background of the physical situation (understood in the catego-

²¹ Sociology and social psychology use the term “**the generalized other**”, which defines the general social rules, standards and values that a social individual starts to notice in the process of secondary socialization, and understand that the rules, according to which he acts, are not only the rules of his significant others, that is close persons with whom he identifies, but they are generally accepted in the society, as well as the terms “the significant other” or “a significant person”, which denote the persons playing significant roles in socializing when the social individual's personality is being formed. In primary socialization these are parents or, less frequently, guardians. In secondary socialization these could be other persons exerting significant effects upon the individual's system of values or behavior patterns – teachers, priests, superiors at work, spouses - depending upon the situation in which an individual has found himself, and upon the already formed personality structures. A social individual often learns from the significant others through imitation, how to play the social roles which are basic for a given society [Hałas 2006].

ries of space and time), social situation (comprehended in the categories of social roles) and discovering his wishes signaled by certain kinds of behavior. The degree of behavior sensibility determines the coherence of these three components);

□ Identifying oneself with the speaker's attitude or rejecting it. The complement of these two extreme responses is the indifferent attitude [Grabias 1997].

Interaction in the idea of S. Grabias appears therefore as "a system of two adjacent processes: processes of giving meanings to human behavior and the process of adjusting one's own behavior to the behavior of other members of a given social group" [Grabias, 2007, p. 358]. The author's assumptions show that the interaction theory must first take into account the role of language in organizing the senses (recognizing the reality) and in organizing the transmission, transmitting the knowledge of the reality to the others. Both these roles complement each other and make the interaction process effective in the situation when the following conditions are met:

1. The condition of identity of knowledge about oneself and the world, which is a consequence of participation in social life, for the closer are the interlocutors experiences to each other, the more effective are the interactions that these persons enter.

2. The condition of structural identity of the knowledge about oneself and the world, which is expressed in the fact that the persons who use the same ethnic language have similarly structured knowledge about the reality, for language provides intersubjective categories of world recognition.

3. The condition of identity of structure and resources of knowledge about the subject of interaction, which is met when the interlocutors' resources of knowledge about a given object or event are comparable – the closer the structures of this knowledge are to each other, the more effective the interaction can be²².

4. The condition of transmission patterns identity, as well as the identity of ways of accomplishing them, which is connected with the fact that the effectiveness of transmission requires the knowledge of interaction patterns, habitually ascribed to social interactions and the ability to accomplish these patterns in verbal and nonverbal behavior. It seems that the more the interaction behavior is accomplished according to the scenario of stereotypic behavior, consistent with the universally accepted patterns, the more effective it is [Grabias 2007].

²² The notion of knowledge representation is in fact rejected by some post cognitive ideas of mind. For instance H. Maturana and F. Varela, the authors of the theory of "self-creation of organisms" (*autopoieses*) assume the thesis that "the reality is always somebody's reality", because knowledge, which is always the result of somebody's experience, is constructed exclusively in the organism of the recognizing person. Therefore knowledge constitutes the property of an individual, and the world presents itself to everyone in such a way as it can be recognized by the senses. Indeed, there are human, universal ways of constructing knowledge, but there are individual constraints in gaining it [Maturana, Varela, 1998].

A similar plot of man's social functioning was what Alfred Schütz [2008] analyzed in his main work.²³ Criticizing the weaknesses of Weber's *verstehen* method that is co-sensing introspection of the researcher towards the object of his sociological investigations, which would require sharing common meanings by people, Schütz tried to find the answer to the question how it happens that people share subjective meanings of situations. In his divagations Schütz assumed Husserl's thesis that each man has his own "world of life" (*Lebenswelt*) that he accepts as something obvious. People think that they share the same world of life and act as if they were living in a common world of experiences. A. Schütz believed that the recognition of social processes is only possible through observing interactions in which individuals start sharing the same world. The basic element of the Austrian philosopher's thought was intersubjectivity, i.e. the formation and maintenance of common subjective world for different individuals entering various interactions between themselves.

A. Schütz [2008] also used the term "reference knowledge" to designate the whole set of social principles and rules that enable people to function in the social world. It is the practical knowledge, which is assessed with regard to its effectiveness. The resource of knowledge acquired in the socialization process constitutes the absolute reality of every man's activities and gives sense to all events. People, establishing relationships with others, assume the principle of "mutual translatability of perspectives", which means that everybody treats others as if they possessed the same store of reference knowledge, irrespective of the difference in their life experiences. During interaction people tend to ignore the differences in biographies and act on the basis of presumption that the world is the same for everyone. The tactics that facilitate interactions are "typifications", involving classifying different kinds of behavior in similar types. Entering subsequent interactions we do not have to analyze the behavior in detail, but we rather use the previously worked out typifications. According to S. Grabias [1997] the rules that govern language communication also govern speech²⁴.

