Cory Juhl, Eric Loomis, *Analyticity* (New York: Routledge, 2010).

Reviewed by Viorel Țuțui[1]

Since it was introduced by Immanuel Kant in the *Critique of Pure Reason*, the *analytic–synthetic* distinction had an intricate historical development. In some stages of this development it was considered to be one of the central problems in philosophical controversies, while in others it was virtually forgotten. In contemporary philosophy we witness a significant revival of this theme, beginning with the final decade of the last century. This resumption of the philosophical debate concerning the distinction between the *truths in virtue of meaning* and *truths in virtue of facts* occurred after a long interval in which it was practically ignored, because Quine's criticism against analyticity was considered compelling by the majority of contemporary philosophers.

In their recent work, *Analyticity*, Cory Juhl and Eric Loomis try to offer an introduction to the problem of the *analytic-synthetic* distinction. It represents both a historical and systematical overview of the problems concerning analyticity. The book is structured in six chapters: "Conceptions of Analytical Truth," "Carnap and Quine," "Analyticity and its Discontents," "Analyticity and Ontology," "Analyticity and Epistemology," and "Analyticity Reconsidered."

In the first chapter they present the historical emergence of the distinction beginning with what they call the 'prototype' of the *analytic-synthetic* distinction that was formulated by David Hume: the distinction between 'relations of ideas' and 'matters of fact.' They rightfully underline the fact that Hume's real interest was with the matters of fact and he didn't paid much attention to the relations of ideas. Kant was the philosopher that offered this distinction its philosophical significance in the context of distinguishing *empirical* from *necessary* truths. According to Kant's view, *analytic truths* are those judgments in which the subject A already contains the predicate B and the *synthetic judgments* are those in which

the predicate B lies outside the subject A, although it stands in connection with it. However, the Kantian theory regarding analyticity left many open questions. Their presentation continues with the theory of Bolzano, that extended the class of analytic truth to include logical truths and the theories of Frege and Russell that developed this contribution into the project of logicism, according to which all arithmetic truths can be derived from logical truths, and therefore they are analytical.

Juhl and Loomis affirm that this project was further developed by the Vienna Circle members, like Moritz Schlick and Rudolf Carnap, into a new and influential view that regarded *analytical truths* as expressions of the conventions governing language. (pp. 20-21.) Logical empiricists included in this category all logical and mathematical statements that were considered to be formal truths and opposed to empirical (factual) truths. In their view, any system of truths contains formal truths, that are created by stipulation and are governed only by consistency constrains, and empirical truths that connect the system with the empirical world. The final section of the first chapter briefly presents the main objective of the doctrine held by Rudolf Carnap: to provide a very general theory of objects and concepts that are conceived as logically constructed from the sensation language, understanding logic as a formal language based on conventions concerning the use of symbols. (p. 24.)

The second chapter opens with the analysis of the controversy between Rudolf Carnap and Willard Van Orman Quine concerning the *analytic-synthetic* distinction, which extends in the third chapter. The aim of this analysis is to prove that Quine's arguments fail to show that there is no philosophically interesting notion of analyticity. With this aim they reconstruct in the second chapter, in great detail, Carnap's broader philosophical project that he developed after the dissolution of the Vienna Circle. Responding to Gödel's discovery of the incompleteness of axioms systems for arithmetic, Carnap revised his project, starting with the book *The Logical Syntax of Language*, by assuming the plurality of logic, the liberty to construct logical systems and a language-relative conception of truth. In this context he redefined *analytical truths* as those statements which hold true solely in virtue of the rules of a language system. (p. 40.)

