THE BASIC CONCEPTS OF TRANSFORMATIONAL LOGIC

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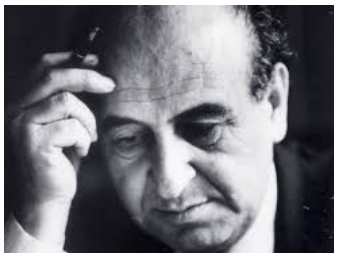
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The idea of the foundation of transformational logic first was fixed by the author in 1976[1]. The first article on that problem was published in 1981[2]. In 1982 the author gave a lecture “Transformational Logic" in the University of Science in Tokyo and made a report on the same problem in the University of Kyoto (Japan) at the session of the “Association of Philosophy of Science”. In the same 1982 the article “Transformational Logic" was published in Japan in English[3].

In 1983 the author gave a paper on the above mentioned problem at XVIII World Congress of Philosophy in Montreal (Canada), published five years later in its proceedings[4]. In 1983 the author’s monograph “Transformational Logic” was published in Russian (with summaries in Armenian, English, and French)[5]. The Moscow leading philosophical journal **The Questions of Philosophy** *in 1983 published the article “Transformational Logic. General Characteristic and Main Concepts”[6].*

To elucidate the essential nature of transformational logic let us first describe its basic concepts. These are explicit and implicit forms (structures) of thought, the subtextual and contextual forms of thought, the rules of transformation, subtextual logic, contextual logic, etc. We call the “explicit” (abbreviation: EXP) form (structure) of thought that form (structure) of thought which is fixed in a given logical system by means of the given language.

We call the “implicit” (abbreviation: IMP) form (structure) of thought that form (structure) of thought which is (or can be) derived from EXP form (structure) of thought by the interpretation of the given logical system and its language expressions.

Let us take a look at the following sentence: “Only some sets are finite”. This sentence expresses in direct form an exclusive particular-affirmative proposition. This proposition contains implicitly more information than a simple affirmation of a fact. This

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[1] Брутян Г. А., Природа языка философии, Философские науки, 1976, 1, стр. 24-30.

[2] Брутян Г. А., Трансформационная логика, Լ<Գ, 1981, 11, стр. 14-29.

[3] Brutian G, A., Transformational Logic. In: A. Ishimoto (ed.), Formal Approaches to Natural Language. Proceedings of the Second Colloquium of Montague Grammar and Related Topics, Tokyo, 1982.

[4] Brutian G.A., Logique Transformationelle. In: Philosopie et Culture. Acts/Proceedings. Vol. II,I-986, Congrès mondial de philosophie. Montréal 1983, Éditions Montmorency, 1988:

[5] Брутян Г. А., Трансформационная логика, Ереван, 1983.

[6] Брутян Г. А., Трансформационная логика. Общая характеристика и основные понятия, Вопросы философии, 1983, 8, стр. 95-106.

proposition at least gives grounds for asserting that “Some sets are not finite”. This means that the examining linguistic expression directly fixes a particular-affirmative proposition of a definite type and, at the same time, presupposes some particular-negative proposition. The first of these is an explicit form, and the second, an implicit form of thought.

“The Slavic languages, like the Indo-European, are inflected languages”. This sentence expresses an in direct, explicit form a universal-affirmative proposition. This form may be easily transformed into the following syllogism: “All Indo-European languages belong to the class of inflected languages; the Slavic languages are Indo-European languages; therefore, the Slavic languages belong to the class of inflected languages”. Clearly, this is already another form of thought, another structure. But this form is already contained in the proceeding form, is implicity understood in it, so that we may characterize this syllogism as an IMP form (structure) of the starting, original form of thought. This means that one and the same linguistic unit (in this case, a compound sentence) expresses at the explicit level one form (structure) of thought (in this case, a universal - affirmative proposition), while at the implicit level it expresses another form (structure) of thought (a syllogism).

The examples given above of the IMP forms and structures of thought may be referred to as subtextual or presupposing. The given logical (as well as linguistic) unit to be analyzed provides grounds for deriving from it, by means of our interpretation, i.e., by exposing the subtext, a form (structure) of thought distinct from the fixed logical form (structure).

The part of transformational logic that studies implicit forms and structures of thought generated by the subtext may be called subtextual logic. However, the IMP forms and structures of thought are not exhausted by subtextual logic. There is a number of IMP forms (structures) of thought that are generated by the context rather than by the subtext.

“What could there be more purely bright in Truth’s day-star?”.This interrogative sentence, seen as such, does not express a proposition directly in explicit form; it expresses what is the same thing, an explicitly zero proposition (EXPo). Meanwhile in the context of E.A. Poe’s poem **"A Dream"** the same sentence presupposes the categorical proposition “Nothing could there be more purely bright in Truth’s day-star”. This is an IMP proposition of contextual origin.

The part of transformational logic that studies implicit forms and structures of thought generated from the context may be called contextual logic.

However, transformational logic not only studies subtextual and contextual forms and structures of thought. It also examines the nature of those logical rules by means of which IMP forms and structures of thought are derived, generated from EXP forms and structures of thought by means of interpretation of the subtext, the context being taken into account. We may call these logical rules transformational rules; we examine them somewhat later in the section “Transformational rules”.

From what has been said, we may now define transformational logic as a science studying the relationship between EXP and IMP forms and structures of thought, the essence of subtextual and contextual forms and structures of thought, the means and rules by which IMP forms and structures of thought are generated from the EXP forms and structures, as well as forms and structures of thought are made precise.