S. Grabias's further reflection about the rules of interaction concerns knowledge. He assumes that human cognition is determined by two kinds of knowledge: subjective and socialized. As an example of extreme cognitive subjectivism he quotes the views of A. Korzybski [1958], according to whom each man has his

²³ In his works A. Schütz developed Edmund Husserl's phenomenology, combining it with the theory of action developed by Max Weber and with American symbolic interactionism. A. Schütz was never a direct disciple of Husserl's, but he intensely studied his works. A. Schütz's first book, *Der sinnhafte Aufbau der sozialen Welt*, which was published in 1932, enjoyed significant interest from the scientists, including Husserl himself, who started to correspond with Schütz intensely.

²⁴ Two extreme opinions were formed in science on that subject: philosophical creationism: "Each man's language is his own invention" [Krapiec,] and social determinism: "Man does not speak in a certain way because he wants to do so, but because he has to speak like that" [Humboldt].

own cognitive possibilities conditioned by his biology and psyche, as well as experiences applicable to these possibilities. Each human individual is a separate “biographic situation”, that is why the cognitive structures of particular people are unique. In the idea of Mead [1975], subjectivity of experiences is assumed, but the possibility of interactions happening is explained by means of “interactive negotiation” mechanism. Only negotiation allows for ascribing the meaning agreed upon by the participants of interaction to its object. The constructivist theories of mind made cognitive subjectivism the principle of existence for all living organisms, also of man. According to Gregory Bateson cognition is always an auto-reference process, and mind is an auto-referential system [Bateson 1996; Bateson & Bateson 1987]. In this idea the human mind is understood as a self-describing relationship, in which language functions as a self-narration and self-interpretation tool, but mind is a phenomenon, which is present in the whole animated nature, and its function involves differentiating between the world- and- himself²⁵.

This opinion is confirmed by the view of the famous Swiss psychologist, founder of the so-called genetic structuralist, Jean Piaget, who believed that “Intelligence (an intelligent being) organizes the world by organizing himself.” The autoreferential perspective requires treating the mind as a relationship and not as a substance. The mind manifests itself in acting, as a product, which is active by nature, but it is also something more than just an epiphenomenon of the nervous system. The mind manifests itself in the connection that it constructs between its internal states, and what effect is brought by its action through actions. The theory of *autopoiesis* emphasizes the biological conditioning of our cognition. There is no cognition without referring it to the activity of a living organism. Maturana writes: “The mind is not in the head. The mind is in the behavior.” In this approach cognition is a strictly interactive phenomenon. The mind IS not, but it MANIFESTS itself in a specific, incarnate action. Human knowledge is not the same certain discourse or a kind of record, but it is rather a way of being of a particular individual, what he does, in the dimension of the sense of its actions and the events preceding them [Skibiński 2003].

What corresponds to the notion of autoreferential and recursive character of our cognition, is the notion of self-value (*Eigen-values*), introduced by Heinz von

²⁵ Bateson therefore treats mind as a cybernetic, organizationally closed system – on the level of principles, and structurally open – on the level of functioning. In the approach articulated by radical constructivism [Glaserfeld, 1995] and the theory of supporting the constant organization of processes in the living system of *autopoiesis* [Maturana, Varela 1998], the mind is not exclusively limited to the cognitive activity of a given organism, but forms a systemic whole with the events and objects that accomplish its cognitive functions, understood in the broadest way. In these ideas mind is understood as a multicomponent and multilevel cognitive system, able to differentiate stimuli independently, autonomously in its internal processes and in its surroundings. The existence of mind is always the matter of organizing cognitive processes taking place in living organisms if we assume that only in them and in the systems created by them mental processes take place [Skibiński 2003].

Foerster [1981]. It designates such internal parameters of behavior that cause producing the same states that triggered them. The self-values affect actions in such a way that in the recurring cycles of operations they lead to reproducing a certain constant value determining the ultimate stabilization of the perceived "object" or "event". Together with the evolutionary development of man the culture develops, based on the organizing role of language. The property that distinguishes human culture as a language sphere is not merely the fact that interpretative processes exist in it, but first of all, the existence of auto-interpretative processes. The contemporary American philosopher, Charles Taylor [1983], writes that man is a self-interpreting being. Self-interpretation, as a human definitive, generic feature, was distinctly emphasized in biosemiotic ideas²⁶ [Skibiński 2003].

5. THE APPLICATION OF INTERACTION THEORY IN DESCRIBING THE LANGUAGE BEHAVIOR OF APHASIC PATIENTS

Any type of human behavior, including language activities, is understood by contemporary psychology (contrary to the former, behavioral approaches), as kinds of behavior arranged in a certain hierarchy, simultaneously getting organized on the levels of different degrees of complexity. In each activity maintaining appropriate order of the particular stages of its course, as well as preserving their appropriate hierarchy play crucial roles [Tomaszewski 1969].

In accomplishing the act of speech by any man the aspects included in the range of social and individual kinds of behavior become revealed²⁷. S. Grabias [1994] includes the following in the scope of common kinds of behavior:

²⁶ Language in itself, as an autoreferential tool reflecting itself, inclines to constant self-defining, writing itself at length in tales, where man is usually "a subtitle and only sometimes an author". The ability of self-description, of constant commenting, creating notes and footnotes to notes, so ubiquitous in the culture of written word, is another, is another example of autoreference acting as the basic mechanism of organizing human cognitive processes. Autoreference, the source of paradoxes, which used to be cursed out of the world of logic, appears to be the indispensable, (auto) definitional component of human cultural world. In the autoreferential, constant practice of calling oneself, looming oneself in discourses, we seek and establish our own identity. This motif of demanding oneself from oneself in naming, in the label, determines our human and interpersonal activities. We can even suppose that through the practice of naming oneself, explaining oneself, we try to complement our own meaning in a certain way [Skibiński 2003].

