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SEMANTIC ANALYSIS OF RELATIONS IN ROMAN INGARDEN'S ONTOLOGY

Originally published as "Analiza semantyczna relacji występujących w ontologii Romana Ingardena," *Studia Semiotyczne* 13 (1983), 35–47. Translated by Magdalena Tomaszewska.

Among various methods of doing philosophy, contemporarily, a prominent place is occupied by the analytic method. It has been widely developed in different versions of analytic philosophy and there are attempts to transfer it to those philosophical conceptions that historically and methodologically seem to be distant from the limited language approach of "the picture of the world." More and more works are being published to compare the method of analytic philosophy with methods of maximally understood philosophy, especially with the phenomenological method. (Certainly, the similarities between the two methods are drawn in: Urmson 1956 and Spiegelberg 1960. Moreover, cf. Bar-Hillel 1957; van Peursen 1959 and 1969; Schmitt 1962; Tillman 1966; Küng 1968, 1969 and 1972.) Comparative works of this type — generally speaking — take two directions:

1° looking for certain relations between the phenomenological method and the analytic method based on tools of formal semantics, or simply discussing the issue of using this type of formal analyses to phenomenology (e.g. Krysztofiak 1995),

2° looking for certain relations between the phenomenological method and the analytic method based on empirical or linguistic semantics, that is developed by common language philosophers and linguists (e.g. Thomasson 2007).

Such tendencies became a stimulus to undertake yet another attempt to apply the analytic method to a certain fragment of phenomenology. The

aim of the present paper is to apply the semantic analysis as hard analysis (that is a method of formal semantics) to characterize certain relations in Ingarden's ontology. Here, following Ingarden, ontology is a certain theory which concerns pure possibilities "necessary interrelationship among pure ideal qualities, or among the elements of the ideas' contents, and finally [...] the relations among the collective ideal contents belonging to different ideas" (Ingarden 1962, I: 45; 2013, I: 62). The development of this issue is Ingarden's analysis of the content of ideas presented in the second volume (Ingarden 1961, II: 65ff) of his *opus magnum* that is *Spór o istnienie świata* (*Controversy over the Existence of the World*) published in three volumes¹. But the problem of the characterization of ideas by their content was present much earlier in Ingarden's analyses, mainly in his study of the essence of object presented in his Habilitationsschrift *Essentiale Fragen* (1925/1972). The essence is something pointed out by the content of idea. Hence the important task of Ingarden's ontology is to inquire into the relations between ideas of the same hierarchy as well as relations between an idea and an individual objects which fall under the idea. The first type of relation is called specification, the other — exemplification. The specification relation occurs between ideas distinguished on account of the content. What results is a dichotomous division into general and specific ideas. General ideas have such a selection of the "constant" content that they do not completely exhaust the endowment of any individual object, but taken all together are an ideal equivalent of some moments of (qualitative) endowment of certain individual objects (Ingarden 1961, II: 100). Whereas specific ideas are those in whose content there are "constants" which completely exhaust the endowment of individual objects² (Ingarden 1972: 371). Therefore every individual object is a direct exemplification of a specific idea, that is "the transition from a specific idea to an individual object does not require eliminating any qualitative <<variable>>, but only a <<transition>> from formal <<variables>> to their particular values, that is a fulfillment of concretization" (Ingarden 1972: 373). General ideas can be further divided according to the degree of their generality. Thus the lowest level in the

¹There are not, however, any complete English translation of this significant work. The second volume has not been translated into English. In the Polish version of this paper I used the Polish second edition of both volumes, and in the present English version I also use the recent English translation made by Arthur Szylewicz of the first volume. The rest of quotations are translated from the Polish edition by the interpreter of this paper.

²Although it concerns both ideal and real object, with some restrictions added in the latter case.

hierarchy of ideas is occupied by specific ideas which, in turn, find their "concretizations" in self-existing individual objects which can be divided into ideal and real.

