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ON THE USE OF THE GENERALIZED NOTION OF "POSSIBLE WORLDS" IN LITERARY STUDIES

The notion of "possible world" has become firmly established in philosophical enquiry ever since Leibniz. However, in the present article we shall employ it without falling back on the highly respectable philosophical tradition in which the notion has arisen. Nor is it our intention to argue for or against the existence of the world or worlds, because such and other metaphysical questions are clearly outside the scope of this presentation.

The notion of possible world is here understood in the way logicians understand it, as a possible state of affairs (Carnap 1947), or as an model of an underlying language (Kaplan 1964), as a primitive notion of modal logic (Kripke 1959), and—most relevant here—as the context in which the given language is used (Montague 1968, Scott 1970).

Different linguistic expressions may be approached indexically, i.e. their extensions may be written out as being dependent on the context in which they have been used. The index, or the reference point, is a sequence $i = (s, t, w, p \ldots)$, where s is the sender of the message, t is time, w is the world, and $p = (x,y,z)$ is location in space. One could evoke here Carnap's definition of intension and relate a linguistic text with its universe—a possible world. It is not, however, our aim in this paper to take up the basic problems of the field, so well researched by recognized authorities. Instead, we shall confine our attention to the noteworthy findings of Hintikka (1969, 1979), on the equally interesting work of Rantali (1979).

The semantic problems of possible worlds lead on into the very heart of contemporary epistemic logic, where basic hypotheses and controversies flourish. As was stated above, we shall not get involved in such arguments. Ours is the much more modest goal of applying the technical notion of "possible world" to the study of literary reality.

The world presented in a literary piece is "a possible world" in two ways:as a character analogue of the real world, and as a semantic correlate of the literally interpreted linguistic form of the text. The former interpretation assumes some kind of character equivalence relative to intuitional conceptual categorization.

The latter interpretation evolves from the notion of illocutionary speech acts and has to do with the way meanings manifest themselves in the linguistic construct of the text. It is also related to the notion of language games as understood by Wittgenstein. We shall not discuss here the reasons and consequences of adopting such an interpretation of "possible world" for we have already done it elsewhere.[1] Here we shall only point out some aspects of the generalized notion of possible worlds and its potential applicability—if not to studies of particular texts then at least as a possible interpretational basis for literary semantics.

The most general category relevant to our discussion is the notion of logical space. Let us first quote from Bogusław Wolniewicz:

> 1. Situations. Let J be a context-free language based on the rules of classical logic. Following Wittgenstein, the logical space of that language will be a certain metaphysical construct SP which comprises all possible states of things describable in terms of that language, one of which is our real world. These possible states of affairs are called situations, and S is the total number of those situations. How are S and SP related? Let S be any of the possible situations, and let formula $S \subset X$ stand for "X includes S", with the range of variability of X remaining undefined for the time being, although it does include at least the set S. All notions are to be defined in such a way that
>
> $$\bigvee_{s \in S} S \subset X$$
>
> with relation $\subset$ being a quasi-order.[2]

We assume that there exists a sentence α which describes the given situation $S(\alpha)$ and single out for consideration an elementary situation or, as Wolniewicz puts it, an E-situation.

> Let J_c constitute a purely conjunctive part of language J, i.e. $\alpha \in J_c$ always and only if α in J is either a simple sentence or a conjunction of simple sentences. E-situations are semantic correlates of sentences in J_c. In particular, if $\alpha \in J_c$, and x is an appropriate E-situation, then $S(\alpha) = x$.[3]

Following Wolniewicz we shall denote the set of E-situations proper, i.e. arbitrary, by SE. Improper E-situations occur in two forms as empty or impossible.

> The minimal elements of set SE — if they exist — are called logical atoms, and maximal elements — if they exist — logical points:
>
> $SA = \min(SE), \qquad SP = \max(SE).$
>
> The logical points are possible worlds, and logical space SP is their total number.[4]

Without going into the details of Wolniewicz's reasoning, we shall point out some of his ontological findings. Thus, for the set of elementary situations it is possible to determine a variety of ontologies (S-ontologies), especially atomistic ontologies of three types. These types depend on the number of logical dimensions attributed to space SP.