²⁷ The social aspect of speech is also considered in the definition by L. Kaczmarek: "[...] in this act the speaker (let them be called the sender), transmits the information and the interlocutor (let us call him the addressee) receives it. Both these processes – information transmission and reception are possible only thanks to the fact that both the speaker and the listener [...] know the same [...] language", further – considering speech in the individual aspect – the author emphasizes that "building and receiving an utterance constitute one entity and are inseparable components of speech" [Kaczmarek 1988, 22].

□ Language competence (the inventory of phonemes, lexemes and the rules of building grammatically correct and meaningful sentences), which consists of: phonological, morphological and syntactic)²⁸;

□ Communicative competence (knowledge about the status of language codes and about the rules of constructing utterances corresponding to the situation), consists of: stylistic, social, situational and pragmatic competence;

□ Cultural competence (knowledge about the surrounding reality, the system of values, which is in force in a given culture, as well as the interpretation of phenomena resulting from the colloquial knowledge about the world, which is comprised in the language and is created with the participation of language²⁹).

The systemic skill is close to the notion of "language competence", introduced by N. Chomsky. It is the ability to build grammatically correct sentences. It includes a group of skills that determine the physical shape of an utterance, and which are called formation skills by F. Grucza [1983]. These include substantial skills (permitting to accomplish utterances in the form of acoustic, optical and tactile signals), as well as the grammatical skills (morphological, syntactic).

The second group of skills concerns the ability to use morphemes, words and sentences, as well as their reference to the context (semantic and pragmatic skills)

The sphere of individual behavior is demarcated - according to Grabias - by the ways of text realization specific for each man, where the mental and physical characterization of a human individual is revealed. Man's communicative possibilities result from integration of the two kinds of skills:

□ systemic skill (involving building sentences in accordance with the rules of a given language), within which there are substantial skills

²⁸ Quoting the mentalist approach to Chomsky's term "competence", I am aware of the fact that this term is being currently abused. The researchers generate newer and newer types of competence: there are stylistic, axiological, communicative and logical competences. All the resources of knowledge are regarded as competences. Understanding of this term adopted in this paper is close to neurolinguistic apprehension of competence, where knowledge in the mind of an aphasic is the knowledge concerning language and communication, it is structured knowledge. It should also be assumed that it is differently structured than in the mind of a non-aphasic person. An attempt was made at reaching that knowledge through external behavior. Research proceedings have been made of it. A researcher of aphasia is deemed to choose one of the two ways: starting from interaction - he reaches the system, or he may disregard interaction and focus on describing particular subsystem. In the presented studies the first path was undertaken: the analysis of language behavior in the broadest context. This behavior was interpreted in its social and biological conditionings. There is, obviously, a difference between Chomsky's idea and its operationalization, but the operationalization of the notion of "competence" turns out to be a good tool for describing the pathology of human behavior in aphasia.

²⁹ S. Grabias here refers to Herder-Humboldt's thesis, proving that the image of reality is contained in language and programs world recognition in the mind of an individual (cf. Grabias 1994: 18, note 12).

(that allow to build sentences in the form of sound, optic and tactile signals), as well as the grammatical (morphological and syntactic) skills.

□ communicative skill (allowing for building dialogical and narrative utterances). It includes the following skills: stylistic, social, situational and pragmatic .

the condition of acquiring both cultural and communicative competence is according to the author – previous disposition of the language system. Grabias also introduces the following differentiation:

□ perceptive skills (allowing for competence building). He includes into them: physical hearing, ear for music, phonematic hearing.

□ accomplishment skills (allowing to use the competences contained in the mind during the communication process) [Grabias 1994].

In further, developed version of his idea, the quoted author divides the skills into mental and biological. He regards as mental the language systemic, social, situational and pragmatic skill, and as biological: skillful physical hearing, properly functioning phonematic hearing³⁰, properly functioning ear for music, mobile brain and efficient memory, properly functioning peripheral nervous system, as well as smoothly functioning muscular and bone systems of speech organs (Grabias 1997a).

For interpreting speech disorder the presented typology turns out to be especially useful, for it demonstrates the dependence of the occurrence of a speech pathology unit upon the diagnosed types of knowledge and skills. In the cases of speech disorders in persons who have earlier acquired the language system (language competence), and with it they mastered the rules of its usage (communicative competence) and acquired the knowledge about the surrounding reality (cultural competence), the language-oriented difficulties in speech broadcasting and reception (realization and perception skills) do not have to be connected with the disintegration of communicative or cultural competence. The disintegration of the ability to build verbal utterances from grammatically correct sentences (the systemic skill) does not determine the disintegration of the ability to build utterances in a certain nonverbal subcode of language or communicative behavior, adequate to the social position of interlocutor, situation of speaking, or the assumed communicative intention Panasiuk 2001a].