Let's consider first the relation between ideas belonging to one hierarchy of ideas. Let's have a closer look at the relation which occurs between two ideas from the same hierarchy of ideas but which are different in terms of their generality. This relation — as noted before — is called "specification", however maximal and simple specifications need to be distinguished. Maximal specifications occur between two general ideas, from which one is less general, while simple specifications occur between a certain general idea and the least general idea from a given hierarchy of ideas, that is a specific idea. There may occur a whole hierarchy of ideas with a decreasing degree of generality between a general idea and a specific idea which is its specification. Let Ingarden's text explain the hierarchy of ideas:

"Ideas differ among one another in terms of generality, and therefore there is a certain hierarchy between them. If we take into consideration a number of such ideas as e.g. a) geometrical figure in general, b) polygon in general, c) quadrilateral in general, d) parallelogram in general, e) square in general, then the first is the most general in relation to the remaining ones, any other is much less general, and moreover <<falls under>> — as it is usually said — the preceding ones. The former and the latter concerns the CONTENT of the mentioned ideas. The increasing degree of generality stands out when moving from the bottom, that is from the idea <<square in general>> towards the idea <<geometrical figure in general>>, we encounter brand-new material variables in their contents. When in the idea <<square in general>> there is only the material variable <<with a certain absolute length of sides (<<a square is an equilateral rectangular parallelogram with a certain absolute length of sides>>)>>, then in the idea <<parallelogram in general>> occur two new variables: <<with CERTAIN interior angles>> [...] while in the idea <<quadrilateral>> additionally occurs a new variable: <<with a certain number of pairs of parallel sides>>, etc. Whereas the hierarchy between the mentioned ideas consists in that 1) in the contents of these ideas there are at least some constants which are THE SAME, 2) in a less general idea which <<falls under>> a more general idea, to replace a certain variable in the content of a superior idea, there occurs a certain constant which is one of the possible specific cases allowed by the variable. Other specific cases of the same variable occur as <<constants>> in the content of OTHER ideas which fall under the same <<more general>> idea [...]. The least general, and at the same time the lowest is a specific idea [...]" (Ingarden, 1961, II: 96-97).

The intuitions present in the text will be helpful in explaining and

defining the specification relation. On the basis of the quoted text it is easy to deduce that in order to define the specification relation, it is necessary to take into account the content of ideas, which is composed of "constant" and "variable" components. They shall be noted by means of the following expressions $Con(Q, X)$ and $Var(Q, X)$ which read, respectively: "Quality Q is a <<constant>> in the content of idea X " and "Quality Q is a <<variable>> in the content of idea X ." The present analysis is limited only to a characterization of material content of the idea which takes into account only qualitative "constants" and "variables," that is, only such elements of the idea which determine the qualitative endowment of objects falling under given ideas. The paper completely omits the formal and existential analyses of the content of the idea.

Both "constants" and "variables" are ideal concretizations of pure qualities. A "constant" is an ideal concretization of a certain completely specified ideal quality. Whereas a "variable" is an ideal concretization of the pure possibility of concretizing, in an appropriate individual object, of a certain ideal quality from the range of ideal qualities in which range is determined by a constant factor of a given "constant" or by certain "constants" of the content of the same idea (Ingarden 1962, I: 53ff; 2013, I: 69ff). In every "variable" of the content of the idea, a constant factor, which is a concretization of a certain kind quality, and a variable factor, which is a concretization of a certain possibility, can be distinguished. Just as "constants" of the content of the idea are ideal concretizations of unambiguously specified qualitative moments, "variables" are only ideal concretizations of the possibility of a certain object's entitlement to a qualitative moment (which has not been established unambiguously) from a specified class of such moments. Further, a "constant" of the content of an idea can be distinguished from a "variable" because the former creates a concretization of a certain kind of quality, while the latter — a concretization of a certain pure possibility, in particular the possibility of concretizing individual objects of one of the special cases of this kind quality. This can be interpreted in the way that "variable" has a certain range of variability, which range is composed of particular cases of a given quality Q . For example, if a "variable" is "a certain skin colour," then quality Q stands for "a skin colour," while V_Q stands for the range of variability of skin colour. Thus V_Q stands for particular specified shades of skin colours, and thus for the fact that specified shade q of a specified skin colour which belongs to the range of variability of quality Q can be notated in the form $q \in V_Q$.