Juhl and Loomis underline the fact that, influenced by Tarski, Carnap tried to extend this project in order to replace troublesome philosophical concepts like 'reference' and 'truth' with more precise concepts of artificial languages. He distinguished the 'internal' question regarding what is truth in such a language from 'external' question about the utility of such a language as a whole. In this context, he attempts to 'explicate' the notion of analyticity as an internal concept

of particular artificial languages. The two authors mention the fact that Quine was influenced by the theory of Carnap regarding the 'explication' of philosophical concepts in more precise terms, but he modified this idea in the form of the 'elimination' thesis: we should eliminate all those concepts that prevent us to understand the world and its contents as physical phenomena. He develops this idea in the theory of 'radical translation,' according to which a language is nothing more than a physical phenomenon, a stimulus from which we cannot hypostatize linguistic phenomena like meanings and synonymies. From this perspective he argues that the notion of analyticity should be abandoned, insofar as it was explained in such terms.

In the first part of the third chapter, Juhl and Loomis present the development of Quine's critique of analyticity from the first expression it took in the article "Truth by Convention," in 1936, to its classical expression from the paper "Two Dogmas of Empiricism," in 1953, and ending with the latter form this criticism takes in the replies addressed to his critics that were included in the volume *The Philosophy of W.V.O. Quine* in 1986. They systemize all Quine's objections against analyticity in several categories: those which claim that 'analytic' is unintelligible, those which claim that analyticity is intelligible, but there are no instances in fact, and those that claim it is intelligible, but explanatorily useless. From Quine's critique of the first dogma (that of analyticity), they mention the arguments regarding the circularity of all the attempts to explain analyticity by using concepts like synonymy or meaning and his arguments regarding the fact that other concepts used to explain analyticity in formal languages, like that of 'semantic rule,' are equally problematic. From his critique against the second dogma (that of reductionism) they present the thesis of confirmational holism, according to which the language of science confronts with experience as a whole rather then confronting it sentence by sentence. All the statements within this comprehensive network are revisable in the light of experience. So, he leaves no place for *truths in virtue of meaning*.

Quine allowed that there could be 'legislative' definitions that could be conventionally true, but he denied that their status as conventional truths had any enduring consequences for the use of such sentences beyond the initial act of definition. However, Juhl and Loomis argue that he fails to acknowledge the important difference between two kinds of stipulation: the stipulation of a rule that prescribes the fact that something will hold and the hypothesizing that something will hold. It's a distinction between following a rule and merely engaging in some regular pattern of behavior. (pp. 121-123.) They will develop this distinction in the sixth chapter in a positive account of analyticity.

In the final part of the chapter, they emphasize the fact that, in his latter works, Quine modified his attitude regarding analyticity, allowing the fact that some notion of 'analytic,' understood as 'stimulus analyticity' and even as 'truth in virtue of meaning,' could be coherent, but he still denied that such a notion could posses any explanatory significance.

The forth chapter is dedicated to the ontological dispute that corresponds to the controversy regarding analyticity. It begins with the presentation of Quine's ontology, his physicalism, and of the relation between this ontological approach and the rejection of the intensional notions and entities that lead him to his 'nonfactualism' about reference and meaning. Juhl and Loomis consider his thesis of indeterminacy of translation as unsatisfactory. They mention Chomsky's objection according to which Quine uses a double standard in his attitude regarding physics and linguistics: he assumes the fact that the underdetermination of theory by the available data is problematic in the case of language, but not in the case of physics. (p. 148.) Next, they analyze the ontological approach defended by Carnap, and especially his distinction between internal and external problems. They argue that it faces many objections that seem to confirm Quine's thesis that the ontological questions (like that concerning the existence of numbers) cannot be settled only internally. In the final part of the chapter they mention the recent ontological contributions of Stephen Shiffer, Jody Azzouni, Eli Hirsh, Ted Sider and of the 'Canberra project' that seems to reproduce the controversy between Carnap and Quine in a contemporary context.

In the fifth chapter, their objective is to underline the philosophical debate regarding the connection between the epistemological problem of non-empirical truths and the problem of analyticity. They start by presenting what they called the 'classical position' regarding this connection that was developed by A.J. Ayer and was accepted by many other logical empiricists. In their opinion, this view is problematic because it conflates modal necessity, apriority, and generality and doesn't distinguish propositions from sentences. However, when Juhl and Loomis discuss Laurence BonJour's objections against the conception of analyticity based on implicit definitions, although they accept that some of them are correct, they argue that these objections do not demonstrate the fact that any appeal to implicit definition is useless. And, after they expose some difficulties that Quine's approach faces, regarding the relation between analyticity and epistemology, they investigate the classical objection raised by Saul Kripke against the confusing f analyticity with apriority: his arguments for the existence of *a priori* and yet *contingent truths* and of *a posteriori necessary truths*. They try to reveal the fact

that some of his examples of *a priori contingent truths* are not genuine because there is not a single entity that is both known *a priori* and *contingent*. (207-208.)