³⁰The situation of auditory functions related to the ability to the analysis and synthesis of speech sounds (the so called phonematic hearing) within the skill of biological character raises certain doubts, for it seems that the ability to differentiate and identify sounds is rather an ability of mental character and is connected not as much with the biological conditionings of human auditory functions, as with the auditory perception resulting from the knowledge of a particular language system.

Assuming the hierarchical character of the organization of human behavior after G. A. Miller, E. Galanter and K. H. Pribram [1980], we determine the following theoretical model for language interaction:

- INTENTION – the assumed communicative goal;
- PLAN – a set of procedures serving achievement of the speaker's communicative goal;
- STRATEGIES – kinds of communicative behavior within a given plan;
- COMMUNICATIVE LANGUAGE COMPETENCE – knowledge of how to use the language verbal and nonverbal means, adequate to the accomplishment of the plan;
- LANGUAGE AND COMMUNICATIVE SKILL – possibilities of accomplishing the PLAN by means of verbal and nonverbal language means.
- CULTURAL COMPETENCE – the speaker's and listener's knowledge of the surrounding reality [Panasiuk 2000b].

Language disturbances in aphasia are of regular character [Panasiuk 2000d]. Also the applied manners of overcoming language deficits proceed according to certain standards determined by physiology of the brain, character of the native language system and the rules of social behavior. Thus, the mechanisms arranging the aphasic patient's language transmission are, on one hand, disintegration, and on the other - compensation.

The studies on communicative skill in patients with brain damages, the damages of left brain hemisphere and with aphasia prove that in speech pathology, when perception or realization deficits make language communication with the surroundings difficult, man creates specific ways of bypassing these problems. From among the inventory of language means, restricted by a speech disorder he brings out those that accomplish a given communicative intention best, or uses other, paralingual (nonverbal) ways of communicating [Panasiuk 1999b, 2000b]. Such an observation results in the following statement:

Communication disorders are not directly proportional to language disorders. The possibilities of communicating at restricted repertoire of language means result from assuming communicative strategies that correspond to the type of difficulties and compensate these difficulties [Panasiuk 2000b].

The interactive strategies compensating the difficulties in language communication concern all the spheres in which the language functions: neurological, mental and social. The compensational strategies on the neurological level result from the plasticity of brain itself. The possibility of restructuring the brain organization of higher mental actions, including speech, is related both to spontaneous compensation mechanisms and with the conducted rehabilitation. The compensation strategies on the mental level concern the functioning of language system. The language possibilities of aphasic patients should be considered both in the

context of the knowledge about language systems and the rules of its usage, as well as in the context of accomplishment possibilities in the specific communicative situations.

Let us therefore assume that interaction is a human intentional communicative action, which is an index of man's biological and mental possibilities. It serves giving meanings to human behavior. Thus, interaction should be considered in the perspective of:

- organizing senses (cognitive function);
- transmitting senses (communicative function).

Communicative behavior is an inherent feature of human social behavior. This assumption, worded as follows: "it is impossible not to communicate", became the basis of the already classic theory of communication formulated in the work by Paul Watzlawick, Janet H. Beavin, Don D. Jackson [1971], entitled: *Human Communication*. And although originally the statement that we always communicate – even when we are silent, was to refer to the disturbed communication, e.g. in schizophrenia, where lack of speaking sometimes is the only examinable and diagnosable proof of disorders, currently the "Watzlawick's axiom" became the basic assumption of general theory of communication [Rokoszowa 1994].

In the context of the statements above the following questions become justifiable: Does any kind of inter-human behavior actually have communicative character – and does the thesis so strictly posed by the authors of *Human Communication* – find its confirmation in the light of certain facts concerning speech pathology in persons with durable brain damages? Do the aphasics retain the ability to enter social interactions, and if so, what kind of them? The cases of the described speech pathology will probably contribute to clarify these problems.

6. HUMAN BEHAVIOR AS A SIGN

human behavior is a macrosign. The ethnic language provides inter-subjective categories of world recognition and in the process of socialization an individual receives a resource of common knowledge: "if I were you, I would see the same as you".

Assuming that the transmission is achievable without verbal means, its reception requires rationalization and rationalization is made into a language³¹, it has to be stated that knowledge is a sign. Interaction serves the exchange or compensation of knowledge disproportion between the speaker and the listener.

Describing an interaction one has to consider its dynamics and the participation of each participant – the speaker and the listener – in creating the common

³¹ In this perspective the term "language communication" is a tautology.

knowledge³². Transferring the assumptions of language interaction theory onto the grounds of speech pathology, and, specifically, to the description of aphasic patients' language behavior from the point of view of a healthy interlocutor and wanting to co-create their effective course, one should refer to the commonly recognized values, symbols and meanings. Such a perspective requires thinking about the character of symbols that the transmission refers to.