After this introductory explanation it is possible to notate what it means

that idea X falls under general idea Y from the same hierarchy of ideas, that is idea X is a specification of idea Y .

$$\begin{aligned}
 (1i) \quad XSY \stackrel{def}{=} & \bigwedge_Q [Con(Q, X) \prec Con(Q, Y) \vee \bigvee_{Q_1} Var(Q_1, Y) \wedge Q \in V_{Q_1}] \wedge \\
 & \bigwedge_Q [Var(Q, X) \prec Var(Q, Y)] \wedge \bigwedge_Q [Con(Q, Y) \prec Con(Q, X)] \wedge \\
 & \bigwedge_Q [Var(Q, Y) \prec Var(Q, X) \vee \bigvee_{q \in V_Q} !Con(q, X)] \wedge \\
 & \bigvee_Q [Var(Q, Y) \wedge \sim Var(Q, X)]
 \end{aligned}$$

The formal notation may cause objections as the only known signs are functors from the classical propositional calculus and quantifiers, while also new expressions have been introduced quite conventionally. Using quantifiers may seem quite artificial from a purely formal point of view, and on account of introducing new expressions the whole notation may seem illegible. However, when this seemingly long and unclear notation has been interpreted, then it seems that Ingarden's intuitions can be appropriately understood. Idea X is a specification of idea Y if and only if:

1) for every quality Q it is necessary that if quality Q is a "constant" in the content of idea X , then quality Q is a "constant" in the content of superior idea Y or belongs to the range of variability of a "variable" in the content of this superior idea.

2) for every quality Q it is necessary that if quality Q is a "variable" in the content of idea X , then quality Q is a "variable" in the content of superior idea Y .

3) for every quality Q it is necessary that if quality Q is a "constant" in the content of superior idea Y , then quality Q is a "constant" in the content of idea X .

4) for every quality Q it is necessary that if quality Q is a "variable" in the content of superior idea Y , then quality Q is a "variable" in the content of idea X or there exists such one quality q from the range of variability of quality Q that this quality q is a "constant" in the content of idea X .

5) There exists such one quality Q that quality Q is a "variable" in the content of superior idea Y and quality Q is not a "variable" in the content of idea X .

This definition gives formal conditions which must be met in order for general idea X to be a specification of a more general idea Y from the same hierarchy of ideas. The definition takes into consideration only qualitative "variables" and "constants" of the content of ideas, because their presence

in the content of ideas allows to know if the idea is more or less general in the same hierarchy of ideas. In order to illustrate the specification relation, another example may be drawn: let's discuss two random ideas from the above mentioned hierarchy, e.g. the idea "parallelogram" X and the idea "quadrilateral" Y .

1) The first condition states that for every quality it is necessary that if this quality occurs as a "constant" in the content of idea X , then it also occurs as a "constant" in the content of superior idea Y or belongs to the range of variability of a "variable" in the content of this superior idea. The "constants" of the idea "parallelogram" (that is idea X) are: "being a polygon," "being quadrilateral," "being a parallelogram." The first two also occur as "constants" in the content of the idea superior to the idea of "parallelogram" that is in the idea of "quadrilateral" (in our example in idea Y). However, it is not specified in the idea of "quadrilateral" whether it is supposed to be a parallelogram, i.e. there is no "constant" quality of "being a parallelogram." Whereas in the content of the idea of "quadrilateral", there is a possibility of the relation of being parallel between pairs of opposite sides to occur or not. Thus it can be said that "being a parallelogram" belongs to the range of variability of the "variable" of the content of the idea of "quadrilateral," which is a quality of "a certain relation between pairs of opposite sides, in which the relation has been distinguished on account of the relation of being parallel."

2) The second condition states that for every quality it is necessary that if quality Q is a "variable" in the content of idea X , then quality Q is a "variable" in the content of superior idea Y . The "variables" in the idea of "parallelogram" are: "a certain size of interior angles," "a certain length of sides." These qualities are also "variables" in the content of the idea "quadrilateral."

3) The third condition states that for every quality it is necessary that if quality Q is a "constant" in the content of superior idea Y , then quality Q is a "constant" in the content of idea X . The "constants" in the idea of "quadrilateral" are: "being a polygon" and "being quadrilateral." These qualities are also "constants" in the content of the idea "parallelogram."