The sixth and final chapter is the one that offers their positive conception concerning the problem of analyticity. They begin by analyzing what they consider to be the best cases for any advocate of analyticity, cases that are not affected by the objections raised by Willard Van Quine and Gilbert Harman: explicit stipulative definitions and mathematical stipulations. Extending the features of these paradigmatic examples, they underline the fact that analytic statements should be understood as true and empirically indefeasible, if we are ruling out empirical data regarding language use itself or second-order empirical data regarding the existence of non-empirical justification of mathematical truths. The starting point of their account of analyticity is the distinction between explicit stipulations and 'hypotheses.' They argue that many of the objections against the analyticity mentioned by Quine and Harman fail to acknowledge this distinction.

Another important conceptual difference they employ is that between *sentence*, understood as a linguistic expression, *statement*, which is a sentence together with some understood rules for using the sentence, and *propositions* that refer to the abstract objects which are correlated with the sentences. Using this distinction they define a special concept of analytic* that refers to statements as 'sentences-as-used': "When we introduce a stipulation of our particular indefeasible sort into our language, we introduce a coordinative rule concerning some stipulation sentence *s*, which states:

(Stip) Sentence *s* expresses some true proposition *p* (in our language L). Furthermore, the proposition *q*, *that s expresses a true proposition* (in L), is empirically indefeasible. No empirical evidence counts in favor of or against the truth of *q*.

When speakers of L accept *Stip* as a coordinative rule for speaking their language, we say that *s* is analytic* in L, or for speakers of L." (pp. 218-219.)

They notice the fact that this sense of analytic* requires that *q* should be empirically indefeasible and doesn't require that the proposition expressed by *s* should be empirically indefeasible too. This latter case is what they call 'analytic-T' (that is introduced by what they call a 'transcendental stipulation.') They use this difference to reject Kripke's arguments for the existence of *contingent a priori truths*: his examples are analytic*, but not analytic-T: the propositions they express are empirically defeasible. Also, using the concept of analytic*, they reject a series of objections mentioned by Quine and Harman: the circularity objection, the indeterminacy of synonymy objection, the which/nonwhich objection. The sense

of analyticity they use does not require other concepts like necessity, synonymy, realism about meanings and so on. Statements that are analytic* are not true in virtue of their meanings: "what it is for a statement to be analytic* is to have the linguistic community take it as true and take it as indefeasible." (p. 229.)

Another objection they analyze is the 'non-explanatoriness' objection: the fact that analyticity does not explain any empirical phenomenon. They accept this objection, but deny the fact that this makes the concept of analytic* useless: it can illuminate epistemologically puzzling phenomena such as our apparent non-empirical justification for believing some statements. The next objection they present is the classical 'saying doesn't make it true' problem. Their response to this objection is that stipulations do not require any pragmatic or epistemic justification in order to be part of a coherent practice. In their opinion, a concept introduced by stipulation can be perfectly coherent, usable and comprehensible independently of whether there are any interesting applications for it and so independently of whether the stipulations involving it are empirically warranted. For example, they affirm that novel branches of mathematics generated by novel mathematical axiom systems or mathematical stipulations may have no known or expected non-mathematical uses. In their view, this thesis does not have the consequence that analytic statements (like mathematical statements) could not be applied in science since they might not be true or justified, because the practice of introducing these statements must be a coherent practice that has some rules of introduction that prevent difficulties like false empirical predictions: the introduction rules should not allow them. (pp. 231-232.)

