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ON ROMAN INGARDEN'S VIEWS OF LANGUAGE

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1. Foreword

Deliberations on language can be found in most of Roman Ingarden' writings, beginning with the paper "O pytaniach esencjalnych" ["On Essential Questions"] (1935) and the book *The Literary Work of Art. An Investigation on the Borderlines of Ontology, Logic and Theory of Literature*. With an Appendix on the "Functions of Language in the Theatre" (1973), (which includes all the distinctive features of what he called his philosophy of language) as well as the two-volume *Controversy over the Existence of the World* (1947-1948) and as far as the posthumous paper "O sądzie kategorycznym i jego roli w poznaniu" ["On Categorical Judgement and Its Role in Cognition"] (1972). Within fifty years of his scientific work, Ingarden did not considerably change his semiotic ideas, but he did add a new justification for some and softened his ideas on some others — previously judged as ones that cannot be undermined.

One can have reservations as far as the way some views are presented, but still hold the very views to be true, but one could question the very views, as well. Ingarden's views of language can be of both sorts. The former presents two issues. First, there are a number of phrases in Ingarden's works that are meant to facilitate a live following of his argumentation. They in fact bring up associations that pose a major hindrance in the comprehension of his thoughts that the expressions are supposed to notify one of. Second, the setting forth of a position seems to be too lengthy and not clear enough. Incidentally, both flaws might have resulted from the fact that

Ingarden was a passionate reader of *Logical Investigations* (1900-1901), *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy* (1913) and *Formal and Transcendental Logic* (1929) by Edmund Husserl and *Logic* by Alexander Pfä nder. The language of these works was closer to what the contemporary reader might call the heavy kind used by the 19th century German thinkers than the kind of language introduced and made popular in late 19th and early 20th century Poland by the writings of Kazimierz Twardowski. Twardowski did influence both Husserl and Ingarden (who must have known his writings just as well as the those by Husserl) but Ingarden was not as enthusiastic about Twardowski as he was about Husserl; more so, Ingarden was clearly biased against the writings of some of Twardowski's disciples.[1]

The opposition to the vocabulary and argumentation cannot suffice to reject a position, including Ingarden's. Justice needs to be done to him: he gradually liberated himself from the impact of Husserlian language and the later his works, the more evident it becomes. Ingarden himself demonstrated thus, that his position could be presented in a less complicated manner. I have endeavoured to undertake my own unravelling of Ingarden's position, aware of the dangers of the so-called paradox of explanation. An awareness of these dangers does not prevent me from stating it with force that there are no reliable views that are uttered in one language only. It is only that some languages are better suited for that than others and, luckily, these are the languages in common use.

The thing is that Ingarden's views, even though expressed in apparently more flexible language, can arouse reservations of the latter nature. These are about the INNER contradictions and also the TOTALITY of Ingarden's position, which I have made a note of in the footnotes; I have included my general reservations in the last chapter.

2. Reconstruction of the Position

2.1. Language Signs and Formations

The words, phrases, sentences and complexes of sentences[2] are called language formations by Ingarden. Comparing signs and linguistic formations, Ingarden

[1] See note 65.

[2] Complexes of sentences are, for Ingarden: a story, a novel, an epic poem, a drama, a scientific paper, a theory, a proof and even a regular conversation. A complex of sentences is something more than a cluster of sentences. Firstly, in a complex of sentences some semantic components of sentences forming a unit are changed and as a result there is a change in the substance of the correlates of these sentences. Secondly,

concedes that they are similar in some way as both are peculiar subjects that fulfil certain TASKS. This is what Ingarden means when he calls them two-stratum or two-sided objects, made up of the outer appearance and the function performed. However, the two sides differ considerably.[3]

The most essential difference concerns the second stratum, i.e. the function. Ingarden follows Husserl in his view that an object is a sign when it signifies another object, other than itself and it justifies the existence of that other object with its own existence and, more precisely — evokes a certitude of the existence of the signifier. So, a rash can be a sign of an allergy, smoke can be a sign of fire, etc. Also, it is not necessary that there be a causal connection between the signifier and the signified. Looking at that from this angle, the object which in the traffic code is called a road sign is a sign, too. What has been said above cannot be said of all language formations: words that Ingarden calls functional words[4] do not signify, i.e. do not refer to any object. Also, among the language formations that do signify something, not all evoke a certitude of the existence of that which they signify. This is the case with some names.[5] Lastly, even if some formations continually involve such a certitude (and this is the case with judicative propositions), this certitude is unrelated to the existence of those formations but, rather, with the activity to which these formations serve as tools, that is the act of judgement. However, judging is not always an outcome. Language formations can be used to describe an imaginary rather than real world, though.[6]

The difference in the first stratum is about the outer appearance of signs being a concrete object-token, whereas the manifestation of language formations is a typical form.[7] The original form of a language formation's

complexes of sentences are typified by some unique properties such as compositional structure. Cf. note 22.

[3]Alas, it is likely that these parts of Ingarden's argumentation can be substantially distorted as they have been included in a redaction of his university lectures. This redaction, made by Danuta Gierulanka, was in fact being reviewed and amended by Ingarden himself but was not (due to his death) finally endorsed.

[4]See below in 2.4.

[5]Cf. below 2.3. point 5.

[6]As regards images, which Ingarden most likely would not have included as signs, he sees their function as presentation. Images mainly present thanks to their similitude to the object presented, whereas language formations — even if they do — make representations thanks to the intentionality bestowed on them rather than of their own, thanks to some original properties (cf. below, towards the end of 2.2).

[7]Sign-tokens are commonly seen in opposition to sign-types, the former being real objects, determined in time and space, and the latter — sets of signs that are same (to be precise, almost the same) in terms of appearance. Ingarden opposes this

manifestation is a SOUND. The graphic representations that can replace sounds are secondary appearances of a language formation. To Ingarden, the surface structure of a language formation is not its phonic token, not some voice medium, not a single utterance; it is not a single nor real — and thus temporal (as pertaining to time and space) — object. This is not to say that the sound is a species, as would Husserl. Ingarden noticed that sounds undergo transformations along with the development of the language. When a language formation (its appearance) is being perceived, a modification of perception occurs: perception is replaced with selective perception; this is how a uniquely existing object appears that is not real but neither ideal — it is changeable in time. This is what Ingarden calls a shape quality[8] and this is what he identifies sound type with. Shape quality is a self-contained object:[9] it has a foundation in the so-called simple ideal qualities; it constitutes an ARRANGEMENT of their concretisations, i.e. it cannot be brought down to a mere set of these concretisations. Even less so is it a set of properties or, more broadly, parts recurrent in a number of instances of sound-tokens. The latter are only sorts of sense base, i.e. a realisation of sound-type, and hence a realisation of what constitutes an appearance of a language formation; in those, sound type only becomes manifested, i.e., realised.

This can be illustrated by the word *moon*. The sound type under discussion is an arrangement of certain phonemes[10]: m, u:, n; these concretise specific and unchangeable phoneme-patterns that have simple ideal qualities. Surely, everyone will pronounce the word differently. Each utterance will only be a sound-token, a parole. One lasting for a certain determined duration, will only be a real sentence rather than a stratum of a language formation.

2.2. Meaning

The description of the second component of a language formation, i.e., meaning (in Ingarden's terms), needs explaining, the concept of the so-called intentionality. The term is borrowed by Ingarden from Husserl, whose

understanding of type.

[8]For a while Ingarden took shape quality for a kind of ideal object. Eventually he concluded that only some types have a shape essence.

[9]See note 15.

[10]A set of phonemes creating the word-sound is, in Ingarden's opinion characterised by some absolute properties, such as pitch, length, intensity (stress distribution), as well as relative ones (derivative of meaning or the signifier), i.e. what linguists call markedness of an emotional (vulgarity, indecency), stylistic (scientific, literary quality) or an environmental kind.

lengthy deliberations concerning the issue of intentionality elaborate on the ideas of Franz Brentano and Kazimierz Twardowski. On account of his obvious kindred, numerous references will be made to the two of them when reconstructing Ingarden's semiotic views.

To Ingarden, intentionality is supposed to be a property of a specific, sort of active, relationship between objects. This relationship — INTENTION or, in other words, conjecture — obtains between object x and object y, when object x, which Ingarden calls an intent object, goes as if beyond itself and points to object 'y' — an intentional object. The intentional object 'y', which intention measures, is also different from the intent object 'x' and external to the very intention. If the intentional object exists self-containedly and independently vis-a-vis the intent object[11] (so as if it is the Husserlian tout court object), Ingarden calls it an ALSO-intentional object. If, however, it has been generated by the intent object — and hence exists self-containedly and dependently in regard to it, and is therefore a fully fictious object (the Husserlian object as conjectured), then Ingarden calls it a PURELY intentional object.[12] Incidentally, the distinctions do occur in Twardowski's writings, too.[13]

Intentionality in its original form only refers to experiences that Husserl calls acts. Acts — intentional experiences (Ingarden would say "intent experiences") — are distinguished by Husserl from non-intentional experiences, that is impressions and imaginary contents (apparitions).

Take this example: Stanislaus is looking at the Moon. The intent object will here be a perception, and more specifically: perceiving Stanislaus; the intentional object — an also-intentional object at that — will be the Moon. Now, suppose that the sky has suddenly become overcast and Stanislaus is just thinking about the Moon or imagining it. This contemplated or imagined Moon, as the object of Stanislaus's thought or imagination, will then be a purely intentional object. Moreover, it will be a so-called ORIGINALLY purely intentional object, as an immediate product of an act — Stanislaus's thought or imagination. It can be metaphorically said that in this case Stanislaus brings this object — the Moon — into existence and arbitrarily assigns its attributes. This cannot be said of the Moon that Stanislaus saw before. No effort by Stanislaus's consciousness will make the Moon cease to exist, and neither will it add or subtract any of its qualities. Also, an

[11] See note 15.

[12] Despite the distinction, in specific points Ingarden does not make it very clear which of the objects he means on a specific occasion; cf. note 27.

[13] Cf. K. Twardowski (1965, p. 4).

also-intentional object cannot be internally contradictory; the Moon seen by Stanislaus cannot be at the same time round and triangular. However, a purely intentional moon can contain an inner contradiction. This is enabled by a certain detail of a purely intentional object's structure.

According to Ingarden, there are three distinctive features for any object's structure: formal structure,[14] material structure and existential character.[15] In other words, every object has a form and properties and exists in a certain mode.

The structure of a purely intentional object is in part described by the very name: purely intentional object. It is then an OBJECT, and a thing in particular, so it has a formal structure of a thing. Next, it is an INTENTIONAL object; intentionality is one of details of its material structure. More than that: it is a PURELY intentional object, i.e., non-self-contained — this is its existential character. A peculiarity of a purely intentional object is having the so-called content. The property of having content is a moment — or a non-autonomous part — of the material structure of a purely intentional object. This content has in turn a formal structure, material structure and an existential character, which is such and only such as the intent object ascribes

[14] See below: 2.3.1. and 2.6 towards the end of section.

[15] According to Ingarden, in terms of the mode of existence, any object can be:
a. real, i.e. temporal (emerging, changing in the course of its life and dying);
b. ideal, (only possible?) i.e. timeless (unchangeable);
c. purely intentional (see below).
Real objects are, for Ingarden, stones, plants, animals, celestial bodies, but also e.g. the falling of stones, the growth of plants and the positive properties of animals, the gravity of celestial bodies. To Ingarden, ideal objects include ideal notions (eventually he denied any existence of them; see below) ideal entities (a specific triangle, number 5, but not a polygon), ideas (such as the idea of a parallelogram) and ideal qualities (such as red). Literary or musical works of art, state, law are seen by Ingarden as purely intentional objects. The mode of being the object depends on whether it exists self-contained or non-self-contained, originally or derivatively, independently or dependently, and whether it is autonomous or heteronomous. Self-containedness-non-self-containedness, autonomy-heteronomy, originality-derivativity and independence-dependence are all called by Ingarden moments of being. An object exists self-containedly if it is self-determined; it is non-self-contained if its essential properties have been bestowed on it (from outside). An object exists originally if by its nature it cannot be created by another object, i.e. if it could not fail to exist; it exists derivatively — if it requires a one-time creation or continual re-creation. An object is autonomous if it needs no co-existence with another object within one whole; it is heteronomous if it does. Finally, an object is dependent if it needs another independent (separate) object for its persistence. Thus, every individual thing is distinctive for Ingarden, God in the Christian sense is an original object, any property is heteronomous, whereas any human being is a dependent object (e.g. in relation to oxygen).

to it. The formal structure of the content of a purely intentional object is something completely different than the formal structure of the object itself. The same holds for material structure and existential characterisation. Therefore, Ingarden speaks of a dual structure of a purely intentional object.

Coming back to Stanislaus imagining the Moon. It appears to him as a celestial body (the formal structure of a thing) contained in our solar system (real existential character) and having such and such traits: sphericity (some material structure). The imagined Moon is only the content of Stanislaus's presentation (or, more precisely: of the presented object), with the representation (more specifically: the represented object) only an intentional rather than real object, and as such it is non-self-contained; apart from this, it has a number of properties that a Moon as content does not have.

Stanislaus's imagination (more specifically: the presented object) described above is his own product: it is an originally purely intentional object and unavailable for anyone but Stanislaus. The above description could then have only been made by Stanislaus alone. The originally purely intentional object, along with Ingarden's ideas, is a monosubjective object. But there are also purely intentional objects that are intersubjective, i.e. universally cognizable, and then we have to do with what Ingarden calls derivative intentionality. A derivatively purely intentional object is a direct product of a an activity by the consciousness. It has its origin in objects of a derivative intentionality. A derivatively purely intentional object becomes universally available at the cost of the so-called schematization or, as Twardowski would put it, expanding the field of generality.[16] This kind of schematization is about an impoverishment of the material structure of content as compared with, say, the contents of the imagined object. In yet other words, a derivatively purely intentional object is indeterminate in terms of some material moments: it contains some unknown values, which Ingarden calls spots of indeterminacy, which demand the removal.

Such derivatively purely intentional objects are generated by some language formations.

Back to Stanislaus, imagining the Moon in a cloudy night. Imaging is an activity of Stanislaus's consciousness and as such is an originally intent object. It means that it generates an originally purely intentional object; here it is the imagined Moon. But the Moon does not have to be imagined by Stan to be a purely intentional object — it can also be determined by some language formation, that is the very word Moon. The sequence

[16]Cf. Twardowski (1965: 139).

Stanislaus — image — imaged Moon will now correspond to the sequence: sound-type *Moon* — the meaning of the word *Moon* — the signified Moon. A live imaginative experience will now be substituted by a meaning. It will be in the same relation to the image as the light from the real Moon to the light from the real Sun. Lunar light is light reflected from the Sun — this meaning is a borrowed intention, one given in a unique intentional experience. The Moon is only a transmitter or the light from the Sun — neither is a word-sound of a language formation a source but, rather, a vehicle of a borrowed intention. The object enlightened by lunar light is dim and vague — as an intentional object of a language formation. Ingarden would say here: an intentional correlate, it is schematic, a shadow of a imagined object; it is a derivatively intentional object.

Now it can be seen more clearly how a language formation (an autonomous one[17]) is built. A language formation in its original form is a peculiar object, consisting of sound-type and meaning. Sound-type is a concretisation of simple ideal qualities and can be realised as concrete sound-token. Meaning as a derivative intention or a unit of derivative intentions is in itself a product of the special activity of consciousness. As a product of experience, it is external to it and also non-self-contained. Therefore, in order that it may exist independently from the mother experience (which is not to say independently from whatever), it needs to be sort of bound to the word-sound. As an intention, it is a reference to a derivatively purely intentional object which, as opposed to, say, an imagined object generated directly by an activity of consciousness, is universally cognitively available. But in order for that to be possible, a persistent identity of the object is necessary, and hence also of its indirect source, i.e. a meaning. Only in this case will sound-type refer any user of language to the same correlate — an intentional object — as related to a meaning of the same orientation.

According to Ingarden, a word, such as *Moon*, is UNDERSTOOD when:

(a) the sound (or symbol) of a word, e.g, the sound *Moon*, is perceived in a modified manner (type-oriented);

(b) associated sounds are taken up or actualised by a meaning attached to the sound by the so-called meaning-generating activity; it detects its moments, and in so —

(c) it apprehends an intentional correlate of a word, in this situation — Moon. In brief, a language formation is understood if and when an act is

[17]Cf. below, mid-section 2.4.

performed, which Husserl calls a sign act. Initially, Ingarden posits that an identical understanding of a language formation by different users of language is only made possible thanks to the existence of the co-called ideal notions. Those ideal notions, ideal intentions that mark ideal objects (ideas), would be the unchangeable models of meaning, cognizable, like all ideal objects, by means of a special kind of perception called ideation. A specific word meaning (but not sentence meaning) would only be some partial actualization[18] of an ideal notion (as the reality is an imperfect actualisation of the world of ideas).

So, an ideal notion *Moon* would mark a full set of the properties of Moon, whereas in a concrete use of the word "Moon" we would be dealing with a finite set of properties (for instance, a shiny disc that sometimes glitters in a cloudless sky).

The fact of there being no grounds for the acceptance of the existence of the whole domain of ideal notions became evident for Ingarden in the end: otherwise, from the beginning he had declined to clearly define what those ideal notions should be. He finally rejected the whole phantasmal universe of notional constants. This way, however, the issue of the identity of meaning remained open to Ingarden, and his whole conception came to a deadlock. Ingarden tried to overcome this state of affairs later by claiming that the meaning of language formations is intersubjectively available, as language itself is a social artefact, an intersubjective one — a product of collective cooperation. On the other hand, he maintained that language is a CONDITION for the formation of a social bond, and thus NOT an EFFECT of that bond. But he neither explained what this bond was to be nor what this cooperation was to be about. That identity and intersubjectivity of language formations involve their frequent use in living speech cannot be regarded as such an explanation.

2.3. Kinds of Meaning

Any act, i.e. an intentional (or, to be precise, intent) experience always determines only one intentional object. It makes it in the way that, if it is an autonomous act, then:

(1) in SOME WAY it grasps the content of the object,

[18]Here, the actual moments of meaning can occur explicitly or implicitly, with potential ones — implicitly only.

(2) ascribes this content SOME properties

and

(3) SOME structure

(4) establishes SOME way of its existence

and

(5) establishes its existence SOMEHOW.

Depending on what the VARIABLE details of the experience are in a given case, it may take a relevant form. Therefore:

(1) An intentional object can be grasped in two different ways. The object of the experience can thus be, as it were, grasped with one ray of consciousness, sort of captured as something ready, as a whole or as a subject of *possible* properties (*substantia*). Such grasping could be called an indication (e.g. the pecking of a woodpecker). If, however, the object of an experience is grasped incrementally, in a temporal aspect, sort of distributed in several rays of consciousness as something occurring as a state of affairs, then we are dealing with exhibiting (that the woodpecker is pecking).

(2) An experience can ascribe various properties to the content of its intentional object.

(3) Objects can have different structures: they can be things (such as a chair), actions (such as riding), events (e.g. a fall), relations (e.g. being-greater-than), properties (e.g. gaudiness) or states: proprietary (the leaves are faded yellow) or active (the leaves rustle). An experience can ascribe any kind of structure to the content of an intentional object.

(4) Furthermore, the type of existence is established in an experience: whether the content of an intentional object exists really, ideally or intentionally.

(5) Finally, the existence of an intentional object's content can be established in many ways. The content MAY EXIST, or it CERTAINLY EXISTS, or it (IS UNKNOWN) IF IT EXISTS, or it DOES NOT EXIST, or, finally, LET IT EXIST (we want it to exist).

Husserl mentions only some of the details listed here. According to him, the intention, i.e. the intentional essence of an act can:

(a) have a different quality, i.e. it can be single-rayed (simple) or multi-rayed (complex); a single-rayed intention is indication while a multi-rayed one — exhibiting (1);

(b) have different content material, i.e. it can ascribe different properties to an intentional object (3);

(c) establish the existence of an intentional object in many ways (5); Husserl recognizes two ways of establishing existence: unconditional establishment (where the object surely exists) and permission (where it may exist).

Ingarden features all the above moments of intention, albeit considered in reference to a derivative intention, and thus tied to the sound of a language formation. It is these that are found hidden in Ingarden's terms: an intentional directional indicator (1), material content (2), formal content (3), existential characteristics (4) and an existential thesis (5). These moments — or component intentions — create what can be called a basic kernel of an autonomous meaning. They form a coherent whole, co-operate with each other, are strictly interconnected and interdependent — in short, these are MOMENTS only. Also, as Ingarden stresses, they can occur implicitly (functionally) or explicitly (clearly stated).[19]

Equivalent to the Husserlian division of intentions (intentionality) into the single-rayed and multi-rayed is Ingarden's distinction between the objectivising (static) intention and the synthetic intention. Ingarden adds another — the dynamic intention.[20] The dynamic intention is one that spreads as if its intentional correlate (not in a multi-rayed fashion, though) as a course, becoming as an activity. This is in total opposition to the static intention, but it does find its necessary complementation in it. The dynamic intention is heteronomous.[21] The static and dynamic intentions are synthesised in the synthetic intention, which is in fact a unique collection of intentions. The static and dynamic intentions intertwine as if to create two rays of synthetic intention. Therefore Ingarden also calls them the static-dynamic intention.

The differences in the quality of meaning, mentioned above, are also described by Ingarden by means of the term intentional directional indicator. The static intention is one having an intentional directional indicator; the dynamic intention has none.

[19]See note 18.

[20]Ingarden himself maintains that he did that under the influence of Henri Bergson, whose ideas he got acquainted with when writing his doctoral dissertation.

[21]See below, 2.4.

In terms of the quality of the pertinent derivative intention, i.e. meaning, all (autonomous) language formations can be broken into names, characterised by the static intention, verbs that betray the dynamic intention and sentences, which involve the synthetic intention. Ingarden considers in detail the different kinds of meaning or, otherwise, semantic units[22] trying to describe what differentiates them qualitatively.

2.3.1. Name

In the full meaning of name[23] all the moments of derivative intention Ingarden describes can be found: an intentional directional indicator (1), material content (2), formal content (3), existential characteristics (4) and existential thesis (5).[24] Material content, formal content, and existential characteristics together form what for Husserl is the content of the investigated intention. The intentional directional factor determines its quality. It turns, as Ingarden points out, to the constitutive nature — i.e. individual nature — of the purely intentional correlate.[25] The formal structure of the substance (the structure of the thing, activity, event, relation, property or state) is determined by the formal content, with all these structures being expressed nominally, and thus as a subject of possible properties (properties, too, become the subjects of properties).

The moments (1)-(5) are supposed to be the moments of the lexicon meaning of name, i.e. of an isolated meaning, one separated from the context. In other words, according to Ingarden, name itself not only fulfils the function of signifying and meaning, and thus it not only determines WHAT it names (the constitutive nature of the content of the intentional correlate) but also

[22] A semantic unit, other than name, verb and sentence, is, according to Ingarden, also a complex of sentences (cf. note 2). Its intentional correlate are presented objects (the term is not used here in the sense attributed to it by Twardowski) by states of affairs being correlates to component syntactic meanings. It is unclear whether the presented reality constitutes ONE intentional correlate, i.e. whether the generality of the assertion that one semantic unit corresponds to one intentional object is preserved.

[23] The word *full* is here in no relation to the Husserlian fullness of intention (cf. p. 341). Ingarden speaks of the full meaning as opposed to one in a more narrow sense, identical with a moment of the material content of the full meaning. Likewise, Husserl uses the word "representation". In a broader meaning it is intention in general; in a narrower sense — the very content of the intention. Perhaps what Ingarden also means is to emphasise that he is examining the isolated nominal meaning. Since in context, some moments are either modified or even eliminated (cf. 2.4).

[24] Ingarden hesitated as to whether this moment occurs in the full isolated nominal word meaning or if it appears only later, when the name is used in the sentence.

[25] In some languages, this moment is clearly marked by the so called article.

WHICH properties of that something are (the material and formal structure of the content). A name settles WHETHER and HOW the indicated and determined object exists (the existential character and existential thesis of the content of the intentional correlate).

Take the meaning of the name *bow*:

(1) it refers to something — namely to the bow;

(2) it determines that this object is a wooden stick, with a head at one end, a frog at the other, and a strand of hair between those;

(3) determines the object is a thing;

(4) settles it is a real thing;

(5) settles that this thing exists.

The meaning of the word *redness* (with the so-called accountable usage):

(1) it refers to something, i.e. to redness;

(2) it determines it being a shade of the first band of the rainbow;

(3) it determines it to be a property;

(4) it settles that it is a real property;

(5) it settles that the property exists.

Usually, a distinction is made between singular nouns (e.g. *a chisel*) and plural nouns (e.g. *chisels*), but also between proper names (e.g. *Gopło*) and generic names (e.g. *a lake*). For Ingarden it will be equivalent — in the first case — to that, depending on — in the first case — HOW MANY objects are being targeted, the directional factor can be:

(a) single-rayed[26] — in the case of a singular name;

[26]The single- (and multi-)radiance of the directional factor ought not to be confused with the Husserlian single- (and multi-)radiance of an act.

(b) multi-rayed[27] — in the case of a plural name;

while — in the other case — in terms of how many objects can CONSECUTIVELY determine the meaning, of which this index is a moment, it can be:

(a) fixed, i.e. indicating some SPECIFIC object — this is the case in proper nouns;

(b) changeable, i.e. it indicates ANY object from a set determined by the material content, which is the case in generic names.

The traditional way of defining a name is about giving its *genus proximum* and *differentia specifica*. The expression thus formed — a compound name — signifies the same object as the defined name. Therefore it is sometimes said that this defining expression is a meaning of the defined name. The defining expression is a more precise name of the object being signified by the defined name in so far as it not only names the object but also makes a clear specification of some of its properties — at least *differentiam specificam*. By defining *cottage* as a *peasant log cabin* we do realise that its building material must necessarily be some specific kind of wood, such as pine, spruce or larch, but WHAT the material is like is secondary in the sense that whatever the material may be (pine, spruce or larch) — much as it needs to be SOME kind — the cottage will remain a cottage.

Ingarden describes this phenomenon by saying that the material content of the meaning of the name contains the so-called constant moments, i.e. he unambiguously determines that what is meant is a TIMBER house, and the so-called variable moments, that it does not settle whether the timber is pine, spruce or larch, even though, obviously, a house needs to be built from a SPECIFIC kind of wood.