4) The fourth condition states that for every quality Q it is necessary that if quality Q is a "variable" in the content of idea Y , then it is a "variable" in the content of idea X , or there exists such one quality q from the range of variability of quality Q that this quality q is a "constant" in the content of idea X . The "variables" in the idea of "quadrilateral" are: "a certain size of interior sides," "a certain length of sides," "a certain relation

between pairs of opposite sides, which relation has been distinguished on account of the relation of being parallel" (that is, the relation of being parallel between pairs of opposite sides either occurs or not). The following "constant" qualities belong to the range of variability of the last "variable": Q_1 — "being parallel of two pairs of opposite sides," Q_2 — "being parallel of one pair of opposite sides," Q_3 — "not being parallel of both pairs of opposite sides." In the content of the idea "parallelogram" "being parallel of both pairs of opposite sides" (that is Q_1 here) is a "constant." Moreover the above mentioned "variables" of the idea of "quadrilateral" are "variables" of the idea "parallelogram."

5) The fifth condition states that there exists such one quality Q that quality Q is a "variable" in the content of superior idea Y and quality Q is not a "variable" in the content of idea X . In the discussed example such a quality is the quality which can be determined as "the relation of being parallel between pairs of opposite sides which occurs or not."

Also, certain additional conditions for the "variable" and the "constant" of content of a general idea can be given. These conditions are as follows:

$$(2i) \text{Var}(Q, X) \wedge q \in V_Q \prec \sim \text{Con}(q, X)$$

It is necessary that if quality Q is a "variable" in the content of general idea X and quality q belongs to the range of variability of quality Q , then quality q is not a "constant" in the content of idea X .

$$(2ii) \text{Con}(Q, X) \prec \sim \text{Var}(Q, X)$$

It is necessary that if quality Q is a "constant" in the content of general idea X , then quality Q is not a "variable" in the content of idea X .

Due to these conditions — as can be easily noticed — it is excluded that the same quality is both a "variable" and a "constant" in the content of the same idea.

Having presented these explanations it is possible to move to determining the relation which occurs between a specified general idea and the "lowest" idea which is its specification. This relation is called the maximal specification relation. The definition which characterizes the relation is of the following form:

$$(3i) X S_m Y \stackrel{def}{=} XSY \wedge \bigwedge_Q [\text{Var}(Q, Y) \prec \bigvee_{q \in V_Q} \text{Con}(q, X)]$$

Idea X is a maximal specification of idea Y — which means that idea X is a specification of idea Y and for every quality Q it is necessary that if quality Q is a "variable" in the content of idea Y , then there exists exactly one such quality q from the range of variability of Q that q is a "constant" in the content of idea X .

Again let's illustrate this with an appropriate example. In the discussed hierarchy of ideas, a specific idea is the idea "particular square," that is the idea "square" with a specified length of sides, e.g. having q units. Let the idea "such square" be the name of idea X , and the idea "square in general" — of idea Y . Now it is possible to discuss only the second element of the conjunction as the first has already been taken into consideration in the preceding example. The qualitative "variable" in the content of the idea "square in general" is only "a certain length of sides." The range of variability of this "variable" encompasses particular specified lengths of sides. Thus it is necessary that since "a certain length of sides" is a "variable" in the content of idea "square in general," then there exists exactly one specified length of sides, let's say of q units, which is a "constant" in the content of the idea "specified square" (with the length of sides of q units).

The formal analysis of the maximal specification relation may result in formulating certain relations which shall be presented with their proofs.

$$(3ii) \ X S_m Y \prec \sim \bigvee_Q Var(Q, X)$$

1. $X S_m Y$ assumption
2. $\bigvee_Q Var(Q, X)$ assumption of the proof by contradiction
3. $Var(Q_1, X)$ 2
4. $Var(Q_1, Y)$ (3i), (1i)
5. $\bigvee_q [q \in V_{Q_1} \wedge Con(q, X)]$ 4, 1, (3i)
6. $Q_2 \in V_{Q_1} \wedge Con(Q_2, X)$ 5
7. $Con(Q_2, X)$ 6
8. $\sim Con(Q_2, X)$ (2i), 3, 6
contradiction