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[1] [In:] *The basic problems of the semantics of a literary text.*

[2] B. Wolniewicz, *On logical space*, „Studia Filozoficzne", 1981, N° 10, p. 67.

[3] *Ibid.*, p. 68.

[4] *Ibid.*, p. 68.

Zero-dimensional ontologies correspond to logical monism. In one-dimensional S-ontologies all situations but two are sets of possible worlds. Historical attributions might be made relative to Leibniz's system, although Wolniewicz thinks that this is questionable:

> for Leibniz was a logical monist. If anything in our world were different, everything would have to be different apart from that which is the same in all possible worlds. His metaphysics would thus be located somewhere between zero- and one-dimensional S-ontologies, and it is hard to say what form it would take .[5]

Thirdly, there can be multi-dimensional S-ontologies, finite of infinite. Historically, Russel's atomism is an example of a finite multi-dimensional S-ontology.

The logical dimensions may be mutually dependent or independent of one another, which constitutes a further subdivision of multidimensional ontologies. Moreover, each logical dimension has at least two atoms, arbitrarily identified as e. g. "positive" and "negative". (Such a minimal, binary ontology was adopted by Cresswell 1973)[6].

Now, turning to the notion of possible world as a literary creation, the reality presented in a work of fiction, we can regard it as a logical point, while logical space SP will be the set of possible worlds generated by the text. It seems that we are dealing here with a multi-dimensional S-ontology. Let us try to single out some of the logical atoms which could mark out the ontologies of the different worlds.

S-ontology is a theory of an extended set of situations S' which constitute the universe of interpretations of language J in terms of which the possible world is described. In keeping with Wolniewicz's remarks, one has to say that there can exist situations not expressible in J and to talk about them one would have to adopt a more powerful language J'. And, no doubt there can be situations not expressible in any finite language accessible to the human mind.

The logical space under discussion is—as indicated above—the set of possible worlds. It seems possible to divide this set into subdivisions according to a variety of criteria which are generalizations of empirical situations, but the subdivisions will necessarily be somewhat fuzzy because they are so deeply rooted in common everyday experience. Thus, e. g. an analogical mapping of the real world in the subset of "possible worlds" will be ordered by some fuzzy function *g* which places the selected world along an axis of decreasing probability ranging from a verbal copy to absence of mapping. It is of course necessary to introduce additional assumptions concerning the number and kind of logical dimensions (logical atoms) taken into consideration. An extreme version of the criterion under discussion—the ontology determined by a faithful mapping would be equivalent to neopositivist atomistic ontology. In other cases one would have to be satisfied with limited and simplified data. The language of the possible world might be richer than the natural language in which everyday reality is described, so that some objects, attributes and relations might go unnoticed. In this way the

[5] *Ibid.*, p. 71.

[6] Cf. especially Chapter 3. „The Metaphysics of Propositions" pp. 37—47.

degree of tangible analogicity mapped by function g would be reduced. If e.g. the appearance of certain objects in the represented world of fiction were changed, with the structural relations among them remaining intact, then function g which determines the membership of the possible worlds in the subset of logical space would acquire indexical characteristic of g_1.

If, on the other hand, the appearance of those objects remained intact but the structural relations among them changed, then some other index g_2 would have to be attributed to function g. The whole picture could be further complicated by considering still other attributes of appearance or their aspects. Were one to consider the exact nature of the structural properties involved, the specification of analogicity might have to be carried out still further. For example, the topologically determined dimensionality of the represented world might be imposed by orders of different types without analogues in the common experience. If, for instance, the author's intention is to create a novel with a structure analogous to some musical form, say fuge, and such is the case with Th. Mann's *Doctor Faustus*, then the dimensionality of the possible world will be given arbitrarily, and function g will not appropriately reflect the relation between the two; the relation will be reflected by some function f which will determine the parameters of homomorphic transformations and situate the possible worlds along the axis of structural equivalences.

The "possible worlds" of literary works present a countless variety of shapes and forms, and the possibilities of their ordering are inexhaustible. Let us point out still other dimensions regarded as criteria.