[27]It is unclear how this metaphor by Ingarden should be interpreted, if any intention — and so the derivative one, too — refers to only one intentional object. What is the intentional correlate of the name *houses* supposed to look like? When Twardowski defended the uniqueness of the object of an experience, i.e. the live intention, (cf. Twardowski 1965: 83 and the following) his reasoning could have been considered convincing. In Ingarden's writings, in reference to the "dead" intention, i.e. the meaning, this reasoning loses the value of evidence. It is possible that, in constructing his theory of meaning, Ingarden tends to confuse the relationship between a language formation and its purely intentional formation with the relationship between a language formation and the ALSO intentional correlate.

Notwithstanding, there are many properties of the object being signified which are not specified in the definition even in such a rudimentary manner as is the case with the SPECIFIC kind of wood for the peasant's home. Any definition of a name — even the fullest — falls short of stating all the properties of the name being named. Ingarden calls it the incompleteness of the material content of meaning. This incompleteness of the material content of meaning is supposed to be about occurrences within it of actual (really existing) moments, and the so-called potential (possible) moments. Initially (when, after Husserl, he accepted the existence of ideal notions) Ingarden associated the incompleteness of the material content of meaning with the fact that it was supposed to be (as mentioned above) only a PARTIAL actualisation of a specific ideal notion. Non-actualised moments of the content of ideal notion were to be just these potential moments of the material content of meaning.

A recognition of the occurrence of actual and potential moments of the material content of meaning allows to explain what is the equivalence of names. The name *Moon* and the name *celestial body going around Earth* are equivalent (equirange), even though their purely intentional correlates have different contents, and are thus different objects; remember, the content of a purely intentional object has only these properties which are assigned to it by the content of the intention. Nevertheless, both names are equivalent because they actualise a part of the content of THE SAME ideal notion — even if each actualises a different one. The elimination of ideal notions from the domain of existing objects, even given an expanded sense of existence, ruins with one blow this part of Ingarden's argumentation, too.

2.3.2. Verb

As opposed to the nominal meaning, a full meaning of a (finite) verb is heteronomous; thanks to that we can speak of a sentence-forming role of a finite verb. This heteronomy stems from the fact that the meaning of an isolated verb does have a material content and formal content that defines the structure of the activity,[28] but is deprived of the intentional directional indicator (its non-existence determines the quality of meaning of the verb) and the moment of existential characterisation, with the existential thesis of

[28]In exceptional cases the formal content of a verbal meaning does not determine the structure of the occurrence of the activity but it does determine a structure close to the structure of (pertaining to) property. After Pfänder, Ingarden gives the following examples: *The sky blues*, i.e. *is blue*, *Grass greens*, i.e. *is green*.

the meaning of the verb being a potential thesis. Two new moments appear in it, though, which the nominal word meaning does not have:

(6) verbal directional indicator;

(7) objective directional indicator — with transitive verbs.

The verbal directional indicator is a so-called reflexive index, i.e. it does not reflect towards the intentional correlate of the verb, and thus not to the activity, but to something other than this correlate. It turns to the subject of the activity, i.e. to its agent, but without determining the material and formal structure and the modes and fact of its existence. It can all happen in only a sentence. The verbal indicator tends to be — like the nominal indicator — single-rayed or multi-rayed but it is always potential, in the case of an isolated verb. The objective directional indicator turns to the object of the activity — to the correlate of the name which is the object. The meaning of a transitive verb can have two such indicators: one referring to the correlate of the direct object, the other to the correlate of the indirect object.

As can be seen, according to Ingarden, a verb that is isolated and abstracted from the context determines what (2) activity (3) is taking place, assuming some subject (6) and sometimes also object (7) of the activity, but without going into detail. Take the meaning of the verb *sings*:

(2) determines that what is meant is a vocal utterance of sounds with a specific pitch;

(3) determines that it is anyway some activity;

(6) indicates a subject of this activity (such as a man);

(7) indicates an object (such as a song).

The difference between the meaning of a verb and the meaning of a name becomes more evident if we juxtapose the verb under consideration with the name 'singing' in one meaning of this otherwise plurisignant word (closest to the meaning of the verb discussed). According to Ingarden, with the same material (2) and formal (3) content, the moments (6) and (7) will disappear but a directional indicator (1) will be added, thanks to which the activity will be apprehended as an object of possible properties and a moment of the existential characterisation (4) and existential thesis (5).

2.3.3. Sentence

The meaning[29] of a sentence[30] is a synthetic intention, i.e. static-dynamic. It is different from a simple nominal and verbal word meaning in that more of its moments can be clearly propounded as it is a whole built from a number of words. None the less it marks — as does any meaning or intention — only one intentional correlate. The same can be said of plurisignant sentences (in this case the correlate sort of flickers, shines and opalises).

Ingarden openly confesses that he is unable to demonstrate all the details of the sentential meaning. He constrains himself to marking some varieties of the formal content of sentential meaning, that is the moment defining the formal structure of the intentional correlate of the sentence and the varieties of the existential thesis — the differences are the ways of establishing the existence of this content.

So, sentences can mark, i.a., the intentional correlates, whose contents have a structure of a state of affairs, relation of being or an issue. A state of affairs[31] — more specifically: the state of the essence of a thing or the state of occurrence — is an intentional correlate of the meaning of an affirmative unconditional sentence. This is illustrated in: *The book is boring*, *Wife is sleeping*. An affirmative conditional sentence refers to an existential connection, and in particular, to the heteronomy or dependence of the state of affairs marked by the main clause For instance: *If the fiddler pulls the bow more forcibly along the string, the sound drawn out will peal out more loudly*. Finally the intentional correlate of an interrogative sentence — an issue — is a state of affairs including an (material or existential) unknown calling for elimination. For instance: *Is Swaróg a god of all Slavs?*.

The existential thesis of sentential meaning is called by Ingarden a moment of stating. Then stating of the existence of the content of an intentional object can be a:

(a) conditional, i.e. admittance (the intention settles: *The object may exist*);

[29]Ingarden almost always speaks of the content or sense of the sentence rather than its meaning, without explaining the reasons why he does so.

[30]Ingarden calls the sentence itself a coherent system of places and a unity of properly assorted functions.

[31]Ingarden sees the following connections holding between thing, property and a state of affairs: a thing (e.g. rose) is an object of properties (e.g. the redness of a rose), i.e. the states of affairs (e.g. a rose is red) that have been sort of contracted. In other words, a state of affairs is an expansion of its properties. It is worth adding that in the name "state of affairs" Ingarden puts the second component as a noun in the genitive SINGULAR.

(b) free-from-reservation (*The object surely exists*);

(c) non-firm, i.e. assumption (*The object may exist*);

(d) uncertain, i.e. a question (*It is unknown whether the object exists*)

(e) preclusive (*Object does not exist*);

(f) postulating (*Let the object exist*).

Each of these varieties[32] can also occur in a proper form (as an accountable, meant stating) and then the sentence is said to claim a right to truthfulness, relevance, validity, etc., or in a seeming form (quasi-stating). What a kind of stating takes place, depend s on the original activity, which the sentential intention is associated with?

2.4. Heteronomous formations

The moment a simple language formation becomes an element of a complex language formation, its full meaning undergoes changes — new moments of being appear or the existing ones are modified, thanks to which the formation comes to fulfil some syntactic functions. The mentioned changes are marked, i.a., by the very place in a complex language formation, by suitable grammatical forms, by the manner of utterance (and in the case of the written language — by punctuation, capitalization, etc.) or, finally, by some kinds of language formations, which Ingarden calls functional words. In the case of a name in the genitive,[33] which forms a part of a complex language formation, the direction of the nominal intentional indicator changes, thanks to which identification occurs between the name's own intentional object and the object of the name being determined and, as a result, a closer specification of the latter object. The correlate of the language formation *buffalo mane* is buffalo mane and not buffalo and mane because the correlate of the latter component of the formation becomes as if affixed and identifies with the correlate of the first (main) component. This is what the syntactic function of attribute is about: it does not designate any object but it describes an object designated by the name in regard to which it is an attribute. Obviously, it

[32] According to Ingarden, also the existential position of the meaning of a noun can have varieties analogous to those asserting existence by judgment, mentioned before.

[33] Apparently, the same pertains to an adjectival name; on the heteronomy of adjectives see below, end of 3.

entails a change of the existential characterisation; the correlate is described as existing heteronomously with regard to the object, whose property it is to be. Thus a name becomes a heteronomous language formation, albeit heteronomous in ways other than a verb. The heteronomy of verbal meaning was in that it contained a moment directing itself to a an intentional correlate of a different entity, i.e. (6) or sometimes (7). Other than that, as opposed to the meaning of an attributive name, verbal meaning had its OWN correlate, determined (in the content) materially, formally and existentially.

Closer to verbal heteronomy is the sort of heteronomy which pertains to the name that plays the syntactic function of the logical subject in the sentence, which in Polish is marked mostly by the nominative. In the meaning of the subjectival name there appears a moment of a sort of deviation of its own formal content (3) and existential thesis (5) towards the material content (2) and existential position (5) of the verb. The subject of properties marked by the meaning of the name that functions as the logical subject of the sentence, becomes ready, as it were, to receive what has been attributed to it by the material content of the verb. Respectively, the existential thesis of the subject lends, as it were, the base to the verbal thesis. Verbal meaning, which as an isolated semantic unit is a heteronomous creation, only undergoes this change in the function of a logical predicate that then occurs in it an actualisation of the reflexive directional indicator and existential thesis, that is their apparent embedding, as it were, on the respective moments of a subject word meaning.

The kinds of heteronomy described so far resulted either from the modification of language formations, which as isolated formations had autonomous meanings, i.e. marked their own intentional correlate (attributive and subjectival names), or from the presence of moments indicating another intentional object, too, (verbs) in a meaning, generating its own intentional correlate.

There are language formations, however, whose heteronomy is about their not generating their intentional correlate at all (thus rid of the moment of content) but only perform functions with regard to meanings or intentional correlates of language formations, with which they can co-occur.[34] It can therefore be said that these artefacts, which Ingarden calls non-objective artefacts or functional words,[35] have no meaning at all, at least not in the sense

[34]Obviously, names too (thanks to cases) and finite verbs can perform various functions, but that does not account for all their meanings.

[35]According to Ingarden, functors are not only words but also grammar forms, modifying the meanings of language formations, and definitely so are punctuation marks (such as the interrogative "?", which fulfils a role that is similar to the word

in which meaning pertains to names, verbs and sentences.[36] Functional words are different from the latter — that is formations that have a accountable objective meanings — in that the functions performed by this words usually have not many heterogeneous moments, as do the meanings of names, verbs or sentences. And even if in some uses they do perform different functions, these are mutually autonomous; these can be separated and assigned to different functional words (cf. the apportionment of the functional word "is" from an absolute affirmative sentence into: the predicative function "exists" and a stating function "I claim that"). This is impossible in relation to the moments of the meaning of names, verbs or sentences.[37]

Ingarden points to several kinds of functional words:

(a) interrogative (e.g. *when*, *what*, *how many*, *how*, *where*);

(b) factual (e.g. *after*, *later*, *when*, *during*, *beside*, *where*, *behind*, *at*, *to*), that is those which establish some factual connection, so they resemble a moment of material content of the meaning of autonomous formation;

(c) demonstrative (e.g. *this*, *that*, *here*) corresponding to the intentional directional indicator of nominal meaning;

(d) those that merge sentences into larger sentential compounds (e.g. *and*, *with*, *then*, *until*, *so*, *because*, *for this reason*, *but*, *on the other hand*, *therefore*, *hence*, *also*, *inasmuch*, *the same as*, as well as pronouns);

(e) purely logical (e.g. *is*, *if-then*, *some*, *only*, *every*, *and*, *not*, *who*, *or*).

Ingarden allocates most space to logical functors. In particular, he analyses the functions of the words: *is*, *if*, *then*, *some*, *only*, *every*, *and*, *no*.

The functor *is* tends to be used for:

"if/whether"), such that transform individual words into sentences ("!", cf. one-word sentences like *Fire!*) and logical ones (".", which separate sentential meanings).

[36]Ingarden thinks that some functional words betray traces of meaning thus understood. These can be illustrated by factual function words, e.g. the word "beside" has material content that determines spatial location.

[37]This conviction by Ingarden contradicts his position on the possibility of spelling out the subsequent moments of nominal meaning; cf. below, end 3.

(a) predicating, which is about generating a sort of asymmetry in a sentence: a difference between the function of subject and predicate; this can occur through:

— attributing some property to the correlate of the subject: this is so when *is* comes with an attributive predicate, such as in the sentence *This cat is black*; *is* would be here more or less equivalent to the phrase "has the property";

— including the correlate of the subject to a certain class (of some property); this occurs when *is* comes with a nominal predicate: *The cat is a mammal*; here *is* equates *belongs to*;

— equating the correlates of the subject and the predicate, as in *Gerlach is the highest summit in the Carpathians. is* is equivalent to *is the same as*;

— pointing (in the definition) to the constitutive nature, i.e. the distinctness of the correlate; *This is a table*: *is* is equivalent to *has a name*;

(b) stating — i.e. acceptance of the existence: it is then an explicitly uttered moment of the existential thesis of the sentence; *is* is equivalent to *exists*

(c) existential characterisation; it is then the same as the moment of the existential characterisation of an autonomous meaning.

These functions can also be modified by the presence of other functors in the linguistic context of the word *is*. Most commonly, the functor does not fulfil these tasks at the same time, and even when it performs several functions at the same time, Ingarden thinks these can be separated from one another. So, in an absolute affirmative sentence *is* performs the function of absolute predication (a) and stating without reservation (b). In an affirmative conditional sentence, in connection with the dependence of *is* on the functor *if* (in the antecedent) or on the functors *if*, *is* (in the antecedent) and *then* (in the consequent), the predication (a) and stating (b) are changed (become conditional), and there appears a function of existential characterising (c). Therefore a sentence *if p, then q* is not a usual combination of two absolute sentences "*p*" and "*q*". In Polish language, in the interrogatory sentence where the functor *is* depends on the word *if/whether* and the question mark, it does predicate (a) but in a way that is altered in a yet a different manner than in the subordinate clause (non-assertive predication) while the stating (b) takes on a form of interrogation.

The functors *if* and *then* are bound to the conditional clause. The function of '*if* is:

(a) a change of the function of *is* from the antecedent; its suspension and failing short of stating it through;

(b) change of function of the absolute thesis of *is* from the antecedent into a permission of existence (of the correlate);

(c) introduction of a function of existential characterization into the *is* from the antecedent; functional (not nominal) solution that the state of affairs marked by the antecedent exists heteronomously or else dependently on the state of affairs expressed by the consequent;

(d) anticipation of something else — another state of affairs — than what is conveyed by the subordinate clause; this is why Ingarden regards a conditional sentence of the type If *p, then q* as illogical.

The functor *then*, closely tied to *if*:

(a) changes (alongside *if*) the predicative function of *is* from the consequent.

(b) changes the function of stating of *is* in the consequent; as a result of (a) and (b) there occurs a reckoning with predication and stating in the face of a possible occurrence of the state of affairs conveyed by the antecedent;

(c) changes (alongside *if*) the function of existential characterisation of the *is* from the main clause, by means of which the state of affairs conveyed by the consequence is taken for an existential (factual and not just mental) complementation of the state of affairs, conveyed by the antecedent;

(d) entails the occurrence of the state of affairs conveyed by the consequent, but without the definite stating, and thus in a modified manner.

The only function of the function word *some* (in an affirmative sentence of the type: *Some A are B*) is quantification, i.e. the establishment of the range of variability of the intentional directional indicator of the meaning of the subjectival name. Ingarden strongly emphasises that there is no moment of existential thesis here; it is implicitly included in the meaning of the subjectival name and propounded by the functor *are*. Therefore, *some* is not the same as *exist* in a proposition of the type "$\bigvee x[A(x) \wedge B(x)]$", which Ingarden reads *There exist such A-s that A is B*(!).[38]

[38] And which can be read: *For some x*...

The functor *only* in a sentence of the type *Only some A are B* implicitly indicates something more that the correlate conveyed in this sentence, namely: *an A that is not B*.

Like in the word *some*, also the functor *every* in the sentence of the type *Every A is B* is there only to quantify. Neither does it have a moment of existential position here.[39]

Ingarden sees the function of *and* in:

(a) binding the names of different objects into a semantic unit of a higher order;

(b) generating an intentional adherence/possession of the objects of those names;

(c) forming a compound sentence.

The word *and* performing the function (a) and (b) would therefore be an internominal *and*; the one performing the function (c) — an intersentential[40] *and*.

Finally, the functor *not* can:

(a) preclude the existence of the whole state of affairs, i.e. delete it from a domain of being (in sentences such as: *Not: A is B*);

(b) make an unqualified proposition of the so-called negative state of affairs, i.e. discontinue the connection of the subject of a property with a heteronomous property pertinent to it with regard to itself (*A is not B*).

2.5. Language as tool

According to Ingarden, language is a product of two coupled human activities: speaking and making sense of what has been uttered. It does impact on the structure of language formations. The dual source of language makes them the so-called two-faceted objects, that is — as Ingarden puts it — consisting

[39]This can clearly be seen in a formal interpretation of the sentence $\bigwedge[A(x) \rightarrow B(x)]$. Ingarden reads it *If something is A, then it is B* where the functor *every* is identified with a general quantifier ($\bigwedge$).

[40]Ingarden also mentions the distributive and additive and.

of a sound and a semantic stratum (please note that the latter is a meaning only in the case of nouns, verbs and sentences).

The sound stratum (sound-type) is a carrier of meaning; meaning is what generates a purely intentional correlate of a language formation. Thanks to that language can be the main tool for communication. By hearing or reading, we perform actualisation; by speaking or writing, we evidence the actualisation of meaning. The actualization of meaning leads to generating an appropriate purely intentional object. One can say that a language formation has a capability of INFORMING of the actualisation of meaning as well as a capacity of PRESENTING the intentional correlate of an actualised intention. In fact, intention is representation.

The function of informing and the function of presenting are functions unique to language. Thanks to these they are the main tools of communication.

Not so about the two other functions of language that Ingarden talks about. These can be performed by any — not just linguistic — comportment of the user: INFLUENCING, i.e. having an impact on the addressee and arousing some behaviours (stimulating action, states of being moved, of desiring and volition) — as well as EXPRESSING,[41] i.e. revealing the mental states of the sender, involuntary betrayal of emotionality. The latter is fulfilled mainly by means of a specific way of utterance.

Take Stanislaus again. By pointing to the Moon he says to Casmir: *The Moon is linen.* This sentence:

(a) PRESENTS, that is intentionally generates some state of affairs, that is, that the moon is made of linen;

(b) INFORMS Casimir of the actualization of the meaning of the sentence *The Moon is linen* performed by Stanislaus, and it also stimulates Casimir to a similar actualization: co-thinking and co-imagining the intended state of affairs or, in other words, to the comprehension of the sentence uttered;

(c) INFLUENCES Casimir, arousing interest, a state of expectation of what Stanislaus will say next or, conversely, an opposition, a desire to say that the Moon is not linen;

(d) EXPRESSES, i.e. reveals Stanislaus's mental state, an inspiration (this could be a beginning of a poetic fantasy, improvised by Stanislaus).

[41] Please note that Ingarden's expressing is something other than the expressing in the understanding of Kotarbiński; cf. T. Kotarbiński (1961: 13).

Notably, Ingarden strays from Husserl's position and terms on the functions of language formations. Husserl maintains that what is expressed by language formations, can be:

(a) a presentation (in a more narrow sense), i.e. what Ingarden calls the actualization of derivative intention;

(b) an act founded on presentation (a), i.e. based on the latter and more specifically:

— a sign act (e.g. comprehension of the language formation 'gorge');

— an intuitive act (an image of a gorge);

(c) an act that is simply an intentional object of a presentation (a) (e.g. imaginary experience, being an object of self-perception).

Depending on what act a given language formation expresses, Husserl speaks of the functions of meaning (a), informing (b) in a more narrow and broader sense and naming (c). Ingarden claims that his function of expressing is identical with Husserlian informing. What Husserl calls expressing, though, should correspond to Ingarden's presenting. However, if I grasped Husserl's and Ingarden's argumentation correctly, such an equation is wrong as Husserl's and Ingarden's divisions criss-cross.

Back to Ingarden's views, language is not only a two-stratum formation but it is also a DERIVATIVE product, i.e., a tool. Language actions — and those that generate names and sentences in particular (whose products are names and sentences, respectively) — are, as it were, immersed in other human activities. Depending on whether the original activity is cognition, creativity or action, there can be different objects of language communication.

COGNITION, Ingarden says, can be done by way of a receptive indirect experience of what is encountered or by way of reasoning. In the first case we speak of perceptual cognition; in the other — mental cognition. Mental cognition can take the form of judging,[42] defining, assuming, interrogating, etc. If we want to convey the result of cognition or the fact that this result is none, we associate the cognitive action with a language action. It ought to be borne in mind that although the results of the actions can be

[42]Judging as a way of perceiving states of affairs is, according to Ingarden, correlate of perceiving, i.e. cognising things and, perhaps properties and actions.

contained in different varieties of semantic units, some of those varieties are better suited for conveying some results than others. The final outcome of the different (original) cognitive actions and the related (derivative) language activities, will be — respectively — JUDGEMENT) (THE RESULT OF JUDGING), DEFINITION (THE OUTCOME OF DEFINING), HYPOTHESIS (THE RESULT OF ASSUMING) OR QUESTION (THE RESULT OF INTERROGATING).[43] Surely, such a subordination of language actions to cognitive activity cannot go unaffected in sentence — the transmitter of the result of cognition. There occurs a special change of meaning (and in particular: of the moment of existential thesis), enabling a transparency of its purely intentional object, a close fit to this object, to use a metaphor, with regard to reality.[44] A sentence comes to claim the right to truthfulness (judgement), correctness (definition), probability (hypothesis), accuracy (question), etc.[45]

Not so when language activity accompanies CREATIVITY, free interplay of imagination, actions meant to create an aesthetic experience, that is what it is supposed to convey the result of creative or reproductive activities. Then a sentence loses this moment of claim; hence it becomes a quasi-judgement; a definition — quasi-definition etc. Ultimately, these judgments, definitions, etc. approximate ordinary (pure) sentences then.[46]

Other than the results of cognition and creation, language can be used in direct ACTION, that is, express one's will through language. Such control activities can result in: NORMS — the effects of normative actions; ORDERS — products of the activity of commanding; WISHES — products of the activity of expressing desires, etc. Like in cognitive actions, the pure meaning of the sentence will undergo a change, as well: the sentence will begin to claim the right to justness (norm), legitimacy (order, wish), etc.

[43]The product of perceiving could probably be called DENOMINATION (a reliable name), but Ingarden keeps silent on that one.

[44]Associating language and cognitive activity causes not only changes in the artefacts of language activity. Ingarden thinks the cognitive activity itself can be susceptible to some pressure from language. The object of cognition can have a structure imposed on it, corresponding to the properties of the meaning of the expressions used (features marked by the material content of the name are emphasised in it). This was noted (but Ingarden thinks — exaggerated) by Immanuel Kant, too.

[45]A name appearing as a denomination can be said to claim the right to fidelity. The word 'fidelity' also appears in Ingarden's writings as a name of the relation of words to real correlates when these words appear in sentences that function as tools of cognition.

[46]The degree of the approximation depends on the kind of genres: the biggest approximation will be the case in historical and biographical novels with the lowest in fiction *par excellence*.

The activities whose tools are language activities (particularly those that generate sentences), and thus mainly cognition, creation and action (control) are in themselves complex activities. Therefore posing the issue of the truthfulness of judgements, correctness of definitions and probability of hypotheses properly requires, according to Ingarden, that the complex original activities be investigated beforehand.

He devotes most space to the action of judging. To judge, according to Ingarden is to be involved in the following four interrelated partial activities:

(a) mental (intentional) ISOLATING the correlate of judgement (intentional correlate and eventually an objective one), i.e. isolating the state of affairs, a relation of being, etc., from the environment in which they are involved;

(b) PREDICATING, that is, sort of developing this state of affairs, existential connection, etc.;

(c) STATING

(d) ABSOLUTSING, i.e. apprehending the correlate of judgement as existing rather than contingent upon the existence of the subject and the activity of judging.[47]

These partial actions or — to use Ingarden's term — moments of the activity of judging, are conveyed by a sentence by means of nominal and verbal meanings as well as functors.[48] They considerably differ depending on what kind of judging takes place. This is especially true about the moment of stating.

So, the categorical-asertoric judgement of the sort *A is B* concerns STATES OF AFFAIRS, whereas stating contained implicitly in it (without explicating) is without reservation (absolute). It consists in an absolute acceptance of the objective occurrence of the state of affairs, i.e. absolute attribution to it of an existence, independent from the very judgement and the person making it. To be precise, this recognition obtains by way of:

[47]It is hard to establish how different this absolutisation is to be, according to Ingarden (cf. below).

[48]Cf., i.a., function of predicating and stating of the word of *is*, mentioned above.

(a) transferring (or precluding, as in *It is not true that A is B*) of the state of affairs into a given[49] existential domain;[50]

(c) the co-called existential embedding of the state of affairs, i.e. taking it as factually existing in this existential domain;

(d) identifying these moments of material and formal structure of the content of the intentional correlate, independent from the cognitive actions, with the properties of the objective correlate.

Stating in the case of existential judgements, such as *A exists*, is different than in the categorical-asertoric judgement. It is still without reservation here, but it is not something only functionally marked, but it is clearly explicated by means of the word *exists*.[51]

Even more profound changes surface the moment conditional judgements of the type *If q, then p* are stated. In the first place, it is not really about states of affairs but, rather, connections between them, i.e. (factual) EXISTENTIAL CONNECTIONS, with stating itself as having a functional character (thanks to the words *if* and *then*). Functional stating of heteronomy or an existential dependence of state of affairs p in relation to state of affairs q occurs, i.e. as it were, entailing the existence of Q by P. An existential heteronomy or dependence, ascertained (functionally) by such a judgement, is a moment of a state of affairs, appointed by P,[52] which is only conditionally stated (permitted, valid for existence). A conditional modification of stating, caused by the word *if*, is that the transfer of the state of affairs P into a given existential domain and the equation of the content of the intentional correlate of p with an objective correlate, is not linked to an ultimate existential embedding of the state of affairs in the domain indicated. Therefore, to Ingarden, the conditional judgement *If p, then q* ought to be distinguished

[49]It is defined by the moment of existential characteristics of the meaning of subjectival name (A).

[50]The directional indicator of the meaning of the subjectival name (A) is then directed straight onto an objective object (ALSO-intentional); it penetrates, as it were, through the purely intentional object.