Separating the language (*langue*) from the whole set of phenomena related to speaking (*parole*), de Saussure emphasizes its uniform character. "While speech is varied, language, separated in this way, has a homogenous nature, it is a system of signs where the connection of meaning and acoustic image is only significant" [Saussure 1991, 42]. Thus, a language sign (*signe*) is defined by linguists as a "two-faced mental being", inseparably combining in itself the signified party – the notion (*signifié*) and the image of a sound form – the signifying party (*signifiant*). These two elements are closely linked to each other and evoke each other. This bond is, however, free, i.e. there is no natural and necessary connection between the sound and meaning of the sign³³. The signifying party (*signifiant*) is linear, "develops exclusively in time and borrows its features from time a) presents a certain extension and b) this extension is measurable in one direction only: it is a line" [de Saussure 1991, p.. 93].

Between language signs two kinds of relationships take place: syntagmatic and associative (paradigmatic). "On one hand, in each utterance words establish between themselves – by virtue of their sequence - relationships based on the linear nature of language, which excludes the possibility of uttering two elements at the same time. These elements go in series, one after the other, during speaking. These combinations, for which space is the support, can be called syntagmas. Therefore, a syntagma always consists of two or more units following in succession [...]. A component placed in a syntagma acquires its value only because it is opposed to what precedes it, what comes after it, or, finally, to both of them at the same time. On the other hand, outside the utterance, the words that have something in common are always associated in the memory and in this way groups are formed, within which very different relationships exist" [Saussure 1991, 147-148].

A language sign- following the course of de Saussure's disquisition – cannot be considered in isolation, but only against the background of other signs. For the value of sign is created as a result of restriction imposed upon it by the ranges of neighboring words' usage, so it is the result of oppositions in which it remains

³² The hitherto communication studies were directed at the description from the speaker's or listener's perspective.

³³ F. de Saussure in his definition of sign does not specify what elements of language he identifies with a sign. The examples quoted by this linguist indicate that it could be words, as well as other language units [Saussure 1991, 77-79].

towards other words. It is this dependence of one word's value upon the values of other words is that changes them all into a coherent language system³⁴.

Language signs make human cognition possible and durable. Man, on the basis of sensual experiences, perceives certain phenomena of the reality surrounding him. Certain ideas are formed, their constant properties are formulated in notions. What is the condition of establishing and fixing notions, is the language form substantivized as a sound or graphic symbol [Furdal 1990]. A language sign is a fixed relationship between a formal element of language and the notion it refers to. A. Furdal, presenting the sequence of the structural complexity of the sign, defines the essence of language as “a system of sound signs created in a natural way by man and fulfilling communicative and cognitive function for the society” [Furdal 1990, 108].

The assumption of de Saussure's idea of language does demarcate broad perspectives for studying linguistic phenomena in aphasia. In the light of this theory the aphasic disorders can be considered in many areas: biological, psychical and social. Referring pathological language facts to the structuralist concept of sign, the mechanism of their formation can be revealed. The connection between language and cognition, marked by this scientist, opens the path to recognizing the mystery of human mind in the linguistic description of aphasia.

Unfortunately, the reception of F. de Saussure's theory among the contemporary linguists disregarded this important aspect of language as a mental being, focusing on the analysis of texts –the products created by it. the conclusions on the structure of the texts included in the sphere of speech –language- created the basis for formulating statements about the language – *langue*. Understanding the study restrictions concerning the object of research- an abstract being – it is worth emphasizing that the strength of statements referring to the organization of language as such is weakened by it. Perhaps the studies on speech pathology in which disturbed texts are registered will be verified by this simple reference that the kind of text destruction in a speech pathology unit is a manifestation of a way of language disintegration typical of this disorder.

For our purposes – language usage study- what seems handy, is the pragmatic theory of sign adopted by Peirce . “For him a sign is what connects and mediates between the domains of different beings — the potential possibilities, current experience, general laws — in such a way that this variety can be reduced to the unity of reason” [Dobrosielski 1967, p. 164.] A sign is therefore something physical, can be perceived thanks to senses and always refers to something different. “The universe is an enormous sign, the magnificent symbol of God's goals, working out its conclusions in living realities [...]” [Dobrosielski 1967, p. 163].

³⁴ Cf. on the subject – discussion of F. de Saussure's idea in T. Milewski's work [1965].

“Thus, the triadic concept of sign involves comprehending it as a unity being a three-segment relationship between the means of transmission, object and interpreter” [Bense 1980, p. 11]. Peirce writes about the three correlates of the sign, indicates the third of them (the interpreter) as one that links, connects the represent with the object. Here attention should be paid here to the fact that such a concept of the sign is about the interpretation of “mediating representation”. This is connected with symbolic cognition, opposed to intuitive cognition. Communication, which is the transmission of information contained in the sign, lets the speaker and listener negotiate the transmitted message, broaden the knowledge. The feature of symbolic cognition is that it does not apprehend the object in total (as it is the case with intuitive cognition), but it gives us an incomplete image, requiring interpretation. The category of interpreter defines the role that the sign is to perform, which involves replacing “something for somebody”.