A wide range of possibilities arise when the notion of possible worlds is related to their generic sphere of modalities. Each of them, denoted as a definite language game (cf. Hintikka, *Language-Games*), can be ascribed a fuzzy membership function h such that $h(x) = 1$ represents maximal fulfilment of a modality while $h(x) = 0$ represents absence of a modality signal. The principle according to which the possible worlds were ordered in the logical space would not be the degree of analogicity given by function g, but the attained intensity of the given modality. It should be pointed out that one of the interpretations of "possibility" would coincide with the analogicity axis. The same might possibly apply to other modalities or attitudinal judgements such as e.g. an extreme case of supposition would fulfil the function of assuming the state considered as basic comparable to the generated state. The use of the conditional mood as an equivalent of predication about the possible world produces a very interesting and intriguing ontology of the world, as is the case with Parnicki's works on the one hand, and Buczkowski's on the other. It is, after all, the case that equivalence occurs between modalities and predication about reality.

The language game signalled by "I want you to...", "I would like you to..." may constitute a starting point for a class of texts, whose semantic correlates will be various possible worlds, each with its specific ontology. This ontology may be described by a fuzzy function h, i.e. it may depend on the degree to which the modality is present. For a certain degree an uncertainty arises as to

the creator's (narrator's, lyrical subject's) intention leading to the so frequently sought ambiguity between predication about the world and its projection. The same may apply to manifestations of belief or, a more complex case, manifestations of knowledge, i.e. the language game signalled by "I know". In the latter case the ordering function has the ,,agglutinating" property of taking on a succession of new logical atoms and, as such, it can be thought of as a self-enriching semantic mechanism. Ordering will be perceptible accretion of knowledge manifesting itself in various structural complications of the relations between elementary situations and in their multiplication.

One such complication may consist in successively including one situation in another. But multiplication may also take the form of the possible worlds branching out by way of cognitive derivation—starting from the basic primary world each successive "I know" generates derived possible worlds in the given logical space. While the narrator's superficial motivation may take a variety of forms, most usually having a compensating-simulating or technological-functional character, in its deepest layers it is an accretion (or reduction) of knowledge which establishes epistemic equivalence among possible worlds. According to Rantala (1979) and Hintikka (1979) such equivalence does not necessarily have to be the same as logical equivalence, that is, in Hintikka's words, an epistemically possible world may not be logically possible. Some cases might require, for their description, an adequate urn model of Rantala.

To generalize, one could say that there usually exist more than one possible worlds generated by the language games of the literary text. These worlds constitute the logical space of the given text (SP). The S-ontologies of the various worlds are characterized by the number and nature of the logical dimensions specific to them and it is only to that extent that they submit to description. To set up some equivalence between thus conceived ontologies requires the assumption of a metalanguage J_v powerful enough to describe SP_v. It seems that in very many cases it will be a mixed language of various modal logics.

It is possible to conceive of an S-ontology of the chosen world constituted by interdependent logical dimensions in a variety of relationships. If, for example, one considers only three dimensions taking the form of appropriate textual indexes such as the syntactic, semantic and pragmatic defined for a given concrete text which generates the world we want, then one can say that each such dimension may have a different "attainment" power. Thus, for example, the autonomy of the world represented in some of the works of Buczkowski derives first of all from the dominance of the syntactic dimension, and the semantic consequences of that world as well as its pragmatic outline are outgrowths of the syntactic dimension. In some of the pieces by M. Białoszewski, on the other hand, it is the pragmatic dimension that determines their syntax and semantics. Of course, the situation is never perfectly clearcut and unambiguous since an S-ontology is defined by logical atoms (dimensions) which are sometimes difficult to classify as valencies of the linguistic texture of the given text and in some case it may be even impossible to express them in a language of intuitional ca-

pacity. This applies to language games with barely perceived rules made up of complex constructs, conventional expressions, or hypothetical cognitive conclusions of various depths and extents. The logical space SP_v of the given textual language will comprise all the possible worlds described in it which may, in some cases, also mean their inclusions, intersections, or exclusions. Thus conceived, the logical space would be a network of intersecting ontological criteria. It might be a worthwhile and interesting exercise to analyze the semantic correlates of a particular literary text from precisely that point of view.