[51]The predicate of an existential sentence is not really a verb but a word which only propounds the moment of the existential thesis of the meaning of a subjectival name (*A*).

[52]Ingarden places emphasis on the existence of state of affairs P, heteronomous or dependent on the state Q is something pertinent to the state P as its own relevant (rather than attributed or random) moment.

from the judgement P *and therefore* Q, where an embedding of such a state of affairs P obtains.

Apparently, there is no moment of stating when defining, especially in a real definition. Only an ascertainment of identity takes place between two separate purely intentional correlates, behind which lies the same objective object.

As far as the activity of assuming is concerned, there does occur stating and absolutising, no ascertainment of anything factual occurs, though — something duly pertinent (it is no not ascertainment without reservation and without uncertainty as is in the case with the categorical-asertoric judgement); what is ascertained is something possible, with absolutisation less assertive.

The key component of the activity of interrogating, a component that corresponds to stating in the case of judgement, is a accepting the occurrence of an objective state of affairs, that is determined by the content of the question as uncertain. In Ingarden's opinion, a question as a whole has only a purely intentional correlate. It is the so-called issue, that is, a state of affairs that contains a material or existential unknown, which calls for elimination.

Demanding an implementation of a certain state of affairs (e.g. *Let A exist*), which alongside the so-called attestation of value (e.g. *A is good*) constitutes the activity of issuing norms, is even more remote from an stating without reservation than accepting an objective occurrence of a state of affairs as uncertain in a question.

2.6. The problem of truthfulness

To Husserl, truthfulness is an adequacy of fulfilling a (void) sign act by an appropriate (full) intuitive act. Intuition is a complete fulfilment of a sign act if it occurs that a strict match of the two acts' matter. A mere existence of an object is a *sui generis* objective correlate of truthfulness.[53]

Ingarden holds truthfulness to be a property of the sentence that acts as judgement (result of cognition), a property that is relative to the objective correlate. The source of these property, which Ingarden calls a claim, is the function of stating, and to be more precise, the moment of the so-called existential embedding, present in it. If stating is accountable, the proposition claims truthfulness. Truthfulness is thus a property of a sentence, which it

[53] A principle of medieval Aristotelians — *ens et verum convertuntur* — comes to mind.

is entitled to as a consequence of the relation holding between the sentence and the reality being independent of it. A sentence is true, when apart from an intentional correlate it also has an objective correlate, identical with the content of the purely intentional correlate. The truthfulness of a judgement corresponds to an occurrence in an existential domain (defined by the moment of stating) of a transcendent state of affairs, a relation of being, etc., determined by the meaning of the sentence: this occurrence satisfies, as it were, the sentences claim to truthfulness. This betrays affinity with Husserl.

Truthfulness thus understood is different (autonomous) from the verificability of judgement if we take a verifiable sentence to be one to which EVERYONE can subordinate some direct data. In Ingarden's opinion, true judgements can be made of monosubjective objects, that is, cognitively unavailable to others, such as one's own images.

Ingarden specifies the conditions, which make a claim to truthfulness of various kinds of judgements fulfilled.

The categorical-asertoric judgement is true if the state of affairs appointed by its meaning OCCURS irrespective of this judgement (artefact) and judging (action) in the domain where the judgement places it. In other words, when all the moments of content of the intentional correlate can be equated with some moments of the objective correlate.[54] A categorical-asertoric judgement is spurious when the objective correlate does not obtain, and this is the case when the meaning of the judgement is plurisignant or internally contradictory, Then, the condition of truthfulness, indicated above, does not hold.

What has been said refers to positive judgements, such as *A is B*. Concerning judgements like *A is not-B* or *A is not B*, *B* is non-self-contained: it is only contemplated, purely intentional. Therefore, the so-called negative state of affairs, equivalent to negative judgements, is not completely self-contained (on account of the non-self-contained-being of *B*), even though, obviously, it needs not be a pure *ens rationis* (as A can be self-contained). This is the reason why it is difficult to determine the conditions of veracity of negative judgements and so they have, according to Ingarden, a lower

[54] In the event of an aesthetic value judgement (not just reporting-describing), the moments of content of the intentional correlate must become identical with the moments of the so-called aesthetic object, and with its value qualities in particular, i.e. values that are derivative and existentially heteronomous with regard to qualities aesthetically valuable, significant on account of the valuation accomplished in the judgement.

cognitive weight than positive judgements.

In turn, a conditional judgement is true if:

(a) the state of affair P, independent on the judgement, with its content calls for heteronomy or an existential dependence on Q and

(b) calls for this heteronomy by nature and not just accidentally, with the

(c) Q capable of satisfying the need for supplementation.

This judgement is false if none of the conditions (a) to (c) holds.

The problem of truthfulness concerns, in the strict sense of the word, the domain of judgements only. Regarding questions, one cannot speak of a claim to truthfulness. A question can claim accuracy, though. Thus, it is accurate if:

(a) the contents of the intentional correlates connected with the meanings of the words (more precisely, names and verbs) of the question can be identified with some objective objects; then, says Ingarden, the meanings of the words defining the evident details of an issue are adequate;[55]

(b) the meanings determining the known (details) of a problem only posit the existing states of affairs as what conditions a problem;

(c) the meanings of the words appointing the unknown are adequate to the range of parameters that can fulfil the various unknowns.

In the case of normalising claiming justness takes the place of claiming truthfulness. The product of this activity, the norm, is just when it is based on the truthfulness of judgements:

(a) on some values (we are not wrong in the assessment of the value of the implementation of which we demand in the norm);

(b) on the properties of objects that entail the value of these objects.

[55]This adequacy of words would apparently correspond to the truthfulness of the sentence; see note 47.

In order to reconstruct Ingarden's answer to a question, vital for cognition, on what language ought to be like to be a good communication tool, and in particular on cognitive results, i.e. on the very possibility of the veracity of judgements, we must again turn to Husserl. He puts forth the following set of categories:

(a) categories of consciousness (that is, the kinds of psychic experiences);

(b) semantic categories (that is, the kinds of meanings);

(c) grammatical categories (that is, the kinds of language formations);

(d) ontic categories (that is, the kinds of objects of psychic experiences).

For Husserl, the ideal of language (a logically adequate language) is one that clearly expresses all possible ontic categories, and so eventually all categories of consciousness. Language is not a mirror of reality but it should have semantic categories suitable for the expression of any possible ontic categories. Particular semantic categories can have a different inner structure than the ontic categories ascribed to them do, but mutual relations between semantic categories should lend themselves to reflect the relationships between the kinds of objects of experiences.

Ingarden, too, thinks language should have the same semantic categories so they could reflect the reality. Only on this condition will language be adequate and true. This is not to say that any kind of language formations (categories of grammar) were to have an objective correlate in the form of sensory qualities, and thus among the data of experience, understood as what is given directly and clearly. Most functional words are artefacts rid of an objective correlate in reality.[56] Even so, they cannot be denied cognitive significance.

If the semantic categories of language have to match ontic categories, it is clear that somebody who presumes, let us say, that the reality is comprised of processes alone[57] will deem the right language to be one consisting of verbal meanings, and thus nameless and eventually sentenceless.

[56]Some functors, such as *is* have correlates that are implicitly contained in experience. These correlates ARE only implicitly and ARE only functionally APPOINTED. What is meant, e.g., is such moments of objective objects as form, state of affairs (?), existence. That they are only implicitly included in (experienced) reality and cannot be directly perceived does not mean that they falsify experience, as Kant would express it. According to Ingarden, these are PRE-EXISTING in experience.

[57]See e.g. Bergson.

According to Ingarden, reality is formally very rich. It consists of things, activities, events, relations, properties and states of affairs. This wealth of reality must correspond with the richness of language, that is, a diversity of semantic categories that would facilitate a variety of syntactic connections. This is so in natural language. This language tends to have[58] all it takes to be a convenient tool for the transmission of pre-linguistic experience. The particular formal structures (ontic categories) are appropriately rendered only by some specific semantic categories (things — by names rather than sentences; actions — by verbs rather than names; states of affairs — by unconditional sentences, etc.) True, all ontic categories can be expressed by names (i.e. nominalised) but this will be some falsification of reality.[59] After Husserl, Ingarden emphasises that various grammatical categories (forms) can function as names (in the sense of a semantic category): noun (name of a thing), but also adjective (name of property) and even sentence (name of a state of affairs). But although an objective state of affairs: *A is B* can be expressed as the name "a *B* ish *A*" , an appropriate expression of this state of affairs is the sentence *A is B*. Likewise, the objective state of affairs *P* is existentially heteronomous (or dependent) relative to *Q* — can be expressed by means of an:

(a) existential sentence: *There is a connection of existential heteronomy (or dependence) of P relative to Q;*

(b) hypothetical sentence: *If p, then q.*

(c) categorical sentence: *P is existentially heteronomous (or dependent) relative to Q*

The range of what exists or what has been cognised is not constant. If the inherited semantic categories no longer yield themselves to a precise

[58]It tends to, as e.g. in Polish there is no suitable semantic category to reflect a relation which is not symmetrical. Indeed, if it is so that Stanislaus is wider than Casimir, then this ONE relation can in fact only be described only from one or the other side of the relation. So it is either Stanislaus who will be the subject of this relation (*Stanislaus is wider than Casimir*) or Casimir (*Casimir is more stupid than Stanislaus*). What Ingarden is after, though, is such a sentential construction in which both parts of the relation will be commensurate (they will be subjects). This is so when *Stanislaus is like Casimir*. We can describe that by means of a sentence *Staislaus and Casimir are alike*.

[59]In the end, Ingarden made this proposition less categorical: this can be ANOTHER expression of reality, but not necessarily FOREIGN to it.

rendition of our contemporary knowledge, adequate supplementations need to be supplied or new kinds of meanings ought to be introduced. The introduction of relevantly new semantic categories, and the different semantic units at large, cannot be done, in Ingarden's opinion, by way of definitional determination of new meanings using the existing categories. It could only be so if new semantic categories served solely to name objects that are ordinary sets of parts already named. It would thus appear that the world is a set of simple qualities, and as a result of this assumption the so-called shape qualities would be rejected. It is possible to try to define really new language formations only when they have been introduced to the language and thus when they are already saturated with some sort of meaning. Ingarden leans towards a more extremist view. He believes that it is impossible to define any language formation if this is about defining its meaning. At best, a corresponding range can only be indicated — in the case of names and verbs.

3. Assesment

Descriptive psychology deals with experiences. It does not mean, however, that it restricts itself to a DESCRIPTION of individual experiences. Contrary to the allegations by Husserl, descriptive psychology also orders individual experiences. Kinds of experiences are not, as would Husserl, discovered only in phenomenological speculation and descriptions. These are a result of the ordering of experiences, which takes place in the "ordinary" psychology. The novelty of Husserlian phenomenology is only about an attribution of some special, supra-real and constant existence, an ideal existence to these kinds, and, consequently, recognising the very activity of generalisation a special kind of perception: ideation. So experiences can be counted as special kinds, i.e. ordered, only when some properties of the ordered experiences (irrelevant for the principle of division that was adopted) will be be overlooked — generalizations need to be made for this purpose. So that ideation can be done, i.e. so that the Husserlian hypostasised kinds can be seen — and to Husserl it is supposed to be something completely different from imagining — the so-called phenomenological reduction needs to be performed.

The whole Husserlian phenomenology is in the end only a more or less consistently hypostasised descriptive psychology. This state of affairs probably did not stem from some opposition to some bias in the contemporary descriptive psychology, which lay at the foundations of Husserlian ideas. The considerable progress of psychology at the turn of the 19th century led to discipline being seen as a model and rationale for other sciences. Logical laws were taken down to the laws of thinking and experiencing. This was this

psychologism that Husserl so staunchly opposed. He was right to point that although the explanation of the laws of thinking allows an understanding of the laws of logic, and conversely, one cannot conclude that these are the same. Alas, in his fight against psychologism for its equating the laws of logic with the subjective psychological laws, Husserl granted the wrong sense to the objectivity of logic. He deemed the laws of logic to be objective, and thus exact, on account of their independence from man and experience. However, they are exact as they are CONVENTIONALLY set up, or with a certain understanding of the term — subjectively established. They are themselves autonomous from experience: but their ADOPTION — a contract — is independent of it. Logical laws must be established as strict for the same reasons for which a knife must be sharp, whereas a microscope — high-resolution. Only then will they be reliable tools of cognition and action.

Husserl efficiently fights extreme psychologism, which equates logical formations with individual experiences. His phenomenology is, however, not quite free from psychologism, if a conviction that one needs to seek a justification for logical laws in the laws of thinking can be seen as psychological. Husserl did not want to abandon this conviction in the end. However, in order to salvage the misapprehended objectivity of the laws of logic, he adopts the equally fallacious objectivity of the laws of thinking. This leads to a bizarre view that a detection of the regularity of the course of thinking, and all experiences at large, is not a description of something subjective, human, but, rather, something objective, which here means: independent from man, beyond man or supra-human; in brief, it is a description of ideas. This is what the whole Husserlian phenomenology is based on. The identity of meaning is supposed to be secured in it by the existence of experiences *in specie* rather than the similarity of HUMAN experiences. Pure grammar (description of semantic categories) is not supposed to be a generalisation of concrete grammars (description of grammatical categories of particular languages) but, rather, an a priori science.[60] Maladjustment of language formations does not appear to originate from the inevitable vagueness of

[60]In fact, this is not so either to Husserl nor to Ingarden. It is clear from the very course of their inquiry that for both German is the model of the a priori language of semantic categories. The prototype of nominal indicator is the definite article (the constant indicator) and the indefinite article (the variable indicator) whereas personal pronoun is the verbal indicator. The very idea of distinguishing between the many interrelated components of the meaning of a name originated in the obvious tendency of the German language towards compound words (single-word description). Stanisław Ossowski made a note of that; cf. Ossowski S. (1967) "Analiza pojęcia znaku." In: Dzieła, vol. 4: O nauce: 48. Warsaw.

words, resulting from objects incapable of each being named with a separate word (possibly, there are no two identical objects), but from the unavoidable imperfection of reality, which is just an accidental shadow of hypostasised ideal possibilities.

This is not the right place to determine how much dehypostasised phenomenology is a adequate rendition of the structure and varieties of experiences to do with language. Whatever such an evaluation might be, one must admit that the notional distinctions introduced by Husserl testify to a great effort put into the ordering of psychological terminology and the elimination of misunderstandings resulting from the ambiguity of terms. Unfortunately, this is accompanied by the alternate application of too vague terms to signify the same objects. This involves the objects of inquiry so fundamental to Husserl as act, fulfilment, meaning etc. As a result, Husserl's conception becomes too confusing.

In these terms, Ingarden's works are a step forward. In the first place, Ingarden tries to develop the phenomenological theory of meaning and rejects Husserl's conviction that meanings are ideal objects.[61] The phenomenological theory of meaning thus loses its phenomenological character and becomes an "ordinary" psychology of language. But Ingarden inherits from Husserl his propensity for hypostasising and fails to call things the way they are. Twardowski described his tractates on the attitudes to language by its users as psychological studies from the borderline of psychology, grammar and logic. Ingarden is convinced that, in describing experiences to do with the use of language, he is pursuing logic.

There is no doubt that in perceiving (i.e. reading or writing) a language sign, one can learn about:

(a) the objects signified or described by this sign,

(b) the sender's experiences:

— concerning the signified (described) objects, and thus about the cognition or representation of these objects,

— not directly pertaining to the signified (described) objects, but only accompanying cognition or representation.

[61] Husserl tried the same in his later works, too.

Certainly, the same sender can generate (pronounce or write) a language sign, driven by a desire of notifying the addressee of either the signified (described) objects, their experiences or a will to influence the addressee in some way, such as to stimulate them into some action.[62]

The first of the relationships indicated above is, i.e. signifying (describing), that is, reference to reality — we accept the reality to be a system of objects with their many details — is, to my mind, part of research in logic. The laws established by logic are assumptions on which people establish themselves.

The second relationship, i.e. expressing, that is, the reference of language to its users (let us accept language to be the structure of language signs), is, to my mind, part of research in psychology. The laws established by psychology are the generalizations of what is to a large extent independent of users.

It needs to be borne in mind, though, that when we speak of signifying (describing) objects and expressing experiences, we express ourselves metaphorically. First, these are not only sounds or letters, but utterances (issuing of sounds) and writing, i.e. the making of inscriptions, TENDS TO BE a symptom of some psychic experiences. It is not the sound or inscription *Moon* or *Moon is round* that is an expression, i.a., of the presentation of Moon or thinking about it being round; it is the utterance or writing the word or sentence. It is only a shortcut and metaphor to speak of a mere sound or word as expressing. It is legitimate only in the sense that sound and inscription are PRODUCTS of speech and writing. Thus, as we face sound or inscription, we can ASSUME that it is a product of speaking or writing, those, in turn, being expressions of some experiences on the part of the speaker or writer.

Secondly, the sign itself is not a symbol. Therefore, let us be clear: *The sign A designates the object a* is a shortcut of the sentence: *People designate the object A with the sign a* Likewise, the sentence: *The sign A designates the same as the sign B* is a shortcut of the sentence: *People designate the object a with the sign A and also with the sign B*. Surely, the point is not to stop using these shortcuts: they do facilitate the use of language. But in order for them to do this indeed, it needs to be borne in mind that these shortcuts are SHORTCUTS only. Forgetting that is a cause of considerable confusion in linguistic research.

Ingarden lacks this constant awareness, even if he himself often postulates

[62]E.g. this enables the sender to mislead the addressee.

it. This is apparently what accounts for his way in which he confronts language formations with any signs, both arbitrary (symbols) as well as causal (symptoms). It is both in the case of signs (as understood by Ingarden) and language formations, that only some "background" can make the occurrence (presence) of a sign or language formation evoke a certitude of the existence of what these refer to. This "background" is different for different kinds of signs: for a signpost it is a road; for a language sign — a complex of other linguistic signs (context), the user's behaviour, appending a phrase *I think* to the statement, the unique place of occurrence (names of plants in a botanical garden) or marking the place where the sentence occurs with a note "research paper", etc. What Ingarden says of signs in general, contrasting those with language formations, can only refer to the symptoms: they alone, and in themselves, testify to the existence of what they are symptoms of with their own existence.

Only such carelessness in using shortcut expressions can account for the way Ingarden describes the two-stratum structure of language formations. A language formation sounds and means, i.e. it has a sound and meaning. To describe a language formation is to describe its two strata, two OBJECTS: sound and meaning. Another step is anthropomorphisation[63] of objectivised meaning. As was the case with stoics, meaning becomes potentiated intentional experience.
The following objects to be named of A:

(a) signification, i.e. the relationship of the sign A to the object a;

(b) signified object a;

(c) the relationship of the sign A to the sign B, which signifies the same object as the sign A;

(d) the sign B.

For Ingarden, "a language formation SIGNIFIES" i.e. "a language formation APPOINTS an object, but it also DETERMINES the objects properties, structures and a manner of existence, and also SETTLES whether the object exists at all". It can clearly be seen that such an understanding of (autonomous)

[63]It is remarkable that Ingarden's opposition to views of Polish logisticians (logicians who were for the most part the disciples of Twardowski) is often rationalised emotionally,"ethically". These views are supposedly inhuman, mechanistic, soulless, mechanical, etc.

language formations stems from Ingarden caring in the first place for the nominal meaning despite his declarations that the first and foremost semantic category was sentential meaning; only later did he expand the results of his inquiry into other language formations (sentences in particular). Likewise, the assumption of the existence of intentional objects originated from the pursuit of extending the expression "a name refers to an object" onto all linguistic formations, including empty names and sentences describing fictitious objects, spurious affirmative sentences, questions, commands, etc. This way a double correlate was bestowed on language formations referring to objective objects. The signification (a) is confused with the sign signifying the same object as the sign meaning of which is the subject of our inquiry (d), as is the act of presenting with the function of language, as a result of which there occurs a transfer of the properties of conjecture, an object-forming property, from the experiencing man to a language formation despite the reservation that what is meant here is the so-called derivative intentionality.

It might seem that if the signified A is a name, then *Somebody comprehends the signified A*[64] is a shortcut of the sentence *Somebody knows that the sign A signifies the object a* or the sentence *Somebody knows that the sign A signifies the same as the signified B*, which in itself is a shortcut of *Somebody knows that people signify the object-signifier a with the signified A and also with the signified B*. Meanwhile, to Ingarden, comprehension is an undertaking, contemplating of meaning, only an actualisation,[65] setting in motion a derivative of intention, previously bound up with a language sound (symbol). Husserl charged Twardowski with equating the contents of representation (i.e. with Ingarden's understanding of a purely intentional object). Husserl, as does Ingarden, thinks that meaning is the very representation (intention), but (being exponents of antipsychologism) each of them in his own way forsakes understanding an intention as a concrete experience of a concrete human being. Husserl takes it to be an ideal presentation (species). Ingarden thinks that meaning is a potential representation (derivative intention). If meaning were to be an ideal object, an unchanging one, it would not be able either to arise or (remaining the same semantic entity) coalesce with other

[64]It is obvious that the comprehension of the sign A, which is the knowledge that the sign A signifies the object a assumes the possibility of perceiving or at least imagining the object a. Since we know that the sign A signifies the object a only when the object a can be perceived or at least represented.

[65]To Ingarden, meaning, as a derivative intention, is a potential intention. As we remember, some contents of meaning can be actual, among which some can be implicit. A question can arise, what then can the actualisation of the actual but implicit moments of potential intention be about?

meanings into compound units (sentential meanings), which always leads to alterations in semantic structure.

Ingardenian description of the structure of meaning is essentially a sort of objectivised, depragmatised description of experiences of a user of language.[66] Also, the meaning thus hypostasised is on one occasion considered by Ingarden as a set of moments that generate the intentional correlate, and on other occasions as a product of a special intentional experience — a sense-forming activity. Meaning is then either a derivative intention or an originally intentional object, bound up with a language sound (symbol). So is the case with purely intentional states of affairs. These are the products of sentential meaning — and thus (derivatively) intentional objects — and in themselves, along with the correlates of the meanings of the adjacent sentences, intentionally appoint, i.e. present objects "in which" they obtain — they are then (derivatively) intent objects. This adds up to the problems with comprehending Ingarden's argument.

Ingarden's view of the structure of meaning (at least the nominal and verbal one) could be defended by equating some of the moments of derivative intention he lists with the FUNCTIONS of a language formation, namely with the signifying (the determined object) (1) and expressing (the degree of conviction of the presence of the object) (5), with others to be identified with the necessary components of the *definiens* of the relevancy definition,[67] i.e. listing only those properties of the object signified by *definiendum*, from which all the remaining properties can be arrived at. This kind of definition would have to describe what Ingarden calls the material (2), formal (3) and existential (4) structure of the correlate of *definiendum*. For the name *(the) stone*, it would look: *(The) stone is a real thing* (3) *of stone* (2). It would therefore only be a clear explication of moments, more or less inherent in

[66]This can be seen most clearly when Ingarden describes the meaning of proper name. The material content of the proper name apparently becomes saturated with qualitative terms, as a result of which this name is finally subordinated to the full individual constitutive nature, i.e. anything that is unique to the individual named. The same holds true for describing differences between the nominal and sentential manner of grasping the intentional correlate. Emergence of meaning, e.g. nominal meaning, has it initially restricting itself to the directional indicator; only later, along with experience (cognising the object), new moments of material contents appear, followed by formal contents, etc.

[67]I do not discuss here the possibility of attributing to Ingarden a view that the components of meaning (the component intentions, i.e. moments) are simply all that which the user knows of the objective correlate of a given language formation, with the whole meaning being sort of a synopsis of the cognition of the object. A number of statements by Ingarden (cf. note 68) make this interpretation likely, too.

the name itself *(the) stone*.[68] Remarkably, Ingarden does not investigate the meaning of adjectives separately but includes these into the meanings of names. All would indicate that these are heteronomous formations, serving the purpose of explication in the moments of material contents and existential characteristics of the meaning of name (the same role vis-ŕ-vis verbal meaning would be played by adverbs). In the case of the phrase *(the) stone*, *of stone* would be identical with the moment (2), whereas *real* — with the moment (4). This is corroborated by Ingarden's remark that adjectival names attribute one property only to the correlates. But the picture is blurred by what Ingarden says of materially, formally or existentially contradictory names. The first one would be exemplified by the name *wooden stone*, the second one — *stone being a property* — and the third — *ideal stone*. It might appear that since stone is a real thing of stone, then the phrase *wooden stone*, after being expanded into "*a real thing of stone (and) wood*" is internally contradictory because it attributes to a thing two mutually exclusive properties: stone and wooden quality. Ingarden sees the cause of contradiction in the directional indicator of an internally contradictory name does not collaborate in the same direction with the material content. It is unclear what this should mean if the material content, according to Ingarden's (and Husserl's) general position, is something directed.

A defence of Ingarden's position, given the above interpretation, is made all the more difficult by a list of moments which Ingarden singles out in verbal meaning. One might expect that for the verb *petrify* the presumed definitional equivalent should be: *a real* (4) *activity of acquiring properties* (3) *of stone quality* (2) *by something* (6).[69] Then a definitional equivalent of a sentence of the type *(The) resin petrifies* would be *The state of affairs* (3): *a real* (4) *activity of acquiring properties* (3) *of stoniness* (2) *by resin* (6). However, Ingarden does not mention the moment of existential characteristics with verbal meaning. Does the verb *cries* not preclude an ideal existence of the activity it refers to, as does the name *(the) stone*, if we do agree that ideal existence is existence at all?

For the aforementioned reasons, Ingarden's conception in its totality cannot be upheld even if some of its passages are subjected to modifying reinterpretation.

List of Roman Ingarden's works concerning language

[68] In some languages, the functions of signifying (10) and expressing (5) would be inscribed in the name thanks to the article.

[69] In some languages a finite verb has an outright, clearly marked directional factor, by means of a personal pronoun (see note 62).

1. (1924) "O pytaniach esencjalnych." Sprawozdania Towarzystwa Naukowego we Lwowie 4[3]: 119-135, Presented by Kazimierz Twardowski on 13 May, 1924.

2. (1925) "Essentiale Fragen. Ein Beitrag zum Problem des Wesens." Jahrbuch für Philosophie und Phänomenologische Forschung 7: 125-304 (and offprint). Polish original in: (1972) Z teorii języka i filozoficznych podstaw logiki, Warszawa: 327-501.

3. (1925) "O pytaniu i jego trafności." Ruch Filozoficzny 9[3/5]: 73-74. Auto-abstract of his own paper delivered on 9 May, 1925 in the Poznań Philosophical Society.