Conclusion 2

$$(3iii) \ X S_m Y \Leftrightarrow XSY \wedge \sim \bigvee_Q Var(Q, X)$$

- a) 1. XSY assumption
2. $\sim \bigvee_Q Var(Q, X)$ assumption

- 1.1. $Var(Q, Y)$ additional assumption
- 1.2. $\sim Var(Q, X)$ 2
- 1.3. $Var(Q, X) \vee \bigvee_{q \in V_Q} !Con(Q, X)$ 1, 1.1., (2i)
- 1.4. $\bigvee_{q \in V_Q} !Con(Q, X)$ 1.3, 1.2
- 3. $\bigwedge_Q [Var(Q, Y) \prec \bigvee_{q \in V_Q} !Con(q, X)]$ 1.1. \prec 1.4
 XS_mY 3.1., (3i)
- b) 1. XS_mY assumption
 $XS \vee \sim \bigvee_Q Var(Q, X)$ 1., (3i), (3ii)

Hence it is visible that the maximal specification relation occurs between X and Y when the specification relation occurs between X and Y and there is no quality in the content of idea X that is its "variable."

On the other hand, as has been already stressed only the specific idea does not have "variables": "AN IDEA IS SPECIFIC IF ITS CONTENT IS COMPOSED OF CONSTANTS WHICH COMPLETELY EXHAUST THE QUALITATIVE ENDOWMENT OF AN INDIVIDUAL OBJECT and in this respect any closer determination of the content of a specific idea is out of the question as it is in the case of general ideas [...]" (Ingarden 1972: 372-373).

The above statement shall be understood thus that qualitative endowment of an object is determined only by qualitative "constants" of the contents of a specific idea. However, it seems that in Ingarden's ontology the occurrence of qualitative "variables" in the content of a specific idea is not adjudicated. They do not occur in the content of specific ideas of ideal individual objects. The problem appears in the case of real objects (i.e. individual objects lasting in time). It seems that Ingarden's ontology does not give a solution to this question (but it is not from the lack of adequate instruments of analysis, but simply because of the richness of real domain). Because the type of individual objects is not adjudicated in this analysis, and the previous remarks support the elimination of qualitative "variables," at least in the case of the idea of an ideal individual object, hence it is assumed here that a specific idea does not have "variables." Thus it is possible to give the following definition of a specific idea:

$$(4i) \text{Spec}(X) \stackrel{def}{=} \sim \bigvee_Q Var(Q, X)$$

Idea X is a specific idea — which means there exists no such quality Q

that is a "variable" in the content of idea X . Due to determining maximal specification it is visible that idea X is the maximal specification of idea Y if and only if it is a specification of idea Y and idea X is a specific idea. Formally, it can be notated in the form of the following conclusion resulting from definition (3i):

Conclusion 3

$$(3iv) X S_m Y \Leftrightarrow X S Y \wedge Spec(X)$$

This conclusion, similarly to the previous one, is notated by means of strict equivalence, which seems to be meritorically correct. For it is necessary that if a certain idea is the maximal specification of another idea, it is a specification of this idea and it is a specific idea, and contrariwise, it is necessary that if a certain specific idea is a specification of another idea, then it is the maximal specification (because it is not possible to find a "lower" idea in the hierarchy of ideas if the specific idea is treated as the "lowest" idea in a given hierarchy of ideas). It needs to be added here that functors of strict implication and equivalence come from system S1 of modal logic.³ The proof of 3 is very simple due to (3iii) and (4i).

The next type of relation in Ingarden's ontology is the exemplification relation, that is a relation which occurs between an idea and an individual object which falls under a given idea. Also in this case it is needful to refer to the characteristics of the content of ideas. However, already on the basis of the previous remarks it is possible to state what it means that an individual object a is an exemplification of idea X . It means that for any quality Q it is necessary that if quality Q is a "constant" in the content of idea X , then quality Q in a concretized form belongs to the individual object, and for any quality Q it is necessary that if quality Q is a "variable" in the content of idea X , then there exists such one quality q from the range of variability of Q that a concretization of q belongs to object a .