Were the dimensionality of the possible world generated by a given text to be related to the conventions and rules of some particular poetics, then the logical space enclosing that world would permit polarization of the logical atoms into positive and negative, i.e. those that satisfied and those that broke the rules of that poetics. The qualitative unhomogeneity of the elements referred to as "rules" is responsible for the simultaneous formation of a variety of possible worlds. In this way, depending on the dimension under consideration, the negative—positive polarization would exhibit different degrees of intensity.

It is conceivable that in a realistic narrative novel there will arise situations——unmotivated by the plot and at odds with its natural analogue character—in the form of narrative digressions of various kinds. Such a "technological stripping" constitutes a linguistic-constructional basis for the growth of possible worlds whose ontological characteristics derive from the parent world of realistic analogical narration. In such a case SP_v—the logical space of the text—appears to be inconsistent for it contains not only possible worlds which stand in some inferential relations to one another, but also (possibly) some relatively isolated enclaves rooted e.g. in the pragmatics of the literary message, i.e. existing in the logical space "in some other way".

The remarks addressed to the reader in Sternian novels often introduce into the context of the parent possible worlds a supposed world, whose epistemic equivalence depends not on the degree to which the supposition is fulfilled, but on the bounds of knowledge, the store of permissible deviations from the usual paradigm of perception imposed by the global narrative convention. Most frequently the motivation for this has a tactical, short-term character and does not map out the basic strategic groundwork of the ontology, which may refer to actions or events and in this way be defined as the continuing, distinguished state of the system, and not its essential mutation. This may equally well apply also to other manifestations of narrative semantics, referred to as e.g. retrospection or internal monologue. There exists then a basic interpretative dichotomy of the logical space of a given text; it can either be homogenous relative to the inferential relations among the possible worlds that exist in it, or it can be an incoherent agregate of enclaves of the worlds distinguished by various ontological criteria. It seems that this basic property depends largely on the nature of the text which generates the possible worlds, but it may also be a matter of an arbitrary decision on the part of the scholar investigating those phenomena. The arbitrariness—we fell—becomes neutralized when the two conceptualiza-

tions are assessed for their efficacy, for one should probably favour the adequacy of the method to the subject and aim of the investigation over its consistency.

The above remarks touch but a fraction of the issues one should consider when investigating the semantics of a literary text. The perspective outlined here—sketchy and incomplete as it is—seems to be general enough to constitute a starting point for an integrative approach, and a more detailed consideration of the various points involved could yield more conclusive results.

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PRÓBA ZASTOSOWANIA W BADANIACH LITERACKICH UOGÓLNIONEJ KONCEPCJI „MOŻLIWYCH ŚWIATÓW"

STRESZCZENIE

Celem pracy jest wskazanie pewnych możliwości poznawczych związanych z zastosowaniem koncepcji przestrzeni logicznej oraz „światów możliwych" dla analizy fikcji literackiej.

„Świat możliwy" jest tu pojęty zgodnie z sugestiami Carnapa jako możliwy stan rzeczy, a także Motague'a jako kontekst użycia dla danego języka. Przez przestrzeń logiczną rozumie się, zgodnie z twierdzeniem B. Wolniewicza, zbiór możliwych światów generowanych przez dany tekst literacki.

W pracy wskazuje się na przydatność wspomnianych pojęć dla rozpatrzenia stosunku świata przedstawionego do świata realnego zarówno pod względem jakości obrazowania jak i założonej jego struktury intencjonalnej. Wprowadzono tu jako pomocną rozmytą funkcję przynależności *h*. Zwraca się również uwagę na momenty generyczne „możliwych światów" literackiej kreacji sygnowane przez określone gry językowe. W tym kontekście zostają przywołane nazwiska Wittgensteina i J. Hintikki. Zostaje zasugerowana możliwość zastosowania pojęcia semantycznego „modelu urnowego" Rantali dla opisania opartej na modalnościach narracji L. Buczkowskiego oraz suponowanego świata utworów Parnickiego.

Na zakończenie stwierdza się, że uwagi te są jedynie sygnałem ukazującym nowy trakt dla badań nad literacką semantyką.