Each of the three categories included in the sign structure undergoes triadic division. The means of transmission may be manifested in the following forms: *qualisignum* (the sign remains a sensual quality); *sinsignum* (the sign is a real being); *legisignum* (the sign is a general law). The interpreter can be divided into the *rhemat*, possessing an open interpretative context, *decent* – with a closed interpretative context, and the *argument*, that is concluding [Peirce 1997].

The most significant division of signs, however, is the division according to the subject – into an icon, index and symbol. An icon remains strongly similar to the signified element. An example of an icon is a person’s photograph, portrait, drawing. “A significant, especially distinctive feature of an iconic signs that thanks to its direct observation the truths about the subject can be discovered, different than those which are sufficient to define its structure [Peirce 1997, 151]. An index has a direct physical connection with the subject to which it refers. The index of fire is smoke, sneezing is the index of cold. A symbol is a sign that denotes an object as a result of the assumed convention. All words and Arabic digits are symbols.

The trichotomous nature of the sign and the presented divisions decide about the manner of further clarification of the sign. “If each element of the triad undergoes the trichotomous division, then the full definition of the sign must respectively include the combination of all characterizations of a given sign” [Bense 1980, 15].

Each sign, in order to be a sign, to exist, has to be translatable into other signs. If a sign could exist outside other signs, this would mean only that an interpreter would have to exist, who could perceive this sign that is not a part of another sign, which is impossible. A sign means „something for somebody”. If there were no other signs, neither there would be interpreters, for whom a sign would mean something, so the thing that would only mean something, (but there would not

be anybody for whom it would mean that “something”), would now not be a sign. This is the systemic nature of the sign. From this property another could be drawn, which the researchers call the generating one. “Each sign generates other signs, creates its interpreters, which, as signs, behave identically” [Bense 1980, 13]. From the reasons specified above the general theorem can be drawn, seeing that each sign assumes the existence of at least two different signs.

Thus, the sign remains in a double relationship. On one hand it refers to other signs, while on the other it must remain related to the external world. This causes double relativization of the sign. It not only enters a relationship between the interpreter and the interpretation system, but also allows to extend the knowledge by discovering and making what is outside it accessible.

The ordering of knowledge, fixed in dynamic cognitive structures [Chlewiński 1999] may be used by as an adaptive strategy by persons with brain damages³⁵. Different aphasic persons behave in various ways, but within similar mechanisms in particular communicative situations. The analysis of aphasic speech disorders allows to grasp the connection between the possibility of using verbal signs and behavior or canceling the ability to use equivalents of words (e.g. writing, gesture, image) or other sign systems (e.g. mathematical signs, musical notation, etc.).

However, in the light of the existing semiotic theories it is difficult to define explicitly the connection between skilful usage of language structures and the ability to order the world according to well-formed cognitive models.

Effective communication with people with speech disorders, serving cognitive purposes, is possible only in a dialogue, when people reveal and agree upon their interpretations. The interlocutors negotiate what a given fact or event means. A listener entering an interaction with an aphasic partner, participates in explaining the meaning of messages formulated by him and himself formulates his utterance in such a way as to make it the most communicative in the communicative situation determined by a speech disorder of one of the participants of the interaction. With lack of effective cooperation from the healthy interlocutor, effective communication of the sufferer could frequently be impossible³⁶. Interaction in which an aphasic patient takes part, requires, to a greater extent than it is the case in interactions between healthy persons, the interlocutors' reference to their common knowledge about the world and on its basis concluding about the sense of verbal messages that are disordered and incomplete or incomprehensible for the

³⁵The meaning of semiology as a tool for analyzing all kinds of messages is expressed in pairs of oppositions:: intersensual and categorizing, interlingual and ordering, intersubjective and grading.

³⁶ Cf. The *et cetera* principle functioning in ethnomethodology, defining the situation of interaction where the interaction partners agree to other party's elliptical statements, completing their utterance or expecting the continuation of interaction.

patient. An aphasic utterance, though linguistically disordered, can be communicative with active attitude of the healthy interlocutor³⁷.

What are then the basic exponents of interactive behavior? Linguistic literature uses a few, differently defined terms, and these are: message, utterance, and recently - discourse. For the needs of this paper the following meanings of these notions were assumed:

□ Message – the basic unit of human communicative activity, composed of all kinds of intentional behavior of verbal, paraverbal and nonverbal nature.³⁸

□ Utterance - any conventionalized human activity, which is interpreted on the basis of the language system (including the stereotypic gesture and mimic behavior, as well as paraverbal messages, e.g. meaningful hems).

□ Discourse – according to S. Grabias – is the process of giving meanings to all human actions. The author regards the communicative behavior, the constitutive feature of which is intentionality, as the basic unit of discursive kinds of behavior³⁹ [Grabias 1997].

The range of interactional kinds of behavior includes both verbal and nonverbal types of behavior. Among the latter there are both conventionalized types of behavior, replacing the language signs, and non-conventionalized forms of behavior, individual and occasional in their nature.

³⁷ However, it remains a well-known fact that intended communication does not always become real. There is a range of factors that make this communication impossible. An already classic example of the factor that distorts the communication process or makes it impossible, is the notion of “hum” introduced by Shannona and Weaver [1963] to the theory of communicating. In the description of speech pathology facts, limitations in communicativeness of a distorted text, gain special importance.