4. (1930) *Das literarische Kunstwerk. Eine Untersuchung aus dem Grenzgebiet der Ontologie, Logik und Literaturwissenschaft.* Halle: XIV+389. Polish translation by Maria Turowicz: (1960) *O dziele literackim. Badania z pogranicza ontologii, teorii języka i filozofii literatury.* Warszawa: 492. In particular (pagination following the Polish edition):
(a) Chapter IV "Warstwa językowych tworów brzmieniowych" [Stratum of language sound formations], 57-99.
(b) Chapter V "Warstwa tworów znaczeniowych", 99-247 [on semantic formations].
(c) Chapter XII § 60. "Dzieło naukowe. Proste sprawozdanie" [Scientific work. Simple report], 406-409.
(d) Chapter XIV "Miejsce dzieła literackiego w bycie" [The place of a literary work of art in being], 437-452.

5. (1933) "Formy obcowania z dziełem literackim." Wiadomości Literackie X[7]: 3.

6. (1933) "O nazwach i wyrazach funkcyjnych." Ruch Filozoficzny 12[I(10)]: 204-205. Auto-abstract of his own paper delivered on 19 Oct., 1929, at the Polish Philosophical Society in Lvov.

7. (1933) "Verbum finitum a zdanie." Ruch Filozoficzny 12, no. 1 (10): 205-206. Auto-abstract of his own paper delivered on 26 Oct., 1929, at the Polish Philosophical Society in Lvov.

8. (1936) "Analiza zdania warunkowego." Sprawozdania Poznańskiego Towarzystwa Przyjaciół Nauk 10: 17-27. Paper of 13 Dec., 1935. English translation by Fritz Kaufmann: (1957/1958) "The Hypothetical Proposition" Philosophy and Phenomenological Research 18[4]: 435-450.

9. (1936) "Formy poznawania dzieła literackiego." In: Zjazd naukowy imienia Ignacego Krasickiego we Lwowie w dniach 8-10 czerwca 1935 roku. Księga referatów pod redakcją Ludwika Bernackiego. Lwów, fasc. 3, 163-192.

10. (1937) *O poznawaniu dzieła literackiego.* Lwów: 276. German translation:

(1968) *Vom Erkennen des literarischen Kunstwerk*, Tübingen, 440. Particularly:
(a) "Wstęp", pp. 3-12 (pagination along the redaction of *Dzieła filozoficzne,* cf. below item 1).
(b) Chapter I "Przeżycia wchodzące w skład poznawania dzieła literackiego", 13-65 (as above).
(c) Chapter III "Uwagi o poznawaniu dzieła naukowego", 105-116 (as above).

11. (1937) "O tak zwanej "prawdzie" w literaturze." Przegląd Współczesny 61[182]: 80-94 and 61[183]: 72-91.

12. (1945) "O poetyce." Sprawozdania Polskiej Akademii Umiejętności 46: 183 (and offprint). Auto-abstract of his own paper delivered on 29 Oct., 1945, at the Faculty of Philology, PAU, Polish Academy of Sciences and Letters. French translation: (1953) "De la poétique." Bulletin International de l'Acadcmie Polonaise des Sciences et des Lettres 1945 l[10]: 39-42 (and offprint). Particularly:
(a) §3 "Nauki pomocnicze poetyki" [The auxiliary sciences of poetics], 290-318 (pagination along the redaction of *Dzieła filozoficzne,* cf. below item 1).

13. (1946) "O różnych rozumieniach "prawdziwości" w dziele sztuki." Zagadnienia Literackie 10[1]: 12-19 and 10[2]: 36-43. French translation: "Des différentes conceptions de la vérité duns l'oeuvre d'art." Revue d'Esthétique 2[2], 162-180. Particularly:
(a) 1. "«Prawdziwość» logiczna lub ogólniej poznawcza", 396-397 (pagination along the redaction of *Dzieła filozoficzne,* cf. below item 1).

14. (1947) "Dwuwymiarowa budowa dzieła sztuki literackiej." In: Szkice z filozofii literatury, vol. I, Łódź: 15-32. Russian translation A. Ermilova, B. Fedorova: " Двухмерность структуры литературного произведения. In: Исследования по эстетике. Москва 1962.

15. (1947) "Schematyczność dzieła literackiego." In: Szkice z filozofii literatury, vol. I, Łódź: 33-65. Russian translation A. Ermilova i B. Fedorova: "Схематичность литературного произведении.". In: Исследования по эстетике. Москва 1962.

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17. (1947/1948) *Spór o istnienie świata,* vol. 1, Kraków: PAU: 296; vol. 2, Kraków: PAU: 848. German translation: (1964) *Der Streit um die Existenz der Welt. Existenzialontologie*. Túbingen: XVI+268. (1965) *Formalontologie*, 1 Teil. *Form und Wesen*, 2 Teil. *Welt und Bewusstsein,* 454+400, Tübingen. In particular:
(a) Chapter IX. §38. "Konstytutywna natura a własność przedmiotu indywidualnego" [The constitutive nature and property of individual object], vol. 1: 370-391

(pagination along the second edition, Warszawa, 1962).
(b) Chapter XII "Forma stanu rzeczy. Stan rzeczy a przedmiot" [The form of a state of affairs. State of affairs vs. object], vol. 2, 108-146 (pagination along the second edition, Warsaw, 1961).

18. (1948) "Krytyczne uwagi o poglądach fonologów." part 1. Sprawozdania PAU 49[3]: 124-129 (and offprint); part 2. Sprawozdania PAU 49[5]: 219-224 (and offprint). Auto-abstract of his own paper delivered on 23 March, 1948, and 18 May, 1948, at the linguistic Commission of the Faculty of Philosophy, PAU, Polish Academy of Sciences and Letters.

19. (1949) "O sądzie warunkowym." Kwartalnik Filozoficzny 18: 263-308 (and offprint).

20. (1949) "O słowie jako składniku określonego języka." Sprawozdania PAU 50[4]: 181-186 (and offprint). Auto-abstract of his own paper delivered on 18 April, 1949, at the PAU Linguistic Commission.

21. (1955) "O tłumaczeniach." In: O sztuce tłumaczenia, Wrocław: 127-190 (and offprint).

22. (1958) "O formie i treści dzieła sztuki literackiej." In: Studia z estetyki 2: 343-475. In particular:
(a) "«Treść» dzieła jako ukonstytuowany w warstwie znaczeniowej «sens»dzieła i przyporządkowane jej pojęcia «formy»dzieła literackiego" [The «content» of a work of art as a «sense» of this work constituted in meaning stratum and the notion of «form» of a work of art assigned to this «content»], 412-421.

23. (1960) "O funkcjach mowy w widowisku teatralnym." [The functions of speech in a theatrical spectacle] In: O dziele literackim. Badania z pogranicza ontologii, teorii języka i filozofii literatury (trans. Maria Turowicz), Warszawa: 461-485.

24. (1962) "Bemerkungen zum Problem der Begründung." Studia Logica 13: 153-176 (and offprint). Polish translation by Maria Turowicz, (1971) "O uzasadnianiu." In: U podstaw teorii poznania, part 1, Warszawa: 428-450.

25. (1968) "Sprawa stosowania metod statystycznych do badania dzieła sztuki." Kultura i Społeczeństwo 12[4]: 35-50. Paper delivered at the History of Art. Commission of the Cracow Section of PAN (Polish Academy of Sciences).

26. (1971) *U podstaw teorii poznania*. Part 1, Warszawa: 492. In particular:
(a) Chapter II §18. "Zagadnienie poznania przedmiotów matematyki na gruncie psychofizjologicznej teorii poznania" [The problem of the cognition of mathematical objects within the psychophysiological theory of cognition], 170-194.

27. (1972) "O języku i jego roli w nauce." In: Z teorii języka i filozoficznych podstaw logiki. Warszawa: 29-119.

28. (1972) "Krytyczne uwagi o logice pozytywistycznej." In: Z teorii języka i filozoficznych podstaw logiki. Warszawa: 191-221.

29. (1972) "O sądzie kategorycznym i jego roli w poznaniu." In: Z teorii języka i filozoficznych podstaw logiki. Warszawa: 222-259.

Some of the aforementioned treatises are also available in the edition of Roman Ingarden's *Dzieła filozoficzne*:

I. (1966) *Studia z estetyki*, vol.1 (2nd edition). Warszawa: **10**: 3-268, **11**: 415-461, **12**: 271-334, **13**: 395-418.

II. (1958) *Studia z estetyki*, vol. 2, Warszawa:**22**: 343-475.

III. (1970) *Studia z estetyki*, vol. 3, Warszawa: **25**: 56-94.

IV. (1971) *U podstaw teorii poznania*, part 1, Warszawa: **16**: 407-427, **24**: 428-450, **26**: 170-194.

V. (1972) *Z teorii języka i filozofictnych podstaw logiki,* Warsaw: **2**: 327-507, **8**: 260-270, **18**: 15-28, **19**: 271-325, **21**: 120-188, **27**: 29-119, **28**: 191-221, **29**: 222-259.

Works on Roman Ingarden's views of language

1. Chwistek Leon (1932) "Tragedia werbalnej metafizyki. Z powodu książki Dra Ingardena: Das literarische Kunstwerk." Kwartalnik Filozoficzny 10[1]: 46-76.

2. Pelc Jerzy (1958) "O istnieniu i strukturze dzieła literackiego. Rozważania logiczne nad "Studiami z estetyki" Romana Ingardena, część I" Studia Filozoficzne 3[6]: 121-164 (particularly 131-138).

Works by Kazimierz Twardowski used in this paper

1. (1894) *Zur Lehre vom Inhalt und Gegenstand der Vorstellungen, Eine psychologische Untersuchung.* Wien: 112; Polish translation by Izydora Dąmbska (1965) "O treści i przedmiocie przedstawień. Dociekanie psychologiczne." In: Wybrane pisma filozoficzne, Warszawa: 3-91.

2. (1898) *Wyobrażenia i pojęcia,* Lwów: 152.

3. (1912) "O czynnościach i wytworach. Kilka uwag z pogranicza psychologii, gramatyki i logiki." In: Księga pamiątkowa ku uczczeniu 250-tej rocznicy założenia

Uniwersytetu Lwowskiego przez króla Jana Kazimierza, Lwów: vol. 2: 1-33 (and offprint).
The last two papers are also available in the collection: (1965) *Wybrane pisma filozoficzne,* Warsaw: **2**: 114-197, **3**: 217-240.

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1. (1913-1921) *Logische Untersuchungen.* Bd. 1-2, Halle: (XXII+258) + (XII+508) + (XIV+244).
2. (1913)"Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie." Jahrbuch für Philosophie und phänomenologische Forschung, Halle: Bd. 1: 324.
3. (1929) "Formale und transcendentale Logik." Jahrbuch für Philosophie und phänomenologische Forschung, Halle: Bd. 10, XII + 298.

Katarzyna Rosner

INGARDEN'S CONCEPT OF THE STRUCTURE OF A LITERARY WORK AS AN INSPIRATION FOR THE ANALYSIS OF ARTISTIC COMMUNICATION

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A few introductory explanations are due before we turn to the reflections which constitute the proper subject of this article. The term "analysis of artistic communication," as employed here, does not encompass all study of art, in which the work of art — and especially the work of literature — is defined as a simple sign or a communication consisting of many signs. Analyses of artistic communication comprise only those semiotic analyses of art which pertain to the aesthetic intercourse with a work, whether it concerns an individual or a specific circle of recipients. The introduction of this term is, therefore, dictated by the conviction that the process of intercourse with a work, referred to in traditional aesthetics as an "aesthetic experience," can be described in the language of semiotics and that such a description may be useful in overcoming certain difficulties of this aesthetics. We cannot substantiate this assumption in more detail here.[1] Let us therefore content ourselves with the indication that, while traditional aesthetics perceives the aesthetic experience as a result of a direct intercourse of the recipient with the work of art, the semiotic approach (as understood here) conceives of the process of aesthetic intercourse with the work of art as a communication

[1] I addressed the question in a paper produced for the 7^{th} International Aesthetic Congress in Bucharest in 1972, entitled "The perspectives of the semiotic method in aesthetic research." Polish text in: *Studia estetyczne*, 1973.

process, adding a third element to the work and the recipient: the language in which the communication occurs. By assuming that a work of art is a sign (or a complex communication), we concurrently assert that it is a work of art only in a definite language of artistic communication.[2] Hence, when read in two different languages of artistic communication, the same artistic creation, e.g. *Don Quixote* by Cervantes, will not be the same communication according to our understanding.

To clarify this position, we need to define two notions: that of the artistic language and that of the artistic sign (or communication). This can only be done tentatively, provisionally. We shall also limit ourselves, as much as it is possible, to defining the artistic sign since this article is principally concerned with Ingarden's concept as a source of inspiration for the characterisation of the structure of an artistic sign. It is easy to notice that an exhaustive characterisation of both notions would be practically tantamount to constructing a semiotic theory of aesthetic experience, which is not my aim here. These reflections will concern only certain introductory provisions allowing for the construction of such a theory.

With regard to the term "language of artistic communication," the following explanation will suffice: by language of artistic communication we shall understand the language in which occur *all* processes of aesthetic intercourse with works of art in a given era and within a given community of participants in a given culture, or all processes of aesthetic intercourse with works of art in a given era undertaken by a certain sub-group distinguished from among the participants of a given culture. Hence, for example, our

[2]I use the terms "artistic" and "aesthetic" more or less in accordance with the meaning given them by Ingarden, which was subsequently adopted by many aestheticians, especially in Poland. This distinction is a consequence of one put forward by Ingarden, namely that between a schematic work of art (an artistic object), which is the creation of an artist's act of consciousness, and its substantiation by the receiver in an aesthetic experience (an aesthetic object). However, our claim that the aesthetic experience always occurs in a definite language of artistic communication leads to a certain modification of the meaning of both terms. In our understanding, the artistic object is not an isolated work (an artist's creation), but a literary work in a definite language of artistic communication. The introduction of the term "language of artistic communication" into the analysis thus yields three concepts where Ingarden had used two. A work of art conceived in separation from the reception processes shall be designated an artistic creation. A work of art perceived as a sign or a complex communication in a definite language of artistic communication shall be designated an artistic object or a work of art, and its qualities — artistic qualities. A work of art substantiated in an individual aesthetic experience shall be designated an aesthetic object, and its qualities — aesthetic qualities.

contemporary language of artistic communication is the language in which we read contemporary works as well as, say, works of antiquity or medieval times. A more detailed description of this language — or, more strictly, various historical languages of artistic communication — is the main task faced by the semiotic theory of aesthetic experience. This issue is currently being addressed by many semioticians of art, such as Yuri Lotman, whose analyses of extra-textual connections in artistic structures suggest a relationship to broader structures that change in time. The usefulness of this term for the analysis of the aesthetic experience derives from the following observations. Firstly, when we establish an aesthetic intercourse with ancient works of art, our experiences are significantly and inevitably different in quality from those of thehistorical, contemporaneous recipients. We often discover new content and new qualities in them. It may also happen that ancient masterpieces are quite dead to us. This is explained by historical research; yet the frequent demands of historians of art that we pursue the same appreciation, and especially the same aesthetic experience of ancient works of art as occurred in their day seems entirely utopian for a variety of reasons. Secondly, we enter aesthetic intercourse with certain pre-existing attitudes of an axiological nature (systems of values, hierarchy of values), or a cognitive and emotional nature, with definite expectations regarding the functions of works of art derived from the role assigned to art in the entire system of culture. Those attitudes and expectations, which constitute a *shared property* of contemporaneous participants in the same culture or of a certain sub-group in the set of participants in that culture, bestow certain shared features on their aesthetic experience of various works of art, both ancient and contemporary. It seems that the fact that individual aesthetic experiences are determined by collective, social facts is an important feature of those experiences. Hence a general theory of aesthetic experience should not fail to note that the shape of an aesthetic experience is always a testimony to the fact that the person undergoing the experience belongs to a certain human community or treat this phenomenon as being of secondary importance.

Thus the proposal to introduce the term "language of artistic communication" signifies the intention to describe all social and historical factors that determine the course of aesthetic contacts between a work of art and the participants in a given culture — or a smaller cultural community — as a coherent system which stands in the same relation to the concrete experience of an individual representative of this culture or community as language does to the act of communication.

It is evident from what has already been said that the definition of an

artistic sign cannot be formulated outside of a definite, historical language of artistic communication. Beyond the processes of artistic intercourse, it exists neither as a sign, nor as a quality. However, a question might emerge as to the properties of the structure of artistic creations which enable them to function as signs or complex communications in many languages of artistic communication. This is precisely the issue we are going to address. Ingarden posed a similar question in his analysis of the structure of literary works and other artistic creations. Among other tasks, his analysis was supposed to explain which element in their structure allows them, in the course of the processes of aesthetic experience, to lead to the constitution of many non-identical aesthetic objects.

At this stage of our examination, we can only offer a very general definition of our understanding of the structure of an artistic communication. A literary work is a complex, multi-level semiotic structure. In a literary work, the natural language — the fabric of literature — is structured on various levels: from phonology to such macro-levels as a stanza in a poem or a chapter in a novel. This structuring leads to modifications of word meaning inside the literary structure, of the function of designation, and, consequently, of the assertive function of sentences. Literary sentences, particularly the so-called fictional sentences, do not assert anything about the extra-artistic reality (they are not judgements); instead, they constitute a fictional represented world structured as an iconic model, meaning that in a given language of artistic communication it may point to a certain extra-literary reality. The represented world is not the verbal, but the iconic semiotic level of the literary work; this means that it owes its sign character to the similarity to certain specific real objects and states of affairs. One should emphasise that an iconic sign is not necessarily non-conventional. The aforementioned relationship of similarity is also distinct from the semiotic function of designation: for instance, an iconic sign similar to a concrete real object may be a general sign, but it may also point to objects to which it does not stand in a relation of similarity. This is because the meaning of a sign is co-determined by internal relations between the elements of the represented world and by the selection of a definite language of artistic communication.[3]

It must be added here that, when speaking of the semiotic understanding of a literary work and an aesthetic experience, we mean only those characterisations which capture the *entire* literary work as a sign structure and

[3]The views presented in this passage are developed and substantiated in my book *O funkcji poznawczej dzieła literackiego* [On the Cognitive Function of a Literary Work of Art] (Rosner 1970).

the *entire* aesthetic experience as an act of communication. Conceptions that ascribe sign character only to some levels or strata of a literary work, or descriptions of an aesthetic experience that assign the character of acts of communication only to some of its phases or elements, are therefore not semiotic.

These findings enable us to conclude that the semiotic understanding of a literary work and an aesthetic experience postulated here differs significantly from Ingarden's proposal. For Ingarden, neither was an entire literary work a sign or a complex sign structure, nor was the aesthetic experience, taken as a whole, a communication act. Ingarden was not interested in the literary work as a means of communication. He studied its mode of existence or, more precisely, used the example of a literary work to analyse a certain variation of the intentional mode of existence and the structure of derived purely intentional objects.

This analysis of Ingarden's concept of a literary work is not designed to negate or even downplay those differences. We embark on it with the conviction that, regardless of the differences, Ingarden's aesthetics, particularly certain key conceptual distinctions arrived at in the process of an ontological analysis of a literary work and later generalised to other areas of art, can be translated into the language of semiotic aesthetics, and enable the formulation of many problems related to the definition of the artistic sign with a hitherto unimaginable precision.

We shall thus consider, in turn, (I) the fundamental differences between the perception of a literary work in Ingarden's thought and in semiotics (as understood here); (II) the kinship between Ingarden's definition of a literary work and a certain type of definition of a literary work as a sign structure; (III) Ingarden's description of the structure of represented objects and the stratum of signification as a source of inspiration for the semiotic theory of a literary work; (IV) Ingarden's non-psychologist and non-physicalist understanding of a literary work as a source of inspiration for the semiotic theory of a literary work; (V) and Ingarden's theory of derived purely intentional objects as an ontological description of cultural signs (including artistic signs). Finally, (VI) we shall attempt to answer the question why Ingarden, whose philosophical and aesthetic analyses, in my opinion, pave the way for the analysis of a literary work as a sign structure and of the aesthetic experience as an act of communication, himself rejected such understandings of a literary work, and in particular rejected the sign-interpretation of the represented stratum in the aesthetic experience.

This article is a shortened fragment of a larger work; hence the afore-

mentioned issues shall be discussed only in outline. It should be stressed that many of the findings are only of a preliminary nature, since I discuss only a part of Ingarden's aesthetic output, namely the concept of the structure and the mode of existence of a literary work, bypassing other aspects, especially his analysis of the cognition of and aesthetic intercourse with a literary work, which is of particular interest for us. This, however, is a set of issues that require a separate analysis.

I.

Before we proceed to the analysis of more detailed issues, it is necessary to discuss the fundamental difference between the semiotic and the ontological concept of a literary work, and the source of certain similarities between them. If we contented ourselves with the belief that, while from the ontological perspective the work is a kind of entity, the semiotic approach perceives it as a linguistic statement or, in the most general manner, as a means of communication, we would assume that the difference between them largely derives from the types of questions posed in the face of the same object — intersubjective and identical in many communication acts or, as Ingarden would say, in many acts of cognitive or aesthetic intercourse with a literary work. It seems, however, that the differences between these two approaches mainly result from a difference in the very object of study. An "artistic communication" is not the same object as an "artistic creation," whose mode of existence is examined by Ingarden.

The semiotic approach to the literary work as we understand it is an approach that proscribes the analysis of the work in separation from the very communication acts for which the work in question serves as a means. The analysis of artistic communication sets out from a certain act of communication, or rather a multiplicity of acts of communication performed by various persons at varying times and places; acts which differ in many ways as to their progress and content. The object or, to use a more cautious formulation, impulse causing all those acts is the same artistic creation — for instance, *Don Quixote* by Cervantes. The far-reaching differences, not only between the acts, but above all between the sets of acts of communication performed in distant eras and cultural milieus prompt the question whether all those recipients were indeed dealing with the same artistic object (artistic communication), or whether, perhaps, it should be assumed that the same artistic creation was, in the course of history, read as a sign (or rather as a complex communication) in various languages of artistic communication.

This assumption will not explain all discrepancies between the acts of communication for which the same artistic creation serves as a means. The acts of reception and their creations differ from one another even when they are performed in the same historical era and by members of the same cultural community (in the same language of artistic communication). To define a literary work as means of artistic communication is to resolve the problem of the intersubjectivity of an artistic sign within a given language of artistic communication and to answer the question of its identity in various distinct acts of communication. Finally, it must be explained how the structure of an artistic creation allows it to survive its own era, to remain a sign or a complex communication in many successive languages of artistic communication across history.

It is plain to see that the aforementioned major problems of the semiotic approach were formulated and partially solved in Ingarden's analyses, if in a different language. For Ingarden — in contrast to the semiotic approach as understood here — the primary object of investigation is an isolated work (artistic creation), and the fundamental issue is not the question of the way in which it fulfils various communicative functions, but rather that of its structure and essential properties independent of those functions. Of course, this does not mean that Ingarden failed to notice the problems connected with the multiplicity of manners of establishing an intercourse with artistic creations, that he disputed the need to investigate those issues in both diachronic and synchronic perspectives; some of them he addressed in the analysis of the relationship between the work and the substantiation, others in his reflections regarding the life of a literary work. Nevertheless, in his approach, the question of cognition or aesthetic substantiation remains secondary to ontological analyses in two ways: firstly, it is derivative, in both the logical and the chronological sense; secondly, the concept of the structure of a work, pursued earlier, in the process of analysing an artistic creation in isolation, is the only source for the criteria of assessment of the correctness (adequateness) of various ways of establishing an intercourse with the artistic creation. This methodological stance was underscored by Ingarden himself in the final sections of *The Literary Work of Art*, where he discussed the problem — marginal for him, but central to the semiotic approach — of the so-called life of a literary work: "We have considered [the literary work] as something detached from the living intercourse of psychic individuals and hence also from the cultural atmosphere and the various spiritual currents that develop in the course of history" (Ingarden 1973b: 331).

Each of the methodological perspectives presented here is exposed to

different threats. Ingarden's method is threatened by the excessively rigorous evaluation of the various modes of intercourse with the work, if their correctness is evaluated only from the point of view of the assumptions about its structure developed in an analysis of the isolated work (artistic creation). The attitude which I have called semiotic, on the other hand, may lead to the elimination of all criteria of the correctness of reception if the artistic sign and the language of artistic communication are not clearly defined and the criteria developed from those definitions.

Interestingly, Ingarden's characteristic gesture of opening of the analysis with an examination of the object in isolation also typifies his considerations on language. For example, let us recall how he approaches the sentence in *The Literary Work of Art*. Ingarden considers, in turn, "(1) what a sentence is in itself, (2) what it performs, purely of itself, as an objectivity constructed in a particular manner, (3) what services it performs for psychic individuals in connection with their lives and experiences" (Ingarden 1973b: 107). The point of departure for an analysis of the process of linguistic communication is thus reached only in the last question.

The other fundamental difference between Ingarden's approach to the literary work and the semiotic one lies in the fact that, as I have already mentioned, a literary work as a whole is not a sign or a complex sign structure in Ingarden's view. Ingarden simply does not conceive of language other than the language of words and sentences. At the same time, since he perceives a literary work as a multi-layered creation comprising, apart from two language strata, also the stratum of appearances and the stratum of represented objects, it cannot be treated as a sign or communication, even if the stratum of meaning undoubtedly plays a constitutive role in this approach.

II.

Apparently, there are two types of definitions of a literary work as a sign structure. The first type, comprised of definitions which we shall describe as narrower, describes a literary work as a purely linguistic (verbal) creation. Narrower definitions may distinguish many levels of artistic structuring of the language. They may also consider that this structuring leads to a modification of the meanings of particular words or larger linguistic structures. However, they do not distinguish signs that are not words, especially iconic signs, in an artistic literary communication.

The second, broader type of definitions, encompassing, among others, our understanding of the structure of a literary communication, are developed,

like Ingarden's definition, in the belief that the reduction of a literary work to two linguistic strata — i.e. sounds and meanings — or to the structure of the verbal artistic text, makes it impossible to explain the wealth of its features and functions. Like their narrower counterparts, broader definitions characterise the literary work as a multi-layered and multi-functional semiotic structure, but apart from the verbal semiotic levels, they also distinguish extra-verbal, especially iconic levels. Signs at those levels, e.g. represented objects and events, differ from verbal signs because their meaning is not purely conventional, but is co-defined by the relationship of similarity between them and certain objects outside of the work, such as actual persons or events. For the broader definition to be accepted, however, it must be tied to such an understanding of the term "represented world in a literary work" — and particularly with such a characterisation of its mode of existence and structure — which would justify its intersubjectivity for numerous recipients. Only a world thus defined can be ascribed sign functions, in particular the function of a communication composed of iconic (presentational) signs. This requirement is not fulfilled by the definition of a represented world as a world imagined by the creator or the recipient.