Next, they argue that the concept of analytic* shouldn't be confused with the traditional concept of analyticity: the class of analytic* statements doesn't include empirical hypotheses and logical truths. This is the reason why their account of analyticity doesn't solve all the epistemological problems that were traditionally connected with it. But they believe that it can be applied in some examples of apparently non-empirical knowledge and justification, like that of mathematical statements we mentioned above, and it can help us explain the status of these statements without any appeal to radical empiricism or *a priori* intuition. In their opinion, these statements are based on indefeasible stipulation. They think that, in this way, we can reject the objection according to which the mathematical statements are not arbitrary and therefore could not be analytic. A mathematical statement like "2+2=4" is not arbitrary because that is what we mean by these mathematical concepts. Another difficulty they address is the objection which affirms that mathematical statements are empirically defeasible. They answer this objection by distinguishing the first-order canonical justification for

the mathematical proofs from the second-order justification for the assertion that there exists a first-order proof. Only the second-order justification is defeasible, but this doesn't affect the indefeasibility of mathematical statements themselves.

The most important difficulty for their account of mathematical statements is, in their opinion, the one that specifies the fact that existence claims cannot be stipulated. We can stipulate that, *if there are* mathematical objects, they will have some properties, but not *that there are* such mathematical objects. However, Juhl and Loomis affirm that their theory doesn't need to say that an act of mathematical stipulation created any entities, or caused the existential claim to be true: "What the stipulation brings about is facts concerning *what proposition a sentence expresses*, rather than *the truth of what is expressed*." (p. 253.) Moreover, they understand mathematical statements as expressing 'immune' propositions, propositions in the case of which no empirical proposition counts for or against. These propositions are about numbers, sets and other mathematical entities, and no empirical data could count against the existence of these entities. The last section of the book is dedicated to other potential applications of their account of analyticity.

In my opinion, the way they answer some of the objections against analyticity and especially those against the analyticity of mathematics is not satisfactory. I believe that they do not address the most important issue that the critics have in mind when they mention these objections: the problem of the objectivity of mathematical statements. The fact that, in their view, mathematical statements are based only on stipulations, transforms mathematics in a pure recreational game: the mathematicians just stipulate some rules of introduction for the mathematical concepts that are compatible with a coherent mathematical practice. But, this will make the applying of the mathematical statements in other sciences just a happy coincidence. However it will not explain the fact that virtually every mathematical topic proved to be very useful when it was applied in other scientific fields. Moreover, mathematical statements are not just useful for other sciences, like physics, but rather indispensable. We need a justification for the fact that this 'happy coincidence' always occurs, a justification Juhl and Loomis did not present.

A second problem is closely related to the first one: if Juhl and Loomis are right in affirming that we do not need a justification for our 'indefeasible' stipulations that are the basis of the mathematical statements, then what reasons do we have to consider that the applying of these statements in other sciences is justified? And, if the applying of mathematical statements in other sciences is not

justified, what reasons do we have to consider that the statements of these sciences themselves are justified?

But, if this is right, then the most important arguments they offer for the explanatory value of analyticity will not succeed. If analyticity* doesn't explain any of the epistemological problems that traditional analyticity was supposed to explain, then we will have good reasons for doubting its explanatory value and its usefulness.

Another observation we can make is the fact that their investigation of analyticity focuses mainly on the controversy between Quine and Carnap and less on the contemporary debate on this issue. Theories that are very important for this debate like those of Paul Boghossian, Cristopher Peacocke, Paul Horwich, Bob Hale, Crispin Wright and Gillian Russell are briefly presented and some of them barely mentioned. I believe that a more extended analysis of the relation between their theory and this cotemporary debate would have been clarifying and beneficial.

However, putting these difficulties aside, the book of Cory Juhl and Eric Loomis, *Analyticity*, is a very useful introduction to the problem of the philosophical significance of the *analytic-synthetic* distinction. One of its most important virtues is the fact that it offers a systematic investigation of the complex relations between analyticity and some of the important problems in the fields on epistemology and ontology, concerning the status and justification of mathematical sentences and the existence of mathematical objects.