³⁸ I do not enter into numerous polemics among linguists, concerning communicative functions [Bartmiński, Grzegorzczkova 1991]. One has to be aware of strong marking of the term “message” and its deep rooting in linguistic tradition. Starting from the Prague School [Bühler 1934] that reduces the model of communication to three elements: first person - speaker, second person - listener, and “the third person”, i.e. somebody or something that is being talked about and inscribes three language functions: emotive, connative and cognitive into this model of communication. This model is developed in the idea of R. Jakobson [1989: 77-124], where, besides the speaker, listener and message, the subsequent categories were isolated: context, contact and code. Thus the inventory of language functions got extended by poetic, fatic and meta-linguistic functions. The notion of message contains a message that fulfills any of these functions.

³⁹ In the psychological tradition human behavior is divided into reactive (nonintentional) and action (intentional behavior). The first has biological-physical nature and is genetically conditioned – they are obligatory for a given species, while the other – though it similarly takes place in biological-physical reality, yet it is directed at the mental (psychical) and social reality. I. Pavlov’s experiments reveal that conditional responses, though they are variable (and thus they are non-obligatory), they take place as a result of unconscious, automatic courses [Grabias 1997a]

7. INTERACTION CATEGORIES IN STUDYING APHASIA

The specificity of an interaction in which an aphasic person participates results from a certain way of applying three interaction categories. These are:

1. TEXT (a message that sometimes assumes the form of pathological text);
2. METATEXT (in text-creating and/ or metalinguistic function);
3. CONTEXT (the knowledge shared by the speaker and listener, resulting from textual and/or extra-textual conditionings).

Text is a verbal result of the act of language communication, so the sine qua non conditions for its existence are:

- Intentionality of behavior, in result of which the text is created;
- substantial character, which is a consequence of the work of accomplishment skills (speaking, writing, signaling);
- verbal character expressed in the phonetic-morphological-syntactic, semantic and pragmatic structure;
- communicative situation, the obligatory participants of which are both the speaker and the listener. The listener's perspective is related to text coherence – the feature that allows the listener to decode the speaker's intentions [Panasiuk 2000c].

In speech pathology there occur three types of language behavior:

- TEXT,
- PATHOLOGICAL TEXT
- NON-TEXT.

These substantially expressed types of language behavior that are grammatically, semantically and pragmatically coherent enjoy the status of texts. Pathological texts are utterances, whose linguistically coded intention, in spite of pathological, often fragmentary accomplishment, is legible. Non-texts are types of behavior where nonverbal communication absolutely predominates. This group includes also the utterances built with the use of linguistic signs and rules, whose substantial, grammatical, semantic and pragmatic arrangement gives no possibility of decoding the speaker's intention.

Metatext is the exponent of the knowledge about the language inventory and the rules of combining them into larger wholes, updated in the particular act of speaking, writing and reading, so every language message in the selection and combination of its components contains the reference to a given code (Kwarciak 1995). On the surface of the text these operations are revealed in the form of metatextual formulas "utterances about an utterance", being an exponent of the meta-cognitive mechanism that controls and integrates the language behavior. If controlling concerns the text building process – the metatextual formulas fulfill the metatextual function, but if controlling concerns the selection of language signs - metatext

fulfills the metalanguage function. Controlling the utterance oscillates between a careful, analytical reflection on the text, and the general text assessment, made on the peripheries of attention. Utterance building is organized by two basic and independent types of language reflection:

- I know how...* (metalinguistic competence);
- I know how...* (linguistic competence).

Introducing the above theoretical differentiation brings significant consequences in the manner of interpreting speech pathology facts in persons who have already acquired both types of competence and causes additional research problems. The knowledge of what the elements of language code mean when used in a text, revealed in the utterances of aphasic patients, indicates a reflection of metalinguistic character. The manifestations of knowledge that this is how a correct and meaningful utterance should be built refer to the speaker's linguistic competence.

Context is the knowledge shared by the speaker and the listener, concerning both the textual conditionings – structurally the closest surroundings of the units of language system, i.e. verbal surroundings of a word in the text, as well as extra-textual conditionings – the speaker's and listener's knowledge about culture, social arrangements, communicative situation etc. the presentation of aphasic persons' language abilities in the broad specter of their communicative behavior indicates that a significant role in the course of interaction is played by the use of context [Boniecka 1991], which facilitates both understanding and reception of speech. Contextual directions are provided by the text itself, also a pathological text, the situation of using the language, as well as knowledge resource, common to the speaker and listener [Labov 1983; Bartmiński 1974].

Assuming two perspectives at the same time – cognitive one and interactive one – in describing TEXT, and especially METATEXT and CONTEXT, can be a novelty in linguistic studies in general. It is justifiable, even necessary with reference to speech disorders and working out strategies of overcoming them. The outlined approach implies examining relationships between the elements that have been so far explained dichotomically and statically: competence and performance, surface and deep structures, locution and illocution, structures of the language and structure of cognition.