Although Ingarden does not accept the semiotic interpretation of the represented world in an aesthetic experience which, he says, gives justice to the literary work, his definition of a literary work is doubtless more akin to a broader than a narrower definition. This is caused chiefly by his belief in the multi-layered structure of the literary work, his conviction that it cannot be reduced to two linguistic strata if its features are to be fully apprehended, and that all strata of a literary work are intersubjective. In his polemics, Ingarden also frequently opposed the identification of represented objects as meaningful (verbal) creations of a higher level, proposed by Henryk Markiewicz (1966, chap. III), among others; here, he pointed to the difference in function and structure of the object stratum. At the same time, he ascribed a decisive role in fulfilling the artistic functions of a literary work to this stratum. At times, this role causes the stratum of represented objects to overshadow all the remaining strata.

Since Ingarden did not treat the stratum of appearances or the stratum of represented objects as signs, he spoke not of understanding, but of cognition of a literary work, not about interpretation, but substantiation. Yet it is precisely this approach that brings his analysis of the process of establishing an intercourse with a work closer to ours since Ingarden's "cognition" approaches the literary work as an integral whole without contrasting its linguistic strata with its object strata. For Ingarden, the uniform character

of the processes of intercourse with the work, comprehensive in spite of their complexity, derives from the coherence of the mode of existence of the apprehended object. A literary work as a whole, along with all elements of its linguistic and object strata, exist in a derived purely intentional manner. The process of cognition of and of the aesthetic intercourse with a literary work should be adjusted to the specificity of the object, to its intentionality in accordance with Ingarden's epistemological stance.

In the analysis of various methods involved in cognition, reconstruction, or aesthetic substantiation of a derived purely intentional object such as a literary work — or indeed, any other work of art — Ingarden points out that although intercourse with a work begins from certain sensual processes, it must nevertheless constantly exceed them; this is because a work of art is not a physical object, even as it is founded in a certain physical object. These considerations lead him, for instance, to question the distinction between the aesthetic experience (an experience of a work of visual art) and a literary experience, proposed by Władysław Tatarkiewicz (1935) who believed that in the former case the object is open to sensual experience. As Ingarden rightly observes, "In order to apprehend the work of art, we must always go beyond the sense perception which serves as point of departure, and beyond the real things given in sense perception" (Ingarden 1973a: 221), and the distinction perceived by Tatarkiewicz is only one of degree. This perception, exceeding that which is given sensually, is characteristic already of the preliminary operations, those most closely linked to the existential foundation of a literary work; we do not, for instance, perceive written signs in their individual features, but rather capture their typical graphic or sound forms; we also reach beyond our perception by adding meanings. Establishing an intercourse with other (non-phonetic) strata of a literary work, we also constantly reach toward that which is not given — not via perception, but in an intersubjective manner. This phenomenon, visible in the process of actualisation of meanings, is particularly typical of processes directed towards the object strata; in an intercourse with appearances we actualise them, reaching beyond what is explicitly stated in their schematic form which constitutes an element of the work. The process of reconstruction and substantiation of the represented world follows a similar course. The process of intercourse with a literary work is, therefore, at every stage and in reference to every stratum, a constant transcendence of what is in one way or another intersubjectively given — and yet, this transcendence is never entirely unconstrained, being regulated by the intersubjective skeleton of the literary work itself. It should be noted that this account of the manner of

apprehension of derived purely intentional objects and aesthetic intercourse with them is similar to the processes described in semiotic analyses as the passage from a statement with a complex, multi-layered structure to its understanding or interpretation.

III.

Finally, Ingarden's concept is brought closer to our semiotic approach by his description of the structure of the represented objects themselves, which in many aspects practically paves the way for their semiotic interpretation. Let us point out a few elements of this description.

Thus, for instance, if an object is to be a representative (iconic) sign of some other object, and thus not a fully conventional sign, it must be (at least in the case when it constitutes a finished statement, and not an element of a complex statement) similar to its referent, but at the same time different from it. Ingarden's represented objects fulfil this requirement due to their conventional nature, which radically distinguishes them from the relevant real objects. Semiotic analysis also raises the following question: whether the style of a work depends on the signs it consists of and their arrangement. What is at stake here is thus no longer the sign — referent relationship, but inter-sign relations, without which one could not speak of any stratum of the work as a statement in a definite sign system. Ingarden's thought includes observations which inspire a solution to these problems. For instance, in his *The Cognition of the Literary Work of Art* he writes: "The choice of places of indeterminacy varies from work to work and can constitute the characteristic feature of any given work as well as that of a literary style or of an artistic style in general. The so-called literary genres can also differ greatly in this respect" (Ingarden 1973a: 51-52).

One could make the general observation that the concrete features of represented objects identified by Ingarden include none that would rule out the possibility of their semiotic interpretation. Moreover, Ingarden's definition of a literary work fulfils the fundamental condition of a semiotic interpretation of the object strata: it ascribes intersubjective character to those strata along with the entire work. It also ascribes the same mode of existence to the represented strata as to the linguistic (verbal) signs: derived purely intentional existence.

A semiotic description of the represented world can be inspired not only through the characterisation of the structure of the object strata, but also by the analysis of the meaning stratum. The original theory of meaning outlined by Ingarden reveals analogies between the meanings of conventional

and representational language more forcefully than any other theory; it shows that the structures of meanings of verbal terms also depend on the category structure of that which those terms refer to. Ingarden distinguishes a number of elements in the meaning of a word, allowing for subtle distinctions between the structures of meaning of particular linguistic categories. Thus, for instance, the meaning of a term consists of the material content of the term, which defines the qualitative endowment of the referents. Within the material content, Ingarden observes both constant and variable factors; the material content of a term is therefore as schematic as the content of derived purely intentional objects (such as represented objects). The concept of variables is crucial for the definition of the meaning of a given term; their presence in the material content "allows us to resolve various important logical problems, e.g., the problem of ordering various 'concepts' [...] according to the degree of their generality" (Ingarden 1973b: 68). Hence the assumption that the degree and type of systematisation of representative (iconic) signs fulfils an analogous role to that of variables in the material content of the term — it defines the degree of generality of particular signs.

The meaning of a term, and also of linguistic terms — distinct categories — also includes the definite formal content which "performs a *forming* function" (Ingarden 1973b: 70) with respect to the intentional equivalent of a given word. Thus the expressions of a language, like representative signs, not only define the material endowment of their referents, but also place them in certain formal structures: structures of the object, action etc. Ingarden demonstrates that the same material content will constitute a new meaning if bound to a new formal content; he also points out that the formal element of meaning is usually obscured by the material element, though it may shift to the foreground in certain uses of the word.

The concept of the formal element of meaning (formal content), like that of the moment of existential characterisation and the moment of existential position, seems particularly inspiring for a semiotic analysis of the literary representative signs. When, for instance, we follow Ingarden in saying that the represented world is made up of objects, people, and processes, when we point to any represented object, it is precisely its formal structure that is brought to the foreground. To indicate that verbal meanings are endowed with an analogous factor is to point to another similarity between seemingly very distant signs, confirming that the quest of the proponents of a broad understating of the term "language" to create a general theory of meaning (encompassing various types of signs) is realistic.

IV.

Considering Ingarden's analysis of the represented stratum and the meaning stratum as a source of inspiration for the semiotic approach to the represented world, we now face detailed problems. However, a more general question arises: how, in spite of the significant differences between Ingarden's approach and the semiotic approach to object of study emphasised above, concrete analyses by Ingarden may, and indeed do, inspire the semiotic study of literature.

In my opinion, this is caused by Ingarden's non-psychologist and non-physicalist understanding of a literary work. We will not address Ingarden's anti-psychologist attitude here; it is undoubtedly a common feature of the school of phenomenology and does not determine the originality of Ingarden's philosophy. Yet the anti-psychologist attitude was fully developed and justified in philosophy of literature and in the extensive concept of the structure of a literary work only in Ingarden's reflections.

Thus, the kinship between Ingarden's analysis and semiotic analysis lies in the fact that both the question of the mode of existence of a work and that of the meaning of the literary artistic sign from any stratum require for the work to be distinguished from the creative experiences and conceptualisations which bring the work into being as well as the creator's intentions and also the experiences of reception and conceptualisations emerging in the process of aesthetic intercourse with the work. The significance of this problem for Ingarden is obvious: it is the problem of the impossibility of reducing derived purely intentional objects to mental objects. In our understanding of the semiotic approach, the question is equally vital: a literary work, if it is to be defined as a sign (a complex communication), must have an intersubjective meaning, identical for all the recipients reading this work in a given language of artistic communication. But it is beyond doubt that neither creative nor receptive experiences and images are endowed with intersubjectivity.

We shall not discuss here in any detail the criticism of various psychological definitions of a literary work presented by Ingarden in his *Literary Work of Art*: the definition identifying the work with the experiences of its author or with the cognitive object which is the result of those experiences, or with the receptive experiences or their result — the aesthetic substantiation. Ingarden's arguments for rejecting those definitions are identical in each case: none of those objects can be ascribed with all the features we identify in a literary work, and above all none of those definitions explains the literary work's persistence through time and its identity for many psychical objects — hence none presents a literary work as an intersubjectively accessible object. As has already been mentioned, Ingarden's analysis is concerned with the

literary work; however, it is distinct from the psychical processes that create it both in its mode of existence and its features. The intentionality of the work has nothing to do with its identification with the artist's purpose or intention. The finished work resembles the vision of its creator insofar as he managed to present and materialise it intersubjectively in the literary substance.

The significance of the non-psychologist understanding of the artistic sign for semiotic analysis is borne out by the fact that the Anglo-Saxon semiotic school has reached the same conclusions independently from Ingarden and in a different language. The distinction between the meaning of the work and the intention of its creator and particular interpretations is upheld by almost all representatives of this school who engage in theoretical considerations. This tendency is best represented by the well-known articles by Monroe Beardsley and W. K. Wimsatt discussing the two errors of psychologism in literary studies: the intentional fallacy (consisting in the identification of the work with the intention of its creator) and the affective fallacy (consisting in the identification of the meaning of the work with the experiences of its reader). For Ingarden, who opposed the biographic fixation of literary studies in Poland, the former was of paramount significance. For Anglo-Saxon criticisms, greatly indebted to the affective approach of I.A. Richards, it was fundamental to separate the work from its influence on the reader. Yet, though the points of departure were different, the entire scope of the problem was understood in both cases.

In his considerations, Ingarden made short work not only of psychologism, but also of the physicalist understanding of a literary work. In this dispute, too, the criteria that lead to the rejection of the physicalist definition are the same criteria that must arise when the possibility of artistic communication is considered. While the psychologist definitions oppose the notion of the intersubjective artistic sign, the physicalist definition rules out the treatment of numerous acts of reception — concerning various physical objects often endowed with different physical features (e.g. various copies of the same book) — as acts relating to the same literary work. The same intentional object may therefore have various physical foundations, just like the same sign can be recorded in numerous ways.

V.

Another feature which brings together the two approaches under consideration is the aspiration to present the entire sphere of artistic objects in an integrated manner. Both provide findings that can easily be extended to a

broadly conceived sphere of human culture, even if each defines the latter differently. In both cases we are thus dealing with a tendency toward creating a system of concepts broad enough for the same fundamental scheme to apply at least to all works of art. Analysing a set of objects perceived by semiotics as a set of artistic signs from different strata, Ingarden ascribes the same mode of existence to all of them. Works of art and all their strata and elements exist in the derived purely intentional manner.

For Ingarden, works of art — like all intentional objects — are creations of acts of consciousness to which they owe their existence and essence. However, while primary purely intentional objects (e.g. cognitive objects) are created directly by someone's act of consciousness or a conjunction of such acts, derived purely intentional objects "owe their existence and essence to formations, in particular to units of meaning of different orders, which contain a 'borrowed' intentionality" (Ingarden 1973b: 118). Besides, derived purely intentional objects are not being autonomous from acts of consciousness; however, "this ontic relativity of theirs refers directly to the intentionality immanent in the units of meaning and only indirectly to the intentionality of the acts of consciousness" (Ingarden 1973b: 126). Since, as Ingarden shows elsewhere, the acts ascribing meaning to linguistic expressions are social and intersubjective, objects whose being is founded in those acts differ considerably from primary purely intentional objects. If the equivalents of the simple acts of assumption (primary purely intentional objects) are immediately accessible to only one subject of consciousness — namely the one that produces them — then the derived purely intentional objects have an intersubjective character, i.e. "they can be intended or apprehended by various conscious subjects as identically the same" (Ingarden 1973b: 126).

Intentional objects are characterised by a double structure; apart from the structure of the intentional object, defined in the act of intention calling that object to life and by the manner in which this act is fulfilled, they are also possess the attribute of content that has its own subject of attributes. This content "is defined by an imperceptible content of the relevant act of assumption (or the content of a multiplicity of such acts), and the variety of the moment of capture of being present in the given act" (Ingarden 1961: 45). Thus, any object represented in a literary work, for instance the title character of Adam Mickiewicz's *Pan Tadeusz*, has the structure of an intentional object, and only its content defines it as an individual and real object: a young nobleman endowed with features ascribed by the content of those sentences of Mickiewicz's poem which refer to him. The duality of structure — the presence of both the content and the subject of content

within the intentional structure — is characteristic for all intentional objects. However, as a result of their detachment from concrete acts of consciousness, derived purely intentional objects are subject to certain modifications of their content, "of which one in particular is important for the structure of the literary work. It inheres in a certain *schematization* of their content" (Ingarden 1973b: 126). In a manner of speaking, objects represented in a literary work inherit their schema from other derived purely intentional objects, with regard to which they are ontologically heteronomous — from the meanings of words and senses of sentences. If, therefore, a primary purely intentional object "achieves a vividness and richness in its content and in time is provided with diverse feeling and value characters which surpass what is projected by the mere meaning content of the simple intentional act" (Ingarden 1973b: 127), the derived purely intentional object "loses both its imaginational intuitiveness and its manifold feeling and value characters, since the full word meaning, too, can contain only what corresponds exactly to the content of a simple intentional act" (Ingarden 1973b: 127). In the process of creating a derived purely intentional object — that is, the work of art in Ingarden's understanding — from the primary object of imagination (e.g. the vision of the creator) only a skeleton, a scheme, remains, which may regain the primary completeness and vividness only in a substantiation by the recipient. Thus, the schematic character of a derived purely intentional object is the price paid for the intersubjectivity unattainable to direct equivalents of acts of consciousness.

One possible reading of the theory of derived purely intentional objects identifies it as a possible definition for the mode of existence and structure of products of culture — also when culture is treated as a complex and multi-level system of signs. We should not forget, however, that this theory contains a phenomenological concept of ontic foundations of those products (founded in consciousness, physicality, and idea). Ontic foundations guarantee the persistence of products of culture through time, their intersubjective identity to many recipients, and explain the process of their emergence. It is worth noting that the concept of ontic foundations of intentional objects is burdened with many theoretical difficulties, which Ingarden himself realised in later years — a fact borne out in the introduction and footnotes to the 1960 Polish edition of *The Literary Work of Art*. These difficulties, however, do not undermine the significance of his critique of psychologism in literary studies in the same book.

Where ontological analysis is mostly interested in the intentional structure of products of culture, the semiotic approach focuses on the structure

of the content of those products, as well as various functions which derived purely intentional objects may fulfill precisely because of their intersubjective, though schematic, content. Ingarden does not apply the concept of ontic heteronomy (non-autonomy) only to the relationship between intentional objects and the acts of consciousness in which they are founded. In the case of derived purely intentional objects, their direct ontic foundation is found in other ontologically heteronomous objects; thus, objects represented in a literary work are purely intentional objects, but their direct ontic foundation is contained in the senses of the relevant sentences of the work. The concept of ontic heteronomy may therefore prove useful for a semiotic analysis of the connections between various strata of a literary communication.

Both the ontological and the semiotic approach question the distinction — emphasised by many aestheticians — between the aesthetic experience of works of visual arts and the aesthetic experience of literary works. Both approaches reject the claim that the object of the receptive experience in visual arts is given directly to the senses. Since the semiotic approach treats the work of art as a sign, the key question continues to be the intersubjectivity of the sign, not the manner in which it is given. Moreover, if the work of art is a sign, its understanding in every case extends beyond what is given. Similarly in the ontological approach: in the case of both literature and visual arts the artistic creation is an intentional object, and the process of reconstruction of sthat object unavoidably leads us beyond the endowment of the physical ontic foundation of that object.

VI.

The question can be rightly asked: if Ingarden's concept is so close to the semiotic approach in details and so inspiring in solving its problems, why was he so strenuously opposed to the sign interpretation of object strata in the aesthetic experience, which led him to reject the understanding of a literary work taken as a whole as a complex sign structure. A careful perusal of various passages from his works devoted to this issue leaves no doubt that this was precisely his position. For instance, when considering two possible meanings of the "representation" of extra-artistic objects by represented objects, he writes: "In both cases — as befits the art of literature — our attention is focused on represented objects *alone*" (Ingarden 1966b: 376-377). Elsewhere, when analysing the role of represented objects in a literary work of art, Ingarden states that it limited only to their pure presence in the work and to the revelation of metaphysical values. Discussing the ascription of the function of representing extra-literary objects (such as real objects),

he writes: "but all those instances are conditioned by an incorrect way of reading and have little in common with the structure of the work itself" (Ingarden 1960: 316). To interpret a literary work as a statement carrying a certain cognitive and ideological content means, in Ingarden's opinion, to "overlook the actual function of literary works of art" (Ingarden 1960: 367).

In my opinion, in spite of Ingarden's intention evident in all his considerations pertaining to this issue, he failed to prove that the semiotic interpretation of object strata is irreconcilable with what Ingarden names doing justice to the work and its particular structure in an aesthetic experience. This is because, firstly, Ingarden's rejection of various semiotic functions as irrelevant to the work (not essentially connected with its particular structure) is equally legitimate to a rejection of the aesthetic function in his understanding of this term, since the particular structure that he describes pertains to works that are both valuable and worthless (incapable of initiating an aesthetic experience). After all, in his *Literary Work of Art* he writes: "It is not at all obvious [...] why there should be no 'bad', no worthless literary works. It is our intent to demonstrate a basic structure that is common to all literary works, regardless of what value they may have" (Ingarden 1973b: 7-8). Thus the aesthetic values, like cognitive or ideological values, do not belong to the essential features of a work. Furthermore, valuable works are also endowed with those values only in a potential sense. This is because Ingarden's "essential structure" is the structure of a work apprehended in isolation from the processes of cognition or experience of which it may be the object. On the other hand, aesthetic values emerge only in a concrete subjective approach, namely in the aesthetic experience.

Ingarden was aware of this difficulty. In his *Literary Work of Art*, he described the premise of his analysis: "[It] follows from the conviction that both [valuable and worthless literary works of art] are endowed with a certain basic common structure which has to be analysed in the first place [...] In the process of future research, we will find if that basic common structure cannot by itself offer a basis for an analysis of the value of a literary work of art; then a new essential structure will have to be uncovered, a structure peculiar to valuable works, distinguishing them radically from their worthless counterparts" (Ingarden 1960: 28). This, however, Ingarden did not achieve.

Secondly, it may be demonstrated that Ingarden, who considered the treatment of represented objects in an aesthetic experience as signs representing — i.e. pointing to something outside the work — to be an unjustified overstepping of the intentional object, himself ascribes representative functions to them when he spoke of metaphysical qualities. In his *Literary Work*

of Art he writes: "The most important function that represented objective situations can perform is in exhibiting and manifesting determinate metaphysical qualities" (Ingarden 1973b: 293). And yet, he realises himself that manifesting metaphysical qualities does not belong among the features of a literary work. Above all, however, the fact that the contemplation of metaphysical qualities in an aesthetic experience influences our actual life in specific ways, which Ingarden notes, seems to confirm that we are dealing with a peculiar form of representation here, as well. Regarding metaphysical values, Ingarden writes: "But when the moment that they become real arrives, their realization, or better, they themselves in their countenance, become too powerful for us, they grip and overpower us. We do not have the strength, and we do not have the time, as it were, to lose ourselves in contemplation; yet there lives in us, for whatever reasons, an inextinguishable longing for precisely this losing ourselves in contemplation" (Ingarden 1973b: 293). This longing is assuaged by art. But aesthetic contemplation of metaphysical qualities is so crucial precisely because those are the same values we encountered in real life.

Careful analysis of passages that focus on this issue leads to the conclusion that, although Ingarden does not introduce the term himself, metaphysical qualities are nevertheless *represented* or indicated by the fictional object situations because they exist outside of the literary work. As Ingarden states: "Metaphysical qualities are not simply moments of the represented world [...]. If this were really so, it would of course be impossible to speak of the special function of the object stratum" (Ingarden 1973b: 296). If so, the intercourse with metaphysical qualities in an aesthetic experience presupposes a certain semiotic interpretation of the represented world, and let us add — an interpretation in a definite language of artistic communication. As an element of the work, object situations make it possible to apprehend something that belongs neither to the object stratum nor to the work taken as a whole.

Thus we arrive at the question why Ingarden accepts the aesthetic function in his understanding and the function of revealing metaphysical qualities, but rejects the function of represented objects consisting in representing real objects if all those functions are equally unessential in an ontological analysis, dependent on transgressing the artistic creation (fulfilled in substantiations), and, finally, since both the metaphysical function which he accepts and the representative function which he rejects require a semiotic interpretation of the elements of the represented world (both owe their fulfilment to the fact that the contents of the work point to something that does not belong to

the work).

Admittedly, on the grounds of ontological analysis all those postulates are equally arbitrary. Attempts to describe a literary work "taken out from the historical process" have led to the absolutisation of certain ways of apprehending literature which are as historical as all the others — namely, an absolutisation of the language of artistic communication of the period of Modernism.

Ingarden's claim that the represented objects and situations reveal metaphysical qualities does not belong to the description of artistic creation itself. This is because artistic creation, until it becomes a means of communication, does not point to and does not reveal anything that does not belong to the work. In reality, Ingarden's position on metaphysical qualities, like, for instance, Miriam's understanding of the symbol, is really a certain postulate directed at the creators and recipients of art; it is a declaration of support for a certain poetics and a certain language of artistic communication. Expressing this postulate in the manner of a description, Ingarden creates the false impression that it is the only truly artistic poetics and the only language of artistic communication. Similar views were formulated by Miriam, who wrote: "Great art, meaningful art, immortal art was and always is symbolic" (Przesmycki 1967: 106).

Ingarden ascribed the same mode of existence to a literary work that he ascribed to linguistic meanings, but at the same time he rejected the perception of a work as a sign structure. Indeed, so long as a literary work is treated as an extra-historical entity, all features and functions with which it is endowed as an object of historically conditioned human experience are of a non-essential, "accidental" character from the point of view of ontological analyses. Derived purely intentional objects are endowed with functions and qualities as cultural objects; this means that those functions can be specified only when such an object is defined as a sign in a historically specific cultural system.

It seems that Ingarden denied object strata semiotic functions in theory because he shared the Modernist assumption that the perception of literature with which they are bound up draws the recipient away from the work itself and turns that work into a means to extra-aesthetic ends. He developed his aesthetic with the intention of providing a theoretical justification for this assumption, to deploy an analysis of the essential structure of the work considered in isolation, discarding semiotic interpretations as not justified by the structure of the work and demonstrating that the perception based on the understanding of that structure is only an aesthetic perception in the

narrow meaning of the term, that is, directed toward the search for receptive satisfaction rooted in the harmonious consonance of qualities produced in the process of aesthetic experience.

This understanding of the aesthetic, and particularly literary experience may be put to question by the claim that in reality, recipients of literature almost never look to it only for immanent qualities. This argument, however, does not affect Ingarden's concept; Ingarden did not derive his criteria of adequacy of aesthetic experiences from analyses of actual ways of experiencing art, but from an ontological analysis of their objects, the artistic creations. Hence I attempted to demonstrate that, firstly, Ingarden's norms pertaining to aesthetic experiences do not arise from his ontological analyses, because the experience he postulates is no more determined by the structure of the work than the reception based on the semiotic analysis of the object stratum; and secondly, that Ingarden himself does not follow his own postulates consistently, as demonstrated by his analysis of the revelation of metaphysical values.

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Our considerations pertained to the differences and similarities between Ingarden's approach to the literary work and that of semiotics. They have led us to the conclusion that, while the differences derive mostly from the treatment of the analysed object (in isolation or within the abundance of its variable cultural functions) and the divergent characterisation of the represented stratum (because Ingarden maintains that, in the aesthetic experience, the represented objects do not point to anything from outside the work), similarities result from the analogous definition of the analysed object (unencumbered by the criteria of value) and the attempts to present the analysed object as intersubjective and identical in the many acts of aesthetic experience (artistic communication). A further kinship derives from the resulting non-psychologist and non-physicalist understanding of the work of art. Finally, both approaches define the sphere of artistic objects in an integral manner. For Ingarden, this integrality grows out from the common mode of existence of all artistic creations and all their strata and elements, whereas in the semiotic approach, this source lies in their sign character.

The kinship between Ingarden's analysis of a literary work and the semiotic analysis makes ontological theory of the literary work a valuable source of inspiration for the semiotic characterisation of an artistic sign (artistic communication). It must be emphasised, however, that these considerations and the conclusions they lead to are only tentative, because — in keeping

with Ingarden's intention and quite against my own postulates — I have treated the literary work as an isolated object (artistic creation), and not as a sign in a definite language of artistic communication. This is a consequence of the fact that our considerations pertained to only a fragment of Ingarden's analyses — namely, that which concerns the mode of existence and the structure of the literary work itself. Meanwhile, we have disregarded the reflections on cognition that constituted their continuation, and particularly the so-called "life" of literary works, that is, issues linked directly with the aesthetic experience. It must therefore be assumed that many of the issues considered here will have to be re-examined in view of the entire body of Ingarden's writings on aesthetics; such a confrontation would have to make greater use of the notion of the language of artistic communication. It would also probably demonstrate that the differences between Ingarden's approach to the aesthetic experience and the semiotic approach are more fundamental than in the case of the structure of the literary artistic creation. These are, however, issues which require separate consideration.