These conditions can be formally notated in determining the exemplification relation:

$$(5i) aEX \stackrel{def}{=} \bigwedge_Q [Con(Q, X) \prec Q(a)] \wedge \bigwedge_Q [Var(Q, X) \prec \bigwedge_{q \in V_Q} !q(a)]$$

In the case when an individual object "falls under" a specific idea, the

³The formal characteristics of system S1 can be found e.g. in Hughes, Cresswell (1968: 216-230).

relation is called the direct exemplification relation. Thus it seems legitimate to treat the direct exemplification as a case of exemplification. What results is the following definition:

$$(5ii) \ aE_dX \stackrel{def}{=} aEX \wedge Spec(X)$$

Individual object a is a direct exemplification of idea X — which means that this object is an exemplification of such an idea which is a specific idea. Also, there may be a case in which an individual object is an exemplification of an idea, but is not a direct exemplification. This case may be called an indirect exemplification, though Ingarden does not distinguish between exemplification and indirect exemplification. However, for the sake of clarity, indirect exemplification may be classified as an instance of the exemplification which is not direct exemplification. It happens if and only if an individual object is an exemplification of the idea which is not specific. Thus it is easy to give the determination of indirect exemplification:

$$(5iii) \ aE_{id}X \stackrel{def}{=} aEX \wedge \sim aE_dX \Leftrightarrow aEX \wedge \sim Spec(X)$$

The above considerations result in a simple conclusion about the three variants of exemplification: object a is an exemplification of idea X if and only if it is a direct or an indirect exemplification.

$$(5iv) \ aEX \Leftrightarrow aE_dX \vee aE_{id}X$$

Now let us give the condition for indirect exemplification.

$$(5v) \ aE_{id}X \prec \bigvee_Y [aE_dY \wedge YS_mX]$$

This implication can be proved with the following assumption:

$$(6i) \ [aEX \wedge \sim Spec(X)] \prec \bigvee_Y [YS_mX \wedge aEY]$$

Now let an individual object be an exemplification of an idea which is not specific. For example an individual square is an exemplification of the idea "quadrilateral." It is known from Ingarden's ontology that the qualitative endowment of the idea "quadrilateral" as a general idea does not completely exhaust the qualitative endowment of a specified square: "the repository of constants which occur in one such general idea [...] does not exhaust the full

material and formal endowment of a given individual object [...]” (Ingarden 1961, II: 100). Thus there is a certain specified idea which is in the same hierarchy of ideas as the idea ”quadrilateral” and the specified square is an exemplification of this idea. For an ideal individual object such an idea is a specific idea and in the example considered here it is the idea ”such specified square.” Thus this idea is a maximal specification of the idea ”quadrilateral.”

Because only ideal individual objects are discussed here, the previously adopted assumption (6i) seems to be true. This assumption might be questioned, and even — who knows if it is not false in the case of real individual objects (lasting in time). Thus it seems that on the basis of Ingarden's ontology it is not possible to formulate such a condition for real objects. For Ingarden does not say anything about specific ideas then. And thus a certain John Smith is an exemplification of the idea ”man,” which is not a specific idea. Thus it is not possible to speak of the idea, exactly so specified, of the man John Smith is. What is not to be discussed here is the issue of all types of real objects, for example if there is a specific idea of a specified table, notebook, pencil, etc. Ingarden writes: ”At this moment it is difficult to answer the question if there is such a specific idea under which falls an individual object changing in time.” And further ”the question arises on what the content of the idea under which this type of individual object falls is composed of — Is it a specific idea and contains only material constants, or is it still a certain general idea?” (Ingarden 1961, II: 100). Adopting the limitation which takes into consideration only ideal objects, it is possible to give the implication (5v) which has been already written as a necessary condition for indirect exemplification. Let us treat it as a theorem.

$$(5v) \ aE_{id}X \prec \bigvee_Y [aE_dY \wedge YS_mX]$$

It is necessary that if individual object a is an indirect exemplification of idea X , then there is idea Y whose direct exemplification is this object, and idea Y is a maximal specification of idea X . Intuitively, it should be understood thus that idea Y is the ”lowest” among ideas under which object a falls. The proof of this theorem is as follows:

1. $aE_{id}X$ assumption
2. aEX 1, (5iv)
3. $\sim Spec(X)$ 1, 2, (5iii)
4. $Y_1S_mX \wedge aEY$ 2., 3, (6i)
5. $Spec(Y_1)$ 4, (3iv)

6. aE_dY_1 4, 5., (5ii)
 $\bigvee_Y[aE_dY \wedge YS_mX]$ 6., 4.