The interactional approach is connected with the necessity of approaching the interactional categories: TEXT, METATEXT and CONTEXT dynamically and spatially. The description of interaction allows to establish the rules of transformation of the categories that have so far been regarded as static and ask the following questions:

- When does a text become a metatext?
- When does a text become a context?

- When does a context become a text?
- When does a context become a metatext?
- When does a metatext become a text?
- When does a metatext become a context?

The structural characterization of the terms: TEXT, metaTEXT, conTEXT imposes asking about the range of their interrelations and therefore the participation of the three categories to which the above-mentioned terms refer in the course of interaction. The outlined perspective explains the cognitive approach, which can be a certain novum in text description, but especially of metatext and context, in general linguistic studies, and it is necessary with reference to speech disorders. The interaction approach allows for dynamic presentation of the interaction course and outlining the “space of communication”, understood as a set of possible intentions, defined situationally, socially and pragmatically.

The patients with aphasia, as they have difficulties in taking advantage of the language systems, build their messages using pathological verbal signs (i.e. in the communicative function they use disintegrated language facts) or take advantage of non-verbal signs, but they ascribe language meanings to them. Such is the nature of aphasia. It is in the cases of vast brain damages and deep disorders of language competences and skills, as well as other, higher cognitive functions, as for example in dementia, that non-verbal communication disintegrates as well. The patients lose their ability to formulate messages in paraverbal codes.

In healthy people’s communication strict connection between the two systems (verbal and non-verbal) usually takes place. This is what the coherence of messages formulated by means of various subcodes is based on. Speech disorders significantly broach the form of messages sent through the verbal channel. In decoding their meaning and establishing the intention assumed by an aphasic speaker the point of reference is the message sent in non-verbal subcode of the language.

The aphasic speech disorders activate paraverbal ways of communicating in their sufferers, i.e. the patients take advantage of all possible means through which the accomplishment of communicative intention could be achieved. However, the paraverbal code exponents applied in speech pathology change their status towards the one that is ascribed to them in the communication between healthy people. In the interactions of aphasic patients the non-verbal means become more :

- structured, i.e. rules are formed that organize the transmission and interpretation of non-verbal messages;
- arbitrary, i.e. their form and function get stabilized in fixed communication habits;
- digital than analog , i.e. they are non-continuous and undergo distinct delimitation;

□ non-continuous than continuous, that is, there are breaks, pauses in transmitting them, serving, *inter alia*, the interlocutor's response;

□ intentional than unintentional, i.e. their broadcasting becomes controlled;

□ learned than innate, i.e. they are based more on worked out than spontaneous and natural kinds of behavior.

A pathological utterance in cases of aphasia – supported by paralingual codes – fulfils the basic functions of language in the act of linguistic communication. The non-verbal signs of communicative kinds of behavior constitute a form of information transmission also in colloquial communication, but in aphasia their position significantly increases. The importance of language and situational context increases as well in decoding and creating the senses of interaction types of behavior. The aphasic message becomes comprehensible thanks to the recipient who has to use various strategies in the act of communicating – techniques that serve understanding the behavior and discovering the intention of the aphasic interlocutor. The listener entering the interaction with an aphasic partner takes part in explaining the meaning of the messages formulated by him and himself formulates an utterance so that it could be the most communicative in the communicative situation determined by a speech disorder in one of the participants of interaction. Lack of effective cooperation on the part of the healthy conversationalist would frequently prevent the patient from effective communicating. The interaction in which an aphasic patient takes part requires, to a greater extent than in the case of relationships between healthy persons, the conversationalists' reference to their common knowledge of the world and on this basis concluding on the sense of verbal messages, which are disturbed and incomplete or incomprehensible to the patient. An aphasic utterance, though linguistically disordered, may be communicative. Disturbances of communicative skills are not proportional to the disturbances of language skills.

Stating this fact is the starting point for constructing the model of communication between persons with speech disorders caused by damages to the dominating brain hemisphere.

However, it has to be remarked that as the act of language communication is complex, the source of communicative difficulties can be created by its different factors. The obstacles to effective communicating can be related to the participants of the interaction, they may result from. *inter alia*, the differences in the image of the world and difficulties with establishing convictions and assessments, divergences of intentions and aims of action, as well as of actions themselves, negative effect of emotional context, inappropriate communicative behavior of the partners (e.g. incoherence between . the verbal and non-verbal message, prin-

cial divergences in the applied codes and misinterpretation of the message intention. Additionally, in some cases the source of communicative difficulties may be restricted or functional disorders in speech apparatus, as well as linguistic errors.

Difficulties with language communication may be related to the disorders in the skill of transmitting (accomplishment) and/or receiving (perception) of the message in one of the interaction subjects. Also the very situation that the communication takes place in may cause difficulties in information exchange if there exist any unfavorable external factors, disrupting this exchange. However, these factors constitute the phenomenon that limits the communication between healthy persons as well and they should not be treated as the inherent features of aphasia, which is a functional disorder in sending or receiving verbal messages with retained possibilities of communicating by means of signs of some other kind. However, the communicative difficulties related to the disintegration of the communicative system ought to be related to the damages to the non-dominating brain hemisphere and the occurrence of "non-aphasic speech disorders".

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