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THE COGNITIVE STATUS OF SEMANTICS

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Semantics is the most controversial part of modern linguistics and of the logico-philosophical theory of language. It is generally agreed that it should provide satisfactory explication of the traditional concept of the meaning of linguistic expressions, but the assumptions and methods used in striving for this goal are so diversethat the very existence of the common subject of study seems to be doubtful; the term "meaning" is plainly not understood in the same way by authors of semantic writings. The diversity of efforts to build its theory can be explained by the richness and complexity of problems concerning important functions of language; one can hope that the problems will be systematized step by step, and their mutual connections will become clear. However, so far no proposed version of semantics has been widely accepted even as a component of a future theory of meaning.

Many competing suggestions as to the proper tasks and the most fruitful conceptual apparatus for semantics were discussed over thelast few years. Objections raised against them concern mainly their feasibility and/or explanatory value; some critics question the very possibility of semantics as a scientific theory. Paradoxically, at the same time the term "semantics" became popular in the humanities; it is often used metaphorically in descriptions of the extra-linguistic phenomena of human culture (in contexts like "semantics of circus" etc.).

The purpose of this paper is to show the place of semantics in a formal theory of language and to argue for the feasibility of its tasks. I will consider the most serious objections raised against the two main versions of semantics as part of such a theory: the one developed in thelast ten years in Chomsky's linguistics and the one inspired by logical semantics of formalized languages

of science. Moreover, I will try to show the relations between these two 'schools' which sometimes seem not to understand each other.

By a formal theory of language we mean a theory *in spe* which will explain the phenomenon of human linguistic communication in this sense of the term "to explain" in which it is used in general methodology of empirical sciences (in contrast to its psychological sense "to evoke the feeling of understanding or being familiar with"). We say that a theory explains the observed facts and regularities of a given kind if sentences stating them are logical consequences of this theory (usually taken together with some well-grounded domains of our knowledge). A theory that explains our earlier observations allows us to predict the corresponding future observations and is tested by them. The predictive value of a theory is the main measure of its cognitive value.

In the case of a complex phenomenon such as human linguistic communication, it is very important to delimit clearly the kind of facts and regularities to be explained. A theory of language that would explain this phenomenon to the extent that it would enable us to build machines that fully imitate people in acts of communication belongs to the world of mirages. There are two main kinds of restrictions one should impose on the tasks of the theory that seems feasible with respect to the present state of our knowledge. First, one should ignore the many properties of acts of communication which have their source in human biological nature (such as limitations of memory etc.) Second, one should take acts of communication in isolation from their extra-linguistic context — from all the external circumstances in which they occur. The latter restriction is rather radical since in real acts of communication the interpretation of our linguistic signals usually depends on many elements of the situation in which they are used, on our concurrent gestures and facial expressions, the suppositions concerning common knowledge, etc. Ignoring this fact in a formal theory of language narrows down the scope of its explanatory power but seems to be necessary (Stanosz 1974).

In other words, a formal theory of language describes acts of linguistic communication as a type of cooperation between machines, apart from their physical features and from any extra-linguistic stimuli they could receive or produce. The theory is supposed to reconstruct the rules of acting like machines able to communicate with each other in 'empty external situations' — rules which make it possible to transfer information merely by means of linguistic behaviour. If it carries out this task, it will be treated as a simplified model of the real mechanisms of linguistic communication between people, i.e. as the idealized explanatory description of these acts.

In linguistics a similar program for the theory of language was formulated by Noam Chomsky. His works on general syntax were an important contribution to theexecution of this program. Then some other linguists tried to complete it by providing anappropriate formal semantics.

Chomsky defines language as an infinite set of ordered pairs $<s,I>$, where s is a phonetic representation of a signal and I represents its semantic interpretation. It is in accordance with the intuitive concept of language at least in the supposition that to know a given language is to be able to understand and to produce unlimitedly many signals belonging to this language.[1] The set of rules that generate all pairs $<s,I>$ of a language as used in a given community is called its grammar. To reconstruct the grammar of a particular language is the task of its theoretical description, while to formulate general conditions fulfilled by grammars of all human languages is the task of the general theory of language (Chomsky 1972: 125—126).

The above-mentioned restrictions imposed on these tasks are characterized by Chomsky in terms of the distinction between linguistic competence and linguistic performance. He says that the actual interpretation of a given expression (sentence) as used in a given situation is the result of its linguistic meaning, various extra-linguistic factors, such as the set of beliefs of a speaker and a receiver of this expression, and some of their biological properties. Chomsky defines competence in a given language as the ability of its 'ideal' user to connect linguistic meanings with all the expressions of this language — meanings assigned to them by its internal rules. The grammar of a language is just the reconstruction of the ideal competence in it, abstracted from the observed cases of linguistic performance which constitute the empirical basis of grammatical description of this language (Chomsky 1965: 4, Chomsky 1972: 115—117).

Theoretical reconstruction of grammar internalized by theusers of a given language is called its "generative grammar", to stress the explicit, formal character of such a description (as different than traditional grammars which are notoriously fragmentary, appealing to our intuition). The generative grammar has to contain three components: syntactic, semantic, and phonological. The first is supposed to define an infinite set of pairs $<D,S>$, where D is the deep structure and S isthe corresponding superficial structure of sentences of a given language. The deep structure of every sentence is

[1] Chomsky does not agree with the view that by using a language we reproduce finitely many signals according to some customary patterns of communication. He argues that producing and understanding new sentences is the most essential feature of human language; cf. Chomsky 1965: ch. 1.

represented by its underlying phrase marker, the superficial structure — by its superficial phrase marker. The underlying phrase marker contains syntactical information needed for semantic interpretation of a given sentence; the superficial phrase marker contains information needed for its phonetic interpretation. The task of the semantic component of a grammar is to assign semantic interpretation to the deep structure of every sentence; the task of the phonological component is to assign phonetic interpretation to the superficial structure of every sentence.

Providing the general definitions of terms "deep structure", "semantic interpretation", "superficial structure", and "phonetic interpretation" is the task of general theory of language or universal grammar. The last two terms are easier to define, since phonology is much more advanced than semantics, which abounds in unclear and often mutually inconsistent intuitions concerning the concept of meaning — the methods and the explanatory scope of its theory; furthermore, arguments have been raised against the very possibility of defining this concept in a legitimate way, based on empirical evidence.

Following Chomsky's general ideas, several linguists attempted to develop the scheme of the structure of the semantic component of generative grammars and to formulate the rules which lead to the semantic interpretations of sentences. There are some differences between these attempts but their conceptual apparatus and methodology are almost the same.[2] The semantic component of a grammar is supposed to contain a dictionary, i.e. the list of meanings of the morphemes of a given language, and the so-called rules of projection, which lead from the information on the deep structure of a given sentence and the meanings of morphemes occurring in it to the semantic interpretation of this sentence. The meanings of morphemes are sets of so-called semantic markers, which are the primitive symbols belonging to the theoretical vocabulary of semantics.[3] The list of meanings of morphemes occurring in a sentence and the information on the relations holding between the morphemes — the syntactic atoms of the sentence — allow us, by consecutive application of the rules of projection to its more and more complex parts, to assign the meaning to the sentence as a whole. Therefore,

[2] Its first version was presented by Katz and Fodor (1963). Its new, extended version is expounded in Katz 1972.

[3] Semantic markers are represented by some English words put into parentheses, e.g. (Male), (Physical Object), but these words are to be treated just as 'suggestive labels' of the common meaning components of some class of morphemes. Such meaning components are assigned to morphemes on the basis of various properties of expressions containing these morphemes (e.g. on the basis of the inferential connections between sentences that contain them). See Katz 1972: 38—42.

the meaning of a sentence is represented by its semantically interpreted hidden phrase marker. The semantic interpretation of a sentence is the totality of properties and relations which are ascribed to this sentence by its semantically interpreted hidden phrase marker and by the definitions of the appropriate semantic concepts. The list of these concepts is not closed; it can be extended. At the present stage of the theory it contains several concepts referring to such semantic properties and relations as: synonymy, entailment, univocality, ambiguity, semantic deviance, redundancy, analyticity, syntheticity, antonymity, self-contradiction, and some others.

The acceptability of this theory[4] (let us call it Katz's semantics) as a part of the formal theory of language depends on at least three factors. Firstly, it depends on the assessment of the technical aspects of such a structure of the semantic component of the theory, as well as the adequacy of the proposed definitions of semantic terms; secondly, on the scope of linguistic phenomena one wants described and explained in semantics; and thirdly, on the methodological and philosophical requirements one imposes on the conceptual apparatus of the theory of language.

The semantics in question was criticized with regard to all of these three points. Many objections were raised against the proposed structure of semantics and its constituents (especially against the concept of asemantic marker). The possibility of defining the concept of entailment in terms of vocabulary and rules of projection was questioned. The proposed definition of the concept of analyticity was shown to be inadequate (some philosophers doubt if the concept may be given any adequate definition).[5]

One can agree that the technical defects or gaps in Katz's semantics are inessential or can be eliminated without any loss to its formal character, provided that it gives a correct theoretical description of some important mechanisms of the linguistic competence of the native speakers of a language. In other words — provided that by using Katz's semantic component of the theory of language, one can 'automatically' predict some important properties and relations holding between expressions of a given language and manifesting themselves in the real acts of linguistic communication.

As for the scope of phenomena to be described and explained by Katz's semantics, one can find different declarations made by its authors and supporters. In their early works the task of semantics was characterized in

[4] The above description of the structure of the semantic component of generative grammar is, of course, simplified; it ignores some details which are inessential from the methodological point of view.

[5] Katz (1972) replies to various objections raised against this theory.

negative terms: "Linguistic description minus grammar equals semantics" (the term "grammar" is used here in its narrow sense, meaning syntax and phonology) (Katz and Fodor 1963: 172). Thus, semantics should continue the explanatory description of the phenomenon of linguistic communication — the one given by syntax and phonology — up to the point where the formal theory of this phenomenon ceases to be possible, i.e. to the line of demarcation between linguistic competence and linguistic performance. Examples of problems left by grammar to semantics include: differences of meanings between sentences that have the same syntactic structure; identity of meanings of some sentences having different syntactic structures; deviant character of some sentences that are syntactically correct; ambiguity of some sentences that are not syntactically ambiguous, etc. On the other hand, semantics is not supposed to deal with aspects of the interpretation of a sentence which depends on the context of its use or the knowledge of a hearer assumed by a speaker.

In later works there are some positive accounts of the tasks of Katz's semantics. It should explicate the pre-theoretical concept of meaning in the same sense in which physics explicates the pre-theoretical concept of matter. To carry out this task one has to answer many questions which contain the term "meaning" or its derivatives referring to various properties and relations of expressions. The necessary condition of adequacy of these answers is their conformity with the intuitive judgments made by the users of a language in clear cases (i.e. when the judgments are unanimous); in unclear cases semantics can — as any other theory — make arbitrary decisions. The intuitive judgments concerning the various meaning properties and relations of expressions are to constitute the empirical data for the semantic component of grammar and the basis for testing it: the theoretical semantic predictions can be verified by comparing them with the intuitive judgments made by native speakers of a given language (Katz 1972: 54—55).

Both of these accounts of the tasks of Katz's semantics seem to be unsatisfactory. The former overestimates its explanatory power, while the latter ascribes to it the goals which are irrelevant for the theory of language. Let us begin with the latter. If semantics were to explicate the common concept of meaning, then it would describe the naive meta-theory of a given language, not the linguistic competence of its users. Being able to qualify sentences as ambiguous or not, mutually synonymous or not, analytic or synthetic, etc., presupposes quite different knowledge than to be a fluent user of the language in which these sentences occur. Even if these terms belong to the common vocabulary of the linguistic community, the way people use them

is no more relevant for semantics than the way in which any other word of the language is used. The concept of meaning mentioned at the beginning of this paper, the one that requires explication, is the traditional, philosophical concept of meaning — the concept which refers to the way people understand expressions (especially sentences) of their language, manifesting itself in acts of their linguistic communication, not in their describing the expressions in pre-theoretical, quasi-semantic terminology.

This does not imply that there are no empirical phenomena that can be referred to by the concept of semantic interpretation as defined in Katz's semantics. In fact, what a semanticist does when she describes her native language does not require asking other people questions containing semantic terms. She formulates a part of the theory of her own linguistic competence, assuming that she shares it with all native co-users of the language. If this assumption is true, what kind of phenomena can be described and explained by her theory?

Native speakers recognize, of course, the ambiguity of some sentences of their language even if they do not call them ambiguous; it manifests itself in empirically accessible differences of the way people interpret such sentences. Similarly, even though a speaker does not know the distinction between the analytic and the synthetic, she applies different criteria of affirmation and justification to sentences of these two kinds, referring either to their very structure and the meanings of component words, or also to facts described by them. Generally speaking, there is empirical evidence for the semantic properties and relations which Katz's semantics attempts to ascribe to expressions of a natural language, but they must be identified by observing acts of language use and some aspects of the non-linguistic behaviour of speakers and hearers that accompanies these acts. The problem is whether the semantics in question does it adequately and — if it does — whether it fulfils the purpose of completing a formal theory of language as built over its syntax and phonology.

Let us remember that almost every sentence of a natural language can be interpreted in a different way, depending on the various elements of the external and psychological situation of the participants of the act of communication in which the sentence is used. As a consequence, a sentence which is ambiguous when used in some circumstances can be unequivocally interpreted in some others; two sentences which are synonymous (being paraphrases of each other) when used in some situations can be differently interpreted in some other situations; and so on. For obvious reasons, the semantic description of a language cannot take into account all such depen-

dencies; it abstracts from the influence exerted by the extra-linguistic factors on the interpretation of a sentence. In other words, it describes the meanings of sentences as used in the situations which are neutral with respect to their interpretation; I have called them the 'empty' situations. But in practice such neutral situations rarely happen in human linguistic communication. That is why finding empirical evidence for the semantic part of the theory of language is not an easy task. To overcome this difficulty semanticists often make use of their own imagination and linguistic intuition. Still, the result of their work is empirically founded provided that the properties and relations ascribed by them to every sentence of a given language constitute the core of its meaning — in the sense that knowing this core is the necessary condition of understanding the sentence in any situation in which it can be used. But this meaning core of a sentence cannot be identified with its interpretation; usually the former is at most a close approximation of the latter.

Thus, semantics can explicate only some aspects of the role played by linguistic expressions in the real acts of communication. These aspects are, however, important enough to be worthy of explication. First of all, if there are sentences which are interpreted the same way in all situations of use (or in more than one, but in a limited number of ways), then the semantic description of such sentences can be the full description of their actual interpretations. In other cases the description is partial. It attempts to isolate the constant elements of meanings of expressions from the diversity of their interpretations in different situations of use. Apart from a semanticist's linguistic intuition, there are many facts that help to find such constant elements of meanings. In particular, it is reasonable to assume that if the speaker does not know the situation in which her message will be interpreted (as in the case of a written text intended to be read by unknown persons at different times and places), then she tries to express it in the linguistic form that has the same interpretation in every situation. The actual interpretation of a sentence chosen with such an intention may be considered its meaning core (or simply its meaning), as it is as close as possible to the interpretation of this sentence in the empty situation of its use. By describing so construed meanings of expressions of a given language, semantics delimits the role of extra-linguistic factors in human linguistic communication. These limits are sharp enough to make it possible to explain various aspects of this phenomenon — for example the fact that even the most detailed knowledge of the situation in which a sentence of an unknown language is used does not make us capable of interpreting this sentence. What remains to be shown is that knowing the meaning (as described by Katz's semantics) of a sentence

is sufficient to interpret this sentence at least in some situations of its use.

It seems that this was the initial goal of the semantics developed in Chomsky's school. The semantic component of the theory of language was supposed to 'imitate' native speakers in their way of interpreting sentences of a given language — the way manifesting itself, more or less directly, in the corresponding acts of communication. This formulation of the tasks of semantics is much closer to the general idea of generative grammars as describing the linguistic competence of users of a language, i.e. the knowledge that they must possess if they understand infinitely many sentences of the language and are able to say in it whatever they want to — the knowledge shared by all adult native speakers independently of their being able (or unable) to express it (Chomsky 1965: 18—19). On the other hand, the distinction between linguistic competence and linguistic performance, used to limit the tasks of the theory to the reconstruction of purely linguistic knowledge of the speakers, makes semantics free of the burden of explaining the ways in which the external situation can modify the interpretation of a sentence; what is expected is the description of the interpretations of sentences of a given language in the empty situation of their use.

But Katz's semantics does not meet this expectation. It seems that its authors were not aware of the fact that the conceptual apparatus introduced by them is too poor to make it possible to achieve the goal stated in their early declaration concerning the tasks of the semantic component of the theory of language. One can suppose that when they realized that, they formulated their goal in the way discussed above, i.e. in a more modest but still inadequate manner.

The generative grammar containing the semantic component of Katz's type can — after all needed modifications and supplements that do not essentially extend its conceptual apparatus — describe the native speakers' linguistic competence only in part. The 'upper limit' of its possibilities is much lower than the one demarcated by the situational independence of the interpretations of sentences. What it ignores is the information conveyed by sentences, and as long as this aspect of linguistic competence is ignored, the fundamental role of language — its role as the means of communication, i.e. of transferring information — remains unexplained.

To illustrate this inadequacy, let us consider the case of two persons, X and Y, who hear or read (in the empty situation) the Polish sentence:

(1) *Jan jest spolegliwym przyjacielem Piotra.* [*John is a trustworthy/compliant*

friend of Peter].[67]

X is a native speaker of the Polish language and can speak English; *Y* is an Englishman who has never learned the Polish language in a natural way but has at his disposal its generative grammar containing the semantic component of Katz's type. To what extent both of them interpret (1) in the same way?

They recognize the phonological and syntactic structure of (1). They also notice that (1) is ambiguous: in one meaning it implies the sentence *Piotr polega na opinii Jana* [*Peter relies on John's opinion*], in the other meaning it implies the sentence *Jan polega na opinii Piotra* [*John relies on Peter's opinion*]. Therefore, they can realize that the second meaning of (1) is in a sense the converse of its first meaning. Besides, *X* and *Y* are able to identify logical relations holding between some Polish sentences among which (1) occurs, for example, the relation of entailment between the conjunction of (1) and (2):

(2) *Jan jest człowiekiem, a wszyscy ludzie są omylni.* [*John is human and all human beings are fallible*.]

and the sentence (3):

(3) *Jan jest spolegliwym przyjacielem Piotra i jest omylny*. [*John is a trustworthy friend of Peter and is fallible*.]

Moreover, both of them can qualify (1) as a synthetic sentence and ascribe to it some other properties defined in the semantic component of the grammar. But *Y* understands (1) in a much weaker sense of the word "to understand" than *X* does; in the usual sense of this word *Y* does not understand it at all, because he does not grasp the information which is conveyed by (1) in any of its meanings. Only *X* knows what kind of observation can confirm (1) in the first or in the second of its meanings, so only *X* can have reasons to believe or to doubt what the sentence says. It is only *X* for whom (1) can be a substitute for some kind of life experience. Finally, only *X* can translate (1) (as well as (2) and (3)) into some other language, including *Y*'s native language.

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[7] In its original meaning the word *spolegliwy* can be translated as *reliable*, *trustworthy*. However, some people use it as synonymous with *posłuszny*, which means *compliant*, *obedient* (*to somebody's will*) (note added in English translation).

All these differences are not mutually independent; their common cause is that natural linguistic competence includes the knowledge of the truth conditions of sentences, while the artificial linguistic competence provided by the generative grammar with Katz's semantic component does not include such knowledge. Thus, as the description of a natural language, generative grammar so conceived is incomplete; in fact, it is a description of some class of (existing or possible) natural languages which are structurally similar but different in respect to the information conveyed by their particular sentences. In other words, what is called here 'language' is a non-interpreted language, while every natural language is an interpreted language.

In the past some linguists and philosophers of language tried to analyze and to describe the properties of linguistic expressions that are ignored by the generative grammar. Russell and Morris attempted to do that in their conception of language as the substitute for — or the extension of — our sense perceptions: when we hear and understand the sentence *It's raining*, our reaction is the same as if we looked through a window. Bloomfield stressed the function of language as the lengthened arm: the substitute for our organs of reacting (his famous example of appetite for an apple: we can ask somebody else to pick it instead of picking it ourselves). Ajdukiewicz's concept of the empirical rule of a language and Quine's concept of stimulus meaning are some explications of these ideas.

However, the formal theory which would explicate the concept of informational content of a sentence of natural language has never been created. One of the obstacles was the radical empiricism of its early visions. Their common assumption was that one can ascribe some array of sense perceptions (or some kind of arrays of sense perceptions) to each sentence of a natural language as the meaning of this sentence; the assumption seems untenable, and the transition from the corresponding concept of synonymity of sentences to the concept of synonymity of their component words is rather unfeasible. It seems that an attempt to build such a theory can succeed only if its philosophical assumptions are as neutral as possible, limited to the most general and formal theses of ontology and the theory of knowledge.

Let me sketch the way in which, striving for this goal, one can use the referential conceptual apparatus of the logical semantics of formal languages. To give the referential description of the language J, we have to assign an object belonging to the model of J (i.e. the fragment of the world one can speak about in J) to each of the simple extra-logical expressions of J. These correlates of expressions, called their denotations or extensions, are — depending on the syntactical category of an expression — individuals

(elements of the universe of discourse), sets of individuals, sets of ordered pairs of individuals, and so on. The assignment is done in the meta-language J' of J, together with the rules which lead from the denotations of simple component expressions to the denotation of complex expression depending on its structure. Finally, we state how the truth value of simple sentences depends on the denotations of their component expressions, and how the truth value of compound sentences depends on the truth value of their component sentences. In this way we define in J' the concept of being a true sentence of J in its chosen model.

It is the definition of truth that can be designated to the role of reconstructing this fragment of linguistic competence which makes it possible to use a language as the means of transferring information. One knows what information is conveyed by each of the sentences of his native language because one knows (1) what object is denoted by each of the simple expressions, (2) how to identify the denotations of complex expression, and (3) what relation must hold between the denotations of the components of a given sentence if the sentence is to be true. In other words, to learn a given language one must learn to recognize the truth conditions of each of its sentences in the model which is supposed to be described in this language. That explains why we accept or refuse to accept some sentences when we know, by experience, the real states of affairs, and why the sentences of our language can substitute our direct cognitive contacts with the world we live in.

Let us notice that the truth conditions of all extensionally isomorphic sentences (i.e. sentences built in the same way with simple expressions having, correspondingly, the same denotations) are identical. One can assume that information conveyed by a given sentence is represented by its extensional structure, i.e. by the arrangement of the denotations of its simple components, which 'follows' the structure of this sentence. The concept of the set of all extensional structures of the sentences of a given language can be the explication of the common concept of the set of states of affairs which are describable in this language.

Recognizing the state of affairs described by a given sentence is always the necessary condition, but not always the sufficient condition for understanding this sentence. We can admit, in accordance with intuition, that there are sentences which have the same extensional structure but are understood in a different way, i.e. differ in meaning. For example, assuming that the expressions "mortal" and "fallible" are coextensive, the sentences:

(4) *Nobody is immortal.*

(5) *Nobody is infallible.*

describe the same state of affairs, but their meanings are different. That's why we refuse to accept (5) as a conclusion of (4).

The logical theory of language describes this aspect of understanding sentences by means of the so-called meaning postulates or axioms of a given language; when added to the definition of truth, the set of meaning postulates of the language completes its semantic description. Two sentences can be called synonymous (having the same meaning or intension) in the weak sense of the term if and only if the biconditional having them as arguments is not only true but also follows from the meaning postulates of a given language, i.e. it is an analytic sentence of this language. In the strong sense of the term, two sentences are synonymous if and only if they describe the same state of affairs and, in addition, the biconditionals formed from their corresponding simple components are analytic sentences of the language in question. The sentences (4) and (5) are not synonymous in any of these senses. On the other hand, (5) is weakly synonymous with the sentence:

(6) *Nobody's opinions can be taken for granted.*

and strongly synonymous with the sentence:

(7) *Nobody is omniscient.*

assuming that *For every x, x is infallible if and only if x is omniscient* is an analytic English sentence (cf. Carnap 1947: 56, 59).

The theory of meaning based on the concept of meaning postulates seems to play a similar role as Katz's semantics (though the former seems to be more elegant that the latter). But none of them can pretend to be a full description of the semantic competence of native speakers of any language. The core of the semantic competence is the ability to recognize the truth conditions of all sentences of a given language.

Natural languages differ from formal languages in some respects (for example, the former but not the latter are characterized by lexical ambiguity and referential vagueness of their expressions). Therefore, the logical semantics requires some adjustments if it is used in the description of natural languages. On the other hand, Quine's criticism of the concepts of synonymity, analyticity, and meaning applies to the theory of formal languages as well as to the theory of natural language — including Katz's semantics. In this case, Quine's thesis says that there are no criteria for reconstructing the dictionary of a given language (Tartaglia 1972).

However, all arguments set forward against Quine's criticism of the logical theory of meaning can be used in defence of the semantics developed in Chomsky's school. Let us add to them the following reflection. The sets of meaning postulates in the logical theory of language, as well as the dictionaries in the semantic component of the generative grammar, are means of the theoretical description of the phenomenon of linguistic communication. Scientific value of these means depends on the empirical adequacy of the description in which they are used. It seems obvious that two descriptions which differ with respect to their conceptual apparatus can be empirically adequate to the same degree (although we may prefer one of them as more transparent or more economic). Different sets of meaning postulates or different methods of constructing dictionaries can be equally acceptable. If so, the question which sentences of a given language are *really* analytic sentences, or what dictionary description is the only *proper* dictionary description of a given language, makes no sense.

Finally, let us note that — contrary to a wide-spread opinion — the methodological status of semantics is not inferior to the status of syntax in this respect: indeed, we have neither the general concept of sentence nor the universal method of discovering the *real* syntactic structures of expressions. The difference in the level of development between syntax and semantics is natural in the case of two disciplines, one of which is supposed to continue the accomplishments of the other.

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Witold Marciszewski

SEMANTIC ANALYSIS OF INTERROGTATIVES AS A BASIS FOR HEURISTIC RULES

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The introduction to the most detailed and comprehensive Polish monograph on the subject of interrogative logic contains the following passage: "Constructing a logical theory of interrogatives is an undertaking that would be both interesting and scientifically relevant. One cannot help but agree with Vernoux [...]: <<*tout l'effort de l'esprit humain consiste à poser des. problèmes et les résoudre*>>" (Kubiński 1970: 9). The author of one German monograph is equally categorical: "*das Stellen von Fragen eines der entscheidenden Momente des schöpferisehen Denken ist*" (Loeser 1968: 11). Similar views are also expressed by Cackowski, who analyzes interrogatives from a philosophical and methodological perspective (Cackowski 1964).