Let the following example be an illustration of this theorem: let object a be an individual square, while idea X — the idea "quadrilateral." It can be said that the individual square is an indirect exemplification of the idea "quadrilateral." But it is known from the previous remarks that if an individual square falls under the idea "quadrilateral," then there is the idea "such specified square," whose direct exemplification the square is and which, as known from the ontology, occurs as the "lowest" in the same hierarchy of ideas, that is it is the maximal specification of the idea "quadrilateral."

The relations analyzed here are the basic relations in Ingarden's ontology. Other relations (e.g. structural and radical transcendence) has been left out because their analysis would involve a previous presentation of their broad philosophical characteristics and seems to be difficult to convey with present means of formal semantics. However, it is believed that the present attempt to analyze formally a small fragment of Ingarden's ontology allows to explicate some ontological theorems more clearly and show the structure of objects of ontology. Obviously the question arises if and how adequately such an attempt could be made if other formal means were used. However, a positive conclusion both for language philosophers and philosophically oriented logicians is the thesis about the possibility of conducting such an analysis to a certain — as can be believed — satisfactory degree of adequacy.

Bibliography

1. Bar-Hillel, Yehoshua (1957) "Husserl's Conception of a Purely Logical Grammar." *Philosophy and Phenomenological Research* 17: 362-369.
2. Hughes, George Edward and Max J. Cresswell (1968) *An Introduction to Modal Logic*. London: Methuen.
3. Ingarden, Roman (1962) *Spór o istnienie świata*. [*Controversy over the Existence of the World*] Vol. I. Warszawa: PIW.
4. Ingarden, Roman (1961) *Spór o istnienie świata*. [*Controversy over the Existence of the World*] Vol. II. Warszawa: PIW

5. Ingarden, Roman (2013), *Controversy over the Existence of the World*. Vol. I. Translated and Annotated by Arthur Szylewicz, [Polish Contemporary Philosophy and Philosophical Humanities. Vol. VI, Jan Hartman (ed.)]. Frankfurt am Main: Peter Lang.
6. Ingarden, Roman (1972) "O pytaniach esencjalnych." ["On essential questions"] In *Z teorii języka i filozoficznych podstaw logiki*, 368-372. Warszawa: PWN.
7. Kryzstofiak, Wojciech (1995) "Noemata and Their Formalization". *Synthese* 105: 53-86.
8. Küng, Guido (1968) "Language Analysis and Phenomenological Analysis." In *Akten der XIV Internationalen Kongress für Philosophie, Wien 2-9 September 1968*, vol. II, 247-253. Wien.
9. Küng, Guido (1969) "The Role of Language in Phenomenological Analysis." *American Philosophical Quarterly* 6: 330-334.
10. Küng, Guido (1972) "Ingarden on Language and Ontology. A Comparison with Some Trends in Analytic Philosophy." In *Analecta Husserliana. The Husserl Yearbook for Phenomenological Research*, vol. II, 204-218. Dordrecht: Kluwer Academic Publishers.
11. van Peursen, Cornelis Anthonie (1959) "Edmund Husserl and Ludwig Wittgenstein." *Philosophy and Phenomenological Research* 30: 181-197.
van Peursen, Cornelis Anthonie (1969) *Phenomenologie und analitische Philosophie*. Stuttgart: Kohlhammer.
12. Schmitt, Richard (1962) "Phenomenology and Analysis." *Philosophy and Phenomenological Research* 23: 101-110.
13. Spiegelberg, Herbert (1960) *The Phenomenological Movement*. The Hague: Nijhoff.
14. Thomasson, Amie L (2007) "Conceptual Analysis in Phenomenology and Ordinary Language Philosophy." In Michael Beaney (ed.), *The Analytic Turn in Philosophy. Analysis in Early Analytic Philosophy and Phenomenology*. London-New York: Routledge.
15. Tillman, Frank (1966) "Phenomenology and Linguistic Analysis." *International Philosophical Quarterly* 6: 465-483.

16. Urmson, James Opie (1956) *Philosophical Analysis. Its Development between the Two World Wars*. Oxford: Oxford University Press.