It seems, however, that the issue is not so obvious. There are two basic points one needs to consider. Firstly, we cannot disregard the fact that a system of interrogative logic is still being made, whereas the logic of indicatives and the problems of their substantiation have been discussed for more than 2500 years. If we assume that the development of logic went hand in hand with the development of science, it might appear odd that none of the great logicians and methodologists such as Aristotle, Galileo, Bacon, Descartes or Mill devoted much attention to the issue of interrogative logic or the methods of formulating questions. This fact may be treated as an allegation against contemporary logic; however, this allegation would only be justified if we were able to prove that interrogative logic can indeed elevate scientific research to a higher level, just as the logic of deduction advances

the methods of substantiation and the theory of statistics provides us with methods for verifying certain types of hypotheses.

The second dilemma is related to the discrepancies between the idiogenic and the allogenic theory of interrogatives. Allogenic theories transform interrogatives into other types of utterances: imperatives or declaratives; whereas the idiogenic theory presents questions as a unique types of utterances that cannot be reduced to any other kind. If the allogenic theory is correct, then any utterance that may be expressed in the form of an interrogative may also be presented as a declarative sentence. In this case, a system of interrogative logic, although useful as a method of formulating certain methodological directives, is not indispensable from a theoretical point of view; it may be translated into the language of the classical logic of declarative utterances. This would provide a partial explanation for the fact that the great pioneers of methodology did not discuss interrogatives *ex professo*.

The author of the present article believes that interrogatives may indeed be presented as other types of utterances, but not in the way suggested by contemporary allogenic theories. Questions are not translatable into one specific type of utterance, e.g. only declarative sentences or imperatives. Interrogatives are of a more complex construct — analysis reveals that they may be reduced to at least three types of utterances: a) sentences in the language in which the question is formulated (let us call it language P); b) sentences expressing the basics of opinions held by the inquirer which may also be interpreted as declarative sentences in meta-language P; c) evaluative, imperative or optative sentences.

Let us illustrate this with an example. The interrogative *Does the Yeti exist?* contains a descriptive element, i.e. that which may be expressed as a declarative sentence (the premise for our question): the Yeti exists or does not exist. Its epistemic element, i.e. that which pertains to knowledge or opinions, may be presented as the declarative implied by the question, namely that there is no certainty to the fact that the Yeti exists or that the inquirer is not sure whether there is such a creature. Its volitive aspect, which may be expressed as an imperative, a norm or an evaluation, is the appeal for clarification: *Let it be known whether the Yeti exists* (an imperative) or *It ought to be known whether the Yeti exists* (norm) or *It would be good to know whether the Yeti exists* (evaluation). The second and third elements may be jointly referred to as modal components, since epistemic logic and deontic logic are different interpretations of certain systems of modal logic (Koj 1971: 103).

The analysis of interrogatives provided by the present article seems

very superficial and incomplete if compared to comprehensive and well-known works on the subject of erotetic logic. The reason lies in the limited aim of this study: it is only to ascertain the outlines of the method of transition from a logic of interrogatives (which focuses on the logical form of questions) to a methodology of interrogatives which defines scientifically relevant principles for forming questions. These very principles will have their use in the process of problem-oriented teaching which, at least according to some authors, constitutes a reconstruction of the process of research (Okoń 1971: 154-160).

Methodological principles may be formulated on the basis of the analysis of both the descriptive factor, i.e. declarative sentences included in the interrogatives, and the second factor which can be called pragmatic, because it expresses certain features of the inquirer: the lack of given information and the wish to acquire it. The scope of the present article makes it necessary to narrow the analysis to the descriptive factor, which may be analysed semantically and has been discussed by other scholars interested in erotetic logic.

A SEMANTIC ANALYSIS OF INTERROGATIVES

Each interrogative has a corresponding set of declarative sentences, i.e. the set of possible answers. The person asking the question is aware that at least one of the possible replies is true, yet does not know which one it is. This means that, from a semantic point of view, an interrogative contains a disjunction of the answers which may be produced in relation to this question. This descriptive, or semantic, aspect of interrogatives which has the structure of a disjunction shall be called the ASSUMPTION of the question.[1]

From the perspective of logic it is important to distinguish between tautological and non-tautological assumptions. A logical tautology does not contain any information; it is a manifestation of utter lack of data: everything is yet to be decided. Such interrogatives are called closed questions and are formed by reversing the order of the subject and the operator in the declarative sentence. The tautology that constitutes the assumption of such interrogatives is the law of excluded middle. If we ask X: *Did you polish your shoes today?* the assumption of this question is the following utterance:

[1]The concept of an "assumption of a question" and the terms "closed questions" and "probe questions," which shall be used in the course of the present article, were introduced by Kazimierz Ajdukiewicz in his pioneering work on the theory of questions entitled *Zdania pytajne* (1938) included in the first volume of his selected works published jointly as *Język i poznanie* (1960).

X polished their shoes today or X did not polish their shoes today. Such a form does not rule out any of the mutually exclusive possible answers (in this case there are two). If it does not exclude anything, then it does not provide any information. Thus, the form is a manifestation of an utter lack of knowledge about the inquirer.

An alternative answer which does not constitute a tautology, i.e. excludes some possible answers, does provide information. It delineates the boundary between knowledge and lack of knowledge and expresses the inquirer's wish to acquire additional information. Such interrogatives are called probe questions. They are formed using various interrogative particles such as *where*, *when*, *why*, etc. The division between closed questions and probe questions is exhaustive and allows us to group all questions as belonging to either one or the other category; no interrogative may belong to both of these types at once. This division is based on the form of the question (inversion vs. interrogative particle). These differences in the external form of interrogatives result from a semantic dissimilarity in the informational content of the question: closed questions provide no data, whereas probe questions include some data and indicate the nature of the missing information.

The large number of interrogative particles appearing in probe questions and the resulting diversity of sub-types within this category may be reduced using the following method. Examples of each of the sub-categories may be translated into interrogatives that include the particle *which*. This proposition is easy to prove, if we use a certain formal language to formulate interrogatives. The language of primary logic, i.e. the language of predicate calculus in which the quantifiers bind only individual variables seems sufficient for this purpose. This language would, naturally, have to be supplemented with appropriate extra-logical terms from the field our interrogatives will refer to.

The assumption of a probe question may be translated into this language as an existential sentence, i.e. a generalised disjunction. The quantifier in this sentence binds a variable which has a limited scope, indicated by the interrogative particle: for example the word *where* suggests that the answer is to be chosen from a set of locations, the word *when* points to a set of time periods, the term *how* implicates a set of methods or ways, etc. Thus, all probe questions may be transformed into interrogatives that contain the interrogative particle *which*. *Where* is equivalent to *in which place*: the aim of this question is to indicate one element of a set of places, e.g. the place in which Napoleon lost his final battle. The particle *when* is equivalent to *in which time period* etc.

Let us present this in a more precise form using the following example

of a probe question: *Where is Halle located?* The assumption of this interrogative is that there is a place (i.e. some element x in a set of places which we shall call set P) in which Halle is located and that there is a place in which Halle is not located (the relation of being located somewhere shall be signified by the symbol L). Thus, the interrogative may be presented as:

(F.1) $$(Ex)\ (P(x)\ \&\ L(Halle,x))\ \&\ (Ex)\ (P(x)\ \&\ \neg L(Halle,x)).$$

The second element of the conjunction can also take the following form:

$$\neg(x)\ (P(x) \rightarrow\ L(Halle,x)).$$

It ought to be remembered that the full assumption of an interrogative is a conjunction composed of an affirmative part, called the positive assumption of a question, and the negating part, referred to as the negative assumption. Only in this form does an assumption fully reflect the data included in the interrogative. Let us use another example. The question: *When does the next philosophical convention* (K) *take place?* expresses the thought that such a convention is planned, i.e. there is a period of time (Z) which corresponds to the duration (D) of the philosophical convention. The interrogative also implies that a convention of philosophers is not an event which takes place continually, during all given periods of time. If it was implied that a philosophical convention is a continual occurrence, no inquirer would ask the question, as the implication of the interrogative would in itself be the answer. Let us present the analysed interrogative in the following form:

$$(Ex)\ (Z(x)\ \&\ D(K,x))\ \&\ \neg(x)\ (Z(x) \rightarrow\ D(K,x)).$$

Sometimes the interrogative particle may be more specific, in which case the question contains more implied information: such an interrogative eliminates more possible answers than a less specific one.[2] If we ask: *Where in Europe is Halle located?*, we eliminate all non-European regions, thus providing our interlocutor with the information that Halle is indeed a European city; the missing piece of information is related to its precise location within Europe. The set in which European regions correspond to the territory of all countries in Europe is finite and contains a relatively small number of elements. This allows us to enumerate practically all possible answers. In our

[2]On the issue of data implied in interrogatives see: Giedymin 1964; Hintikka 1968.

symbolic representation, the set of state territories in Europe as E and the set of all state territories as P. We will now be able to demonstrate a method for comparing interrogatives on the basis of the amount of information they contain. This simple method is based on the present semantic analysis and involves comparing the number of elements in the disjunctions that constitute the assumption of the analysed interrogatives. For this method to be applicable, the sentences constituting the elements of the disjunction must be logically independent, i.e. neither of them may be implicated with the others. The example we have chosen fulfills this condition, it is therefore possible to compare the interrogatives:

(F.1) *Where is Halle located?*
(F.2) *Where in Europe is Halle located?*

P represents the set of all state territories and E stands for all state territories located in Europe. If we calculate the elements of each of these sets, we will be able to present the disjunctions which are positive assumptions of these interrogatives as a conjunction of disjunction and not as existential quantifiers; such a form of notation allows us to evaluate the amount of information on the basis of the number of elements in the disjunction. Let us assume that set E comprises k elements, whereas set P contains $k+m$ elements (where $m \neq 0$ and E is included in P). We then have the following sets:

$$E = (x_1, x_2, \ldots, x_k) \qquad P = (x_1, x_2, \ldots, x_k, x_{k+1}, x_{k+2}, \ldots, x_{k+m}).$$

Then the question (F.1) may be presented in the following form (the letter H stands for Halle):

$$(\text{F.1}^+) \qquad (L(H,x_1) \vee \text{L}(H,x_2) \vee \ldots \vee \text{L}(H,x_k)) \,\&\, \neg\, (x)\ (E(x) \rightarrow\ L(H,x),$$

Similarly, (F.2) is transformed into:

$$(\text{F.2}^+) \qquad (L(H,x_1) \vee \text{L}(H,x_2) \vee \ldots \vee \text{L}(H,x_k)) \vee \text{L}(H,x_{k+1}) \vee \text{L}(H,x_{k+2})) \vee \ldots \vee (L(H,x_{k+m})) \,\&\, \neg\, (x)\ (P(x) \rightarrow\ L(H,x)$$

This type of symbolic notation reveals that the difference between (F.2$^+$) and (F.1$^+$) lies in the fact that the former contains all elements of the latter plus some additional components. Thus, (F.2$^+$) is a logical implication

of ($F.1^+$), yet the reverse is not true. This means that ($F.2^+$) contains more information than ($F.1^+$).

The abovementioned presentation of interrogatives leads to the following conclusions pertaining to the process of analysis and didactic methods based on it (e.g. problem-oriented teaching): Scientific research ought to be started from the specification of a problem which may be depicted as a disjunction with a certain number of logically independent elements. The next stages of the process involve limiting this disjunction further and further by eliminating some of its elements; in this process the original interrogative is transformed into successive questions each of which contains more information than its predecessor: the more elements in the original disjunction, the more stages of elimination. Thus, scientific research is a process of transforming the problem by gradual reduction of the level of uncertainty, i.e. arriving at problems whose assumptions contain more and more information.

The model of analysis presented above may be applied to interrogatives which aim at obtaining information about a certain fact: e.g. what took place, where or when it happened, etc. However, answers to such questions seldom constitute the ultimate aim of scientific research. Usually they are but the starting point, as their purpose is to accumulate factual data that lead to some generalisations, hypotheses, etc. It is therefore justified to ask whether the suggested model (treating problems as a complex disjunction and scientific research as a process of gradual elimination of some elements of the set) may be used with other types of questions that appear in the research.

These questions may be divided into two basic categories — interrogatives asking for proof or asking for explanation (Ajdukiewicz 1965). Both of these types are connected with logical relations between opinions — which can either be the relation of logical causality defined within the framework of formal logic (a theory of deduction) or the relation of increasing probability defined within the framework of the logic of induction. The present analysis shall be limited to the former relation, which is simpler and has been researched more thoroughly. The conclusions pertaining to interrogatives of this type may *mutatis mutandis* still apply to questions aimed at increasing probability.

If sentence B is a logical consequence of a certain sentence A, then sentence A is a logical cause (or simply: cause) of sentence B. The concept of logical cause may be applied to describe both types of interrogatives mentioned above, namely asking for proof and asking for explanation. This notion takes into account the connection between the answer which is sought

and the set of theorems comprising the adopted system or theory (in the present article it shall be referred to as 'the system').

The process of PROVING consists in finding a cause for a sentence which has not belonged to the system from among sentences that are included in the system.

The process of EXPLAINING consists in finding a cause for a sentence within the system from among sentences which do not belong to the system.

Both these processes result in expanding the system to include a sentence that had not been a part of it, thus adding new information. One typical example of proving are the procedures used in systems of deduction, e.g. mathematics, if a derived statement is proved on the basis of axioms. Explaining may be exemplified in procedures used in empirical sciences and consisting in finding hypotheses which would explain and predict the progress of an experiment. Both in proving and in explaining the logical cause is an answer to a question which includes the interrogative particle *why*, in other words — a probe question. Such interrogatives may also be presented as a set of possible logical causes for the sentence which is being proven or explained.

When attempting to prove a theorem, we take into account many theses which already are a part of the system, analysing whether they may be used as premises for the theorem we are tying to prove. Thus, the initial stage of research may be presented as a disjunction of the potential premises of the sentence being proven. They shall be represented by the symbol b; G will stand for the relation of being a logical cause (of b). The demand for a proof may then be presented as a question the assumption of which is the following disjunction: $G(b,x_1) \vee G(b,x_2) \vee \ldots\ G(b,x_k)$ where $b \notin S$ and $x_1 \ldots x_k \in S$; $x_2, \ldots x_k$ are theses of the system S taken into consideration as potential premises which are logical causes of sentence b.

When searching for the explanation for some facts known to us or, more precisely, for sentences that refer to such facts, we take into account various hypotheses aspiring to the role of explanatory theorems. These shall be represented with h_1, h_2, etc.; e will stand for the sentence or the set of sentences which are being explained. The assumption of the problem would then take the following form:

$G(e,h_1) \vee G(e,h_2) \vee \ldots \vee G(e,h_n)$, where $e \in S$ and $h_1 \ldots h_n \notin S$.

In the case of explaining the set of possible causes is not given, as it is

given in the process of proving, where the set of sentences included in the system is always finite and well-specified. The set has to be created over the course of the research. This process requires the utmost degree of creative effort; it may therefore be assumed that the formulation of the problem is the most difficult and demanding research task. The following section shall try to answer the question to what degree can this task be made easier and more successful by the use of methodological principles of forming interrogatives (formulating the problem).

RULES OF PUTTING QUESTIONS

To arrive at the correct answer to a question, one has to base the interrogative on a true assumption. For example, it is impossible to answer truthfully to the question: *Where was Paradise located?*, because this interrogative contains a false assumption that there is a place which used to be the location on Paradise. This question may only be answered with: *There is no such place*, yet such a reply would not be determined by the structure of the question; it is merely a negation of one of the assumptions — the positive one.

The most general type of assumption, i.e. a question of existence, is lest likely to be incorrect, but provides the least information. Only by transforming it into a disjunction that specifies all possible elements in the set of answers are we able to test each constituent and see whether it has the quality mentioned in the question. A disjunction in the form of a statement of existence: *There is a person who committed a given crime* does not provide any data for identifying this individual. Only a limitation of the set of people which produces a disjunction with a relatively small number of elements and involving individuals who may be identified, gives us a chance to find the answer. Naturally, such a form is more likely to contain an error than general statements (e.g. *There exists such a z that L*). A disjunction which specifies the actions leading to a solution and does so by enumerating the possible answers shall be called an EFFECTIVE assumption of a question.

Thus, a disjunction which constitutes the assumption of an interrogative needs to be true and effective. These two postulates may be regarded as conflicting, because general (and thus more likely to be true) assumptions are not effective, while in the case of specific assumptions (and thus effective) the risk of an error is higher. For example, the interrogative *When will world society become classless?* has a very general assumption: *there is a point in the future when the society of the world will become classless.* The *a priori* probability of this sentence is relatively high, but shall decrease if we

make the interrogative more specific, limiting the choice to a set of years comprising the remaining part of the 20^{th} century. We shall then arrive at a question based on the following assumption: *In a certain year of the 20^{th} century world society will become classless*. With regard to the type and the level of effectiveness, such an assumption is similar to futurological problems related to long-term prognosis. However, the risk of error is much greater than in the case of the previously analysed one, which had a minimal degree of effectiveness.

The main problem with the strategy of formulating questions is finding a balance between effectiveness and probability optimal for a given case. There are two factors influencing the degree of effectiveness of an assumption that may be helpful in this search for the optimum: the number of elements in the disjunction and the possibility of identification of the items mentioned in each of the elements. The more elements we include, the less effective the disjunction becomes, because each addition increases the risk that there will be no time to analyse all elements. The less specified the items mentioned, the lower the effectiveness of the assumption (the least specific are statements of existence, such as: *there exists such an x that...* that pertain to the entirety of the analysed subject). In order to increase effectiveness without affecting the probability we need to form assumptions with a large number of elements but a well-defined set of items to which the assumption pertains. Detectives conducting an investigation start from formulating a disjunction that includes many suspects, and gradually eliminate certain individuals from this list. If they limited the analysis to a very narrow group of suspects, they might overlook the actual culprit, i.e. start from an incorrect disjunction. It is no surprise that an ill-formed question based on an inaccurate assumption does not lead to a correct answer. Similarly, a scholar at the initial stage of the research often takes into account many hypotheses aimed at explaining the same group of facts; a disjunction including all of these numerous hypotheses (an assumption based on the interrogative particle *why*) is more likely to be true than one which contains only some of them. It is therefore advisable to start with the largest possible number of ideas that might be the solution, with full unrestricted creativity and attention to suggestions made by colleagues or found in the relevant literature. We need to beware of the preconceptions and prejudices which lead to the *a priori* exclusion of some of the solutions. This stage of research calls for inventiveness and openness — the time for criticism comes later. Such openness and boldness ought to be taught at school, with the help of the methods specific to problem-oriented education.

After presenting the problem as a disjunction of many possible solutions, we need to start eliminating some of them. This process is called reducing the disjunction. There are many methods of doing this, yet each of them has a specific impact on the effectiveness and economy of the research. The first stage involves eliminating the elements of the disjunction which were included as a result of the ambiguity or fuzziness of certain terms appearing in the interrogative. If a statement contains an ambiguous term and one meaning of this word refers to the set of items M_1 whereas the other meaning pertains to the set of items M_2, then this statement is in itself a disjunction of two statements, in which one pertains to the set M_1 and the other to the set M_2. If the author of such an utterance does not intend to refer to both of these sets, then one of the elements in the disjunction is not needed. The person making the statement ought to realise which set of items is meant and eliminate the superfluous one, thus reducing the disjunction. Various terms may be considered ambiguous: in some contexts this category includes for example the word *socialist*, as it pertains to two different sets: Marxists and social democrats. Let us imagine a research project which aims at ascertaining the opinion of socialists on the monetary crisis in capitalist countries. A disjunction formed on the basis of this interrogative might be presented as: *Among socialists there are people holding the opinion X or people holding the opinion Y*, etc. If we do not specify the meaning of the term 'socialist', we will be forced to include a greater variety of opinions; thus our disjunction shall be composed of a larger number of elements. This surplus will be unnecessary and detrimental to the research, if the author only wanted to know the opinion of Marxists and did not specify this out of negligence.

Terms may be considered 'fuzzy' if their scope is difficult to ascertain — certain items are easy to classify to a given category, whereas in the case of others there is no method of specifying whether they may be considered designates of a given term or not. Let us use the example of the term *child*. Our understanding of this word leads us to include certain individuals in this category and exclude some other. There are, however, cases in which it is difficult to ascertain whether a given individual ought to be counted among children or among adults. There are some methods for reducing or eliminating the fuzziness, e.g. assuming that a person over 16, 17 or 18 should not be considered a child. Differing interpretations of fuzzy terms lead to differences in meaning, it may therefore be assumed that fuzzy terms are potentially ambiguous. From this point of view, a fuzzy term is a disjunction of two or more terms resulting from the various possible

interpretations. For this reason, using fuzzy terms to formulate problems makes the assumptions of these sentences into disjunctions whose level of complexity is much higher than necessary. We may for example ask: *What is the role of monographic lectures in higher education?* By 'monographic lectures' we might mean lectures during which the teacher presents certain results of their own research, but the term is in fact fuzzy: the degree of 'monographic-ness' (if we may call it thus) depends on the detail and originality of the given text. If we include the different definitions of the term 'monographic lecture' into the disjunction, the number of elements will be greater than in the case of a more precise definition.

The use of fuzzy terms is associated with one more risk other than the excessive length of the disjunction. The possible interpretations of a fuzzy term leading to its specification must be enumerated. There is, however, a possibility that one or more interpretation will be omitted; if it happens to be the interpretation included by the inquirers, they will not get the answer they were looking for. Let us use an example. A pedagogical questionnaire distributed among academic teachers included the following question: *What features of our students are worth mentioning?* The expression 'worth mentioning' is highly fuzzy, and thus may be interpreted in very different ways. Some of them involve indicating a certain point of view: moral, political, intellectual, custom-related etc. Some of the surveyed may, for example, be particularly struck by the influence of the academic environment on lifestyle and consider it 'worth mentioning' that after a few months at the university students start to dress more elegantly. If we assume that the author of the questionnaire was more interested in the moral aspect (this may be deduced from the fact that the survey was related to interpersonal relations) and sought information about the students (and not about the people surveyed), then an answer pertaining to the dress code shall make no important contribution to their research.

Let us assume that the problem has been formulated in a clear and unambiguous manner, *ergo* the disjunction of all possible answers that constitutes the positive assumption of the problem does not include any unwanted elements, i.e. ones which would not correspond with the intentions of the inquirer. If our problem is highly complex, i.e. the disjunction is composed of many elements, the next stage is to reduce it to a simpler question by identifying the component problems; the answers to these issues put together shall provide the answer to the entire problem. Sometimes at a given stage of research it is possible to ascertain the answer to only some component questions — then we will provide merely a partial answer to the

main interrogative. A 'component problem' is a question whose assumption is based only on a certain part of the disjunction that constitutes the assumption of the main issue. Reducing the problem to one of its component issues is often necessary in teaching, e.g. in determining dissertation subjects. If a subject is too demanding for a student or could not be fully analysed due to time constraints, difficulties in finding relevant literature, lack of the necessary laboratory equipment, etc., then the problem must be limited to one of its compound issues.

Let us use the example of a question pertaining to pedagogy: *How does a student's home environment influence their learning abilities?* It can be limited in a number of ways, e.g. take into account only some sub-set of all students or limit the set of abilities to certain skills (such as the ability to remember new information). To present this question in the form of a disjunction, it is necessary to enumerate all possible sub-sets. This process allows us to evaluate the complexity of the problem and, if necessary, limit it. For example the set of 'home environment' may be analysed according to various criteria: the material status of the family, the parents' education; the number of children in the family, the parents' level of commitment to work, etc. Each of these aspects of home environment has to be confronted with learning abilities (evaluated e.g. on the basis of school grades). Then the question: *Which aspect of a student's home environment influences learning abilities?* has a corresponding disjunction of the answer: *Learning abilities depend on the material situation of the family, the parents' education or the level of family violence*, etc.; as with all disjunctions, at least one of the elements is true, which does not exclude the possibility that more than one sentence in the disjunction (or even all of them) is correct. If, for some reason, the factors mentioned in some of the elements of the disjunction are difficult to analyse or if the sheer number of factors constitutes an obstacle, it is justified to limit the research to only some of the components. However, the researcher then runs the risk of eliminating the true sentences and leaving only the false ones. Thus, the process of reducing the disjunction must be performed carefully, on the basis of well-grounded knowledge of the analysed phenomenon. If, for example, this knowledge suggests that there is a connection between the emotional situation of the family and the learning abilities of children, we will not disregard this factor in our analysis, but ask further questions that will allow us do describe this connection in more detail.

The final stage in the formulation of a problem, which directly precedes the start of the research, is the creation of a research plan. To do this, we

have to begin with identifying compound problems (this issue has already been described). Then we need to decide, which of these problems are to be included in the research and which are to be disregarded. Having agreed on the list of problems to be analysed, we need to consider the order in which we want to solve them and the means needed to do so. Factors such as time, the staff of assistants, sources and relevant literature, need to be secured beforehand, if our research program is to be realistic. Otherwise there is a possibility that the research will have to be discontinued due to lack of resources — squandering those that had already been allotted for the purpose.

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The rules of formulating questions described above are very similar to the principles that govern heuristics, i.e. the science of problem-solving. These rules were specified by the famous mathematician George Pólya in his book *How to solve it* (Pólya 1945). His guidelines refer only to mathematical problems and may be considered a generalisation of the experience in teaching and research. This makes the similarities between them and the rules presented over the course of the present analysis (strarting from a semantic analysis of interrogatives and moving towards highly general principles useful in all types of research) all the more interesting. Here are the most basic principles mentioned in Pólya's book (without the the particularisations relating to each of them):

a. Try to understand the problem;

b. Find the relation between the given and the unknown;

c. If you cannot find the relation using direct methods, you may have to start by solving auxiliary problems;

d. Devise a plan for solving the problem.

The remainder of Pólya's guidelines pertains to the process of solving the problem, and thus goes beyond the scope of our subject.

Principle (a) is similar to the second rule determined in the present article, namely the one that advises to determine the meaning of the words included in the interrogative, in order to eliminate all polysemantic and fuzzy terms. These directives are related, but not fully equivalent, because mathematical

problems do not include any linguistic defects such as ambiguity or fuzziness. The only risk is that the researcher may misunderstand the meaning of the problem. Our principle allows for a situation in which the recipient of the question is at the same time the inquirer and the value of the answer depends, among other things, on the accuracy of the form of the interrogative, including terminological precision. Precision of form allows the inquirer to realise what information they are trying to obtain — in other words, how this problem is to be understood.

Guideline (b) resembles the principle which was discussed at the very beginning of the present article, i.e. the one postulating that the assumption of the question ought to be formulated as a disjunction including all possible solutions. The assumption of the question is our given, whereas what is unknown is which elements of the disjunction are true. Thus, a disjunction which is the assumption of an interrogative does, in a way, reveal the relation between what is given and what is unknown.

Principle (c) is a type of a particularisation of the rule postulating the limitation of the analysed problem, i.e. choosing the elements of the disjunction which constitute certain compound problems. Since solving such problems leads to finding the answer to the original question, they may be called auxiliary problems.

Finally, guideline (d) resembles, even in its formulation, our principle of creating a research plan; it must, however, be added that with mathematical problems the plan does not need to include as diverse factors as in the case of empirical research, which are often conducted in teams and call for more financial resources — an issue that also has to be specified in the full research plan.

The analysis of interrogatives presented in this article together with its application in heuristics may be used for solving practical problems colloquially communicated by expressions such as ”what to do?”, ”how to do it?”, etc. The mathematical theory of decision making is a type of an ideational theory of practical questions. This mathematical theory presents the issue of deciding on a system which includes, among other things, the disjunction of all possible courses of action, i.e. the disjunction of possible answers to the question ”What to do?” This leads to analogical conclusions postulating the completeness of such a disjunction, the specification of compound or auxiliary problems, etc. This is, however, an issue for further analysis, which would have to be conducted using the terminological system of the theory of decision-making. For this reason, the present article was limited to a general consideration of the issues related to the theory of questions.

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ON A CERTAIN MODEL OF NATURAL LANGUAGE

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Introduction. Vocabulary and phrase. Language. Distribution Classes. Divisions family

INTRODUCTION

In works on logical language analysis, language is characterised most often by a set of primal, i.e. non-definable, expressions and by the rules of syntax, which include the rules for the generation of expressions and the rules of transformation of expressions. Generally speaking — language is a vocabulary and a set of rules. If we mark vocabulary as V and the set of rules as R, then language L may be presented as the following ordered pair: $L = \langle V,\ R \rangle$.

The above description of language is useful for construction of artificial languages and for the study of such languages. It is not a sufficiently effective tool for studying natural languages. In such a situation it is worth making an effort to try out other theoretical models of the language, hoping that one would find among them a more handy model.

In this paper I present a theoretical language model, proposed by a group of Soviet and Rumanian researchers. In particular, I have used the materials contained in the work of S. Marcus *Teoretiko-mnozhestvennye modeli yazykov* (1970), which contains an extensive bibliography. This model was discussed at experimental seminars of a group of IT researchers from the Warsaw University. This paper is a summary of part of that discussion, which pertained to the notional apparatus of algebraic linguistics, in particular to

the selection of Polish terminology, a deeper explanation of particular terms, as well as examples and applications in the Polish language.

VOCABULARY AND PHRASE

Let us consider a set of expressions V. Its elements are simple expressions, i.e. such expressions, no part of which is itself an expression. As a result of joining these expressions we get compound expressions. The operation of joining, called concatenantion, shall be marked with symbol *. A set of compound expressions, or to put it simpler, of expressions, shall be marked with the letter V^*.

We assume that set of simple expressions V is finite and not empty. We will call this set the VOCABULARY. The elements of set V shall be called WORDS. If we limit our reflections to the written word only, then the elements of set V shall be simple expressions, separated by means of spaces or punctuation marks, e.g. expression of this chapter: $V = \{$consider, set, expressions, $\ldots\}$. The elements of set V shall be marked with small letters of the Latin alphabet, e.g. $V = \{x_1, x_2, \ldots . x_n\}$ or $V = \{a, b, c, \ldots m\}$. The elements of set V^* shall be marked with small letters of the Greek alphabet:

$$V^* = \{\alpha, \beta, \gamma,...\}.$$

The operation of * is conjunctive, i.e. for each element of set V^*, $\alpha, \beta, \gamma \in V^*$.

$$1.2.\ (\alpha^*\beta)^*\ \gamma = \alpha^*(\beta^*\gamma)$$

The property determined by formula 1.2. makes it possible to put into brackets any group of components. We therefore may omit the brackets in our further considerations. Operation * is internal in set V^*, which means that as a result of the joining of two elements of set V^* we obtain an element of set V^*. In other words, by joining expressions, we also get expressions.

We assume that an element of set V^* is a neutral element of operation *, which shall be marked with the symbol ϵ. A neutral element is an expression which, when added to any other expression, does not result in a change of the latter. We shall write this as follows: if $\alpha \in V^*$, then

2.2. $\alpha^*\epsilon = \epsilon^*\alpha = \alpha$

A natural element of an operation which meets condition 2.2. shall be called unity.

A system composed of a set of expressions V^*, the operation of joining * and the separated element ϵ constitutes an algebraic creation called UNITY SEMIGROUP. The notation of this system is the following: (V^*, *, ϵ). This does not mean, of course, that one may consider the semigroup to be the same thing as the set of elements thereof. The semigroup is a MATHEMATICAL STRUCTURE, richer than the set itself. This abbreviated notation will not however be misleading. In order to simplify the notation, we will also omit the operation sign *, appearing between expressions. This sign shall be replaced by a space. For example: may * semigroup * this shall be written down as: may $_{\sqcup}$ semigroup $_{\sqcup}$ this or as: may semigroup this.

Since each expression of set V^* is obtained from the elements of set V, vocabulary V shall be called a set of GENERATORS of semigroup V^*. In other words, set V generates set V^*, if for each $\alpha \in V^*$ there exist such x_1, x_2, ... $x_n \in V^*$ that:

3.2. $\alpha = x_1 * x_2 * \ldots * x_n$

As a result of joining set V, which has a finite number of elements, we get set V^* of an infinite, however countable, number of elements.

For example, if $V = \{a, b, c\}$, the elements of V^* are, among others, the following expressions: *ab, aaa, abcd, a, cdee* and so on. We shall call the expressions from set V^* PHRASES.

Since each set V generates phrases in a unambiguous manner, we say that semigroup V^* is freely generated by set V or that we are dealing with a FREE semigroup V^* over set V. More specifically, we will say that semigroup V^* is freely generated by set V always, and only if for each

4.2.

$\alpha \in V^*$ and $x_i, x_j \in V^*$, $i = 1, 2, \ldots n$, $j = 1, 2, \ldots m$,

if

$\alpha = x_1\ x_2 \ldots x_n$

and

$\alpha = x_1\ x_2 \ldots x_m$

then $n = m$ and $x_i = y_j$ for $i = j$.

Therefore, each expression, according to 4.2., is determined in one way only.

Generally phrase a may be noted in the following manner:

$\alpha = x_1\ x_2 \ldots x_k \ldots x_n = \prod_{i=1}^{n} x_i$

The word x_k of expression α shall be marked as: $x_k = (\alpha)_k$, $1 \leq\ k \leq\ n$, and we call k a coordinate of expression α.

Another notion which we will introduce is the LENGTH of expression α. Length of an expression means the number of words constituting such expression. The length of expression α shall be marked as $\mid \alpha \mid$. If phrase α has n component words, then the length of this phrase is equal to n. Using the notion of the length of the phrase, we may utter a series of propositions, some of which, being quite obvious, will be presented without proofs.

Proposition 1. The length of a zero phrase is equal to zero, which we write down in the following way:

5.2. $\mid \epsilon \mid = 0$

Proposition 2. If the length of a phrase is equal to zero, then the phrase is a zero phrase.

6.2. $\mid \alpha \mid = 0 \Rightarrow\ \alpha = \epsilon$

Proposition 3. If the length of a phrase is equal to one, then such a phrase is an element of vocabulary V. In other words, simple expressions are expressions, which length is equal to one. Notation of this proposition looks like this:

7.2. $\mid \alpha \mid = 1 \Rightarrow\ \alpha \in\ V$

Proposition 4. The length of a phrase which is a concatenation of two phrases α and β is equal to the length of phrase α plus the length of phrase β.

8.2. $| \alpha\beta | = | \alpha | + | \beta |$

LANGUAGE

It is undisputed that from among all phrases which are possible to obtain from a finite number of simple expressions, only part is used in speech and in writing. It may be assumed that in fact we are dealing with a certain finite number of phrases selected from amongst all of the possible phrases. A distinction may be, with respect to the written word, whether a phrase can be encountered in publications. Criteria of such distinctions are interesting for a language researcher, yet they should not be the starting point, but quite to the contrary — the objective of the study of language is to find and describe these dependencies. In other words, the rules of generating and transforming selected phrases should be among the consequences of the assumptions adopted by the description of a language, and not among these assumptions themselves.

Using the notions introduced in chapter 2., and the notion of the selected phrase, we shall adopt the following definition of language L. If V^* is a free semigroup, generated by vocabulary V, and if Φ is a subset of set V^*, such that its elements are selected expressions, then LANGUAGE L shall mean an ordered pair $L = \langle V, \Phi \rangle$. If $\Phi = V^*$, ordered pair $\langle V, V^* \rangle$ shall be called a universal language.

In other words, we shall understand language as ordered pair $\langle V, \Phi \rangle$, whose first element is a set of words V, and the second element is the subset of the free unity semigroups, generated by vocabulary V, $\Phi \leq V$, It can be said with respect to every phrase from V^* whether it belongs to Φ or to $V^* - \Phi$. As long as that does not result in misunderstandings, we will not distinguish between language L and the subset of selected phrases Φ. We shall say that phrase α belongs to language L, if and only if $\alpha \in \Phi$.

In the above definition the notion of the selected phrase is the most disputable. Sometimes it is treated as the equivalent of a sensible sentence. The latter does not however belong to notions which have been sufficiently precisely defined. The notion of a sentence itself, according to Z. Klemensiewicz (1969: 213), has had ca. one hundred different definitions. I would like to draw your attention to the fact that the notion of a selected phrase is broader than the notion of a sentence, since among others it also includes descriptions. E.g. *the man who climbed Mount Everest* is a selected phrase, but is not a sentence. The situation is similar with titles of books, chapters, short warning signs, etc., which are also selected phrases. In this sense, every

element of set V, i.e. each word, may appear as a selected phrase of a length equal to one.

We will also omit the discussion about whether the set of selected phrases should only include those phrases, which have appeared in speech and writing, or also such phrases, which may appear in the future (Quine 1969: 79). We assume that in practice it is possible to determine a set of simple expressions V and a set of selected phrases of the natural language. It is however necessary to add additional assumptions to this proposition. One of these assumptions is the necessity for separating a FRAGMENT of the studied language, and the necessity to carry out an analysis of this selected fragment. The matter of selection of a representative fragment is a separate issue, which I will not tackle in this paper. I only wish to note that in the case of a natural language, which is characterised by a spontaneous, unplanned and changing process of creation, general rules may be found in statistically determined fragments of such a language. One always needs to remember, however, that a language of this kind always contains exceptions to the determined rules. Having made these assumptions, there are no obstacles carrying out research, either of the most broadly understood natural language, for example of the Polish language, or of the vocabulary and selected phrases of the epic poem *Pan Tadeusz,* or of the language of the works on geology or theoretical physics. One may also analyse one page of a printed text, for example the page on which the above sentences are written.

In a given ethnical language, Polish in our case, one may find phrases which indisputably belong to said language, and phrases which raise certain doubts. For example the phrase *koń ciągnie wóz* [*a horse pulls a wagon*] is considered to belong to the Polish language, whereby *łopata koszula lub* [*shovel shirt or*] is not considered to belong to L_p.We do not include into $L_p$such a phrase as: *mówił mówił siadł lub lub lub lub lub* [*spoke spoke sat or or or or or*]. However, such phrases as *fruwające krzesło pije ciągnący wóz* [*a flying chair is drinking a pulling wagon*] belong to $L_p$and may be encountered in poetic works. Doubts arise in the case of expressions such as: *wczoraj pójdzie do kina* [*he will go to the movies yesterday*] or *liczby pomarańczowo śpią* [*numbers sleep in an orange manner*]. We assume that elements of set Φ are selected phrases which are COMMONLY assumed to be such. We will only consider INDISPUTABLE selected phrases, narrowing, should a need arise, the group of Polish speakers to, for example, a group of chemists. Disputable phrases will be included in a set $V^* - \Phi$.

DISTRIBUTION CLASSES

The assumption that the object of our study is a language determined as the ordered pair $\langle V,\ \Phi\rangle$ is sufficient to provide a classification of the expressions of vocabulary V. Namely, we are able to divide vocabulary V into classes, which we will describe as distribution classes. This division shall be characterised in the following manner: two words, a and b, $a, b \in V$ belong to the same distribution class, if for each pair of phrases α and β belonging to language L, phrase $\alpha\ a\ \beta$ belongs to language L, always and only if phrase $\alpha\ b\ \beta$ also belongs to this language. We say that expressions a and b are exchangeable in a phrase α ... β. The ordered pair of expressions $\langle\alpha,\ \beta\rangle$ shall be called the context. We say that an expression is admissible in context $\langle\alpha,\ \beta\rangle$, if expression $\alpha\ a\ \beta$ belongs to language L.

The method of the division of language units, which in our case are simple expressions, into distribution classes has been applied for many years now. The first supporters of this method include the European structuralists from the glossematic school (Malberg1969: 230-259; Hjelmslev 1961) and representatives of the American structural linguistics, i.a. Z. S. Harris (1968). The differences between them boiling down to varying descriptions of set V.

The notion of distribution classes may be defined in various propositional apparatuses. Apart from the one described above, I also propose an equivalent description in the language of the set theory or of mathematics. In chapter 5 I will be using descriptions of the latter as they are simpler and shorter.

In the language of the set theory, the distribution classes may be described in the following manner: in a given set V we are describing the relation of exchangeability, which we shall mark with letter W.

Exchangeability relation W, as an equivalence relation determined on a non-empty set V, makes a DIVISION of this set into subsets of expressions which are in some way equivalent. The subset of elements of set V, equivalent to a given set α, shall be called the exchangeability relation abstraction class. Distribution classes are exchangeability relation abstraction classes. The family of exchangeability relation abstraction classes in set V is a subset of this set. This division shall be marked with the letter S. Abstraction classes, i.e. segments of subset S, shall be marked as $S\ (a)$, $S\ (b)$, $S\ (c)$, etc. $\mathrm{S} = \{\mathrm{S}(a), \mathrm{S}(b)\ ...\}$.

In mathematical language the above considerations have the following form: the exchangeability relation determined on set V determines a classification in this set. This set of distribution classes shall be called the QUOTIENT SET of set V, determined by the exchangeability relation W. We shall mark this set with symbol V/W, $S = V/W$. Each equivalence class is determined by one of its elements, which is a REPRESENTATIVE of

this class. *S(a)* is a class in which each element is exchangeable in the same contexts as element *a*. Element *a* is a representative of this class.

Let us consider an example from natural language analysis. I assume that in this language set V is a finite set of MOST of the used primary expressions, and phrases are those expressions which are considered to be correct by a specified group of people. Division S combines the elements of vocabulary V in such subsets that each element of the vocabulary belongs to one and one class only. And so, for example S (*cat*) = {*cat, dog, king...*}. S (*cat*) means a set of all words exchangeable in the same contexts with the word *cat*. For example: *I hit a ... with a stick and it came back, I see a .... on the window, the house of ....* etc. These are the context, which after introduction in the place of dots of any word from the S (*cat*) set shall remain selected phrases of the Polish language. Similarly S (*or*) = {*or, and...*}. In contexts: *big... small*, *happy full ... green rock*, etc. expressions from set S (*or*) are interchangeable.

If vocabulary V does not contain homonymic or polysemic expressions, i.e. to put it generally, equivalent expressions, then it is possible to carry out the division into distribution classes. In the natural language equivalent expressions constitute, however, a considerably large group and cannot be omitted. For example: S (*cat*) = {*cat, dog, major...*} but also S (*cat*) = {*cat, house...*}. In the contexts *there is no..., he was looking for the ... long in the night*, etc. interchangeable are expressions from the set S (*cat*) = {*cat, house...*}. Similarly S (*lilac*) = {*lilac, bush, tulip ...*}, or S (*without*) = {*without, instead, apart from...*}.

We assume that vocabulary V does not contain equivalent expressions. Homonyms and polysems shall be marked by additional symbols, e.g.: cat_1, cat_2. S (cat_1) $\neq$ S (cat_2).

The division of the set of simple expressions into distribution classes constitutes a relatively good characteristic of language with poorly developed inflection forms. In Polish and other Slavic languages an additional difficulty is caused by the fact that expressions in those languages have various cases, genders, persons. A set of inflection forms of particular expressions, covering all of their declinations and conjugations is called a paradigm. We say that Slavic languages are paradigmatic. This must be reflected in the description of the language.

DIVISIONS FAMILY

The notion of a division into paradigms cannot be presented within the frameworks of the hitherto described model of the language. This model

needs to be somewhat enriched. We shall then consider a family of divisions from a non-empty set V. We shall mark the divisions from this set as K_1, K_2 ... The family of divisions shall be marked with letter K, $K = \{K_1, K_2 \ldots K_m\}$. The number of divisions of set V is finite.

In other words, we assume that there exists a family of quotient sets of set V, determined by equivalence relations R_1, $R_2 \ldots R_m$. In such a case: $K_1 = V/R_1$, $K_2 = V/R_2$ ... $K_m = V/R_m$.

Each division K_i, $i = 1, 2 \ldots m$, is a family of subsets of set V, meeting the following conditions:

1. Each element of K_i is a non-empty set of set V, which we write down in the following manner:

1.5. $\bigwedge\limits_{A \in K} A \subset V \Rightarrow A \neq \emptyset$

2. Two different elements of set K_i are disjunctive sets.

2.5. $\bigwedge\limits_{A,B \in K} A \neq B \Rightarrow A \cap B \neq \emptyset$

3. Each element of set V belongs to a certain element of division K_i. If $K_i = \{A_1, A_2 \ldots A_k\}$

3.5. $A_1 \cup A_2 \cup \ldots \cup A_k = V$

Elements of the family of divisions K are found in various types of divisions of set V. One such division has been discussed in the previous paragraph. This is the division into the distribution classes S, $S \in K$. Among these divisions we can distinguish two particular divisions, which we shall mark as K_∇ and K_Δ. Division K_∇ is such a division, whose sole element is the entire set V $K_\nabla = \{V\}$. That division is the THICKEST division of set V. The second distinguished division is the family of one-element subsets of set V, $K_\Delta = \{\{x\}\}$, $x \in V$. This division is marked sometimes with letter E and we say that E is the FINEST division of set V. On any two divisions of set V, K_i, $K_j \in K$ we may say that:

$K_i = K_j$ or $K_i \subset K_j$ or $K_j \subset K_i$

Set K is ordered into a relation of including. If subdivision K_i is contained in subdivision K_j, $K_i \subset K_j$, we say that division K_i is INSCRIBED in set

K_j, or that set K_i is FINER than set K_j. We than may say that set K_j is DESCRIBED on subdivision K_i, or that it is THICKER than division K_i.

Apart from two divisions K_∇ and K_Δ, we distinguish one more division, which we interpret as the division of set V into paradigms. We shall mark this division with the letter P. Each expression from set V belongs to one class and one class only. We shall mark these classes as $P(x_i)$, $x_1 \in V$. $P(x_i)$ means a class of those elements from set V, whose representative is x_i. Set $P(x_1)$ is a set of various inflexion forms of a word x_i. For example P (*kot*) = {*kot, kota, kotom, kocie...*}, P (*mówił*) = {*mówił, mówiła, mówić*}, P (*na*) = {*na*}, P (*zamówiło*) = {*zamówiła, zamówić, zamówiłem*}. One class includes all the words with the same morpheme and affix.

If $a = x_1\ x_2\ ...\ x_k$ is a phrase from set V^*, $a \in V^*$, then sequence $P(x_1)\ P(x_2)\ ...\ P(x_k)$ shall be called P — the structure of phrase a and shall be marked as $P(a)$.

4.5. $P(a) = \prod_{i=1}^{k} P(x_i)$

For example when a = *poszedł lub kino*, $P(a) = P$ (*poszedł*) P (*lub*) P (*kino*), whereby P (*poszedł*) = {*poszedł, poszła, poszło...*}, P (*lub*) = {*lub*} P (*kino*) = {*kino, kina, kinom, kinami...*}.

If $P(a)$ is P — structure of phrase a, $a \in V^*$, then phrase a is an element of structure $P(a)$, $a \in P(a)$.

5.5. $a \in V^*$ and $P(a) \Rightarrow a \in P(a)$

Let $V = \{a, b, c, d\}$, $P(a) = \{a, b\} = P(b)$, $P(d) = P(c) = \{c, d\}$, i.e. $P = \{\{a, b\}, \{c, d\}\}$, $a = abca \in V^*$, then $P(a) = P(a)\ P(b)\ P(c)\ P(a)$ $= \{a, b\}\ \{a, b\}\ \{c, d\}\ \{a, b\} = \{a\ a, a\ b, b\ b, b\ a\}\ \{c\ a, c\ b, d\ a, d\ b\} = \{a\ a\ c\ a, a\ a\ c\ b, ...\ a\ b\ c\ a\ ...\ b\ a\ d\ b\}$. Phrase $a\ b\ c\ a$ belongs to $P(a)$.

If phrase a is a selected phrase, $a \in \Phi$, we shall call the structure of this phrase P a SELECTED structure. For example P — the structure of phrase: *książka leży na stole* [*a book is on a table*], is a selected phrase: P (*książka leży na stole*) = P (*książka*) P (*leży*) P (*na*) P (*stole*).

The above considerations may be presented in a slightly different form. Let us consider set $P = \{P_1, P_2 \ldots P_k\}$ and the operation of concatenation determined by this set. The set of all P — structures is any semigroup generated by set P. We shall mark this set as P^*. Each P — structure is an element of P^*. For example let $P = \{P_1, P_2, P_3\}$, From set P we get the following P — structures: P_1P_2, $P_1P_2P_3$, $P_1P_3P_1P_3$ etc. From among all

of the P — structures which are possible to obtain a part constitutes selected structures. Let P_1= P (*książka*) P_2= P (*lub*) P_3= P (*stół*). The phrase *książka lub stół* [*a book or a table*] belongs to selected phrases. The structure $P_1P_2P_3$= P (*książka*) P (*lub*) P (*stół*) belongs to selected structures.

We understand PARADIGMATIC language as the following ordered triad $\langle V,\ \phi,\ P\rangle$, where V is a set of primary expressions, Φ is a set of selected phrases and P is a SUBSET of set V. We assume that apart from the vocabulary and the selected phrases we also have given, by a certain interpretation, sets of all forms of a given word. The division of vocabulary V does not depend on the fact which phrases are recognized in a given language as selected phrases.

Let us consider set of expression V. According to the definition of language provided above, we adopt a division of this set into classes of paradigms. Then, each words from set V belongs to one of the classes from set P. E.g. P (*dom*) = {*dom, domowi, domu...*}, when V is the vocabulary of the natural Polish language. We also have given a set of selected phrases Φ. Having the above data we may determine division S into distribution classes. E.g. S (*dom*) = {*dom*, *stół*, *pies*} [S (*house*) = {*house*, *table*, *dog*}].

Each word of language $L = \langle V,\ \phi,\ P\rangle$ belongs to one class from set P, as well as to one class from set S. In other words, each element of set V belongs to a new subdivision of set V, obtained as a result of applying both subdivisions S and P of the operation of CROSSING. Generally speaking, if we have two non-empty subdivisions of set V, $P = \{P_1,\ P_2 \ldots\ P_k\}$ and $S = \{S_1,\ S_2 \ldots\ S_m\}$ we generate all products $P_i \wedge S_j$, $i = 1, 2 \ldots k$, $j = 1, 2 \ldots m$ elements of the first subdivision by the elements of the second subdivision. These products are called the COMPONENTS of set V due to divisions P and S. The components are mutually disjunctive and together exhaust set V. The family of NON-EMPTY components $P \wedge S$ is a SUBDIVISION of set V. This division shall be marked as I. $I = P \wedge S$, $I \in K$.

For example, we characterise language L in the following manner:

$V = \{a,\ b,\ c,\ d\}$, $P(a) = \{a\}$, $P(b) = \{b\}$, $P(c) = \{c,\ d\}$, $\Phi = \{a\ b,\ c\ b,\ a\ d,\ c\ d\}$.

In view of the data above, division S shall look as follows:

$S(a) = S(c) = \{a,\ c\}$, $S(b) = S(d) = \{b,\ d\}$
$S(c) \wedge P(a) = \{a,\ c\} \wedge \{a\} = \{a\}$
$S(c) \wedge P(b) = \{a,\ c\} \wedge \{b\} = \varnothing$

$S(c) \wedge P(c) = \{a,\ c\} \wedge \{c,\ d\} = \{c\}$
$S(b) \wedge P(a) = \{b,\ d\} \wedge \{a\} = \varnothing$
$S(b) \wedge P(b) = \{b,\ d\} \wedge \{b\} = \{b\}$
$S(b) \wedge P(c) = \{b,\ d\} \wedge \{c,\ d\} = \{d\}$

As a result of crossing two subdivisions S and P, we get a new division of set V, $I = \{\{a\}, \{b\}, \{c\}, \{d\}\}$. In this case, this division is equal to subdivision K_Δ, which is the family of one-element subsets of set V. As a result of crossing two subdivisions, we obtain a finer division than the component divisions.

The operation of crossing may be performed on all elements of set K. As a result of this operation we obtain new division of set V. These divisions are also elements of set K. Generally we may say that set K is closed in view of the operation of crossing.

Set K is also closed to the operation which is sometimes called the union of subdivisions or the joining of subdivisions (in French: somme; see: Félix 1973: 13). In Polish there is no relevant word for a description of these kinds of operations on sets. Let us present this operation with an example:

Language L is characterised in the following manner:

$v = \{a,b,c,d,e\}$
$P(a) = \{a\}$
$P(b) = \{b\}$
$P(c) = \{c,d,e\}$
$\Phi = \{ab,\ ba,\ abc,\ bac,\ de\}$.

In view of the above data, S is a division as follows:

$S(a) = \{a,b\} = S(b)$
$P(c) = \{c\}$
$P(d) = \{d\}$
$P(e) = \{e\}$.

As a result of a union, we obtain the following division I:

$I(a) = I(b) = \{a,\ b\}$
$I(c) = I(d) = I(e) = \{c,\ d,\ e\}$.

As a result of the union we obtain a thicker division than any of the divisions mentioned above.

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