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On Kant's Transcendental Argument(s)

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Abstract

Presented in the “Critique of Pure Reason” transcendental philosophy is the first theory of science, which seeks to identify and study the conditions of the possibility of cognition. Thus, Kant carries out a *shift* to the study of ‘mode of our cognition’ and TP is a *method*, where *transcendental argumentation* acts as its essential basis. The article is devoted to the analysis of the *transcendental arguments*. In § 2 the background of TA — *transcendental method* of Antiquity and Leibniz’s *Principle of Sufficient Reason* — are analyzed and their comparison with TA is given. § 3 is devoted to the analysis of TA in the broad and narrow senses; a formal *propositional* and *presupposition* models are proposed. In § 4 I discuss the difference between TA and metaphysics’ modes of reasoning. It analyzes the Kant’s main limitations of the use TA shows its connection with the Modern Age and contemporary science.

Keywords

Kant’s transcendental philosophy (transcendentalism), transcendental method, transcendental argument(s).

1. Introduction

General premise of Kantian transcendentalism is expressed in the questioning “*How is some phenomenon (thing, fact, knowledge, etc) possible?*” (the “How-possible?” question), which seeks to identify the underlying in the basis of this phenomenon limiting

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(necessary) conditions of its conceivability or Kantian *transcendental conditions* (Kant, *Critique of Pure Reason*, (A106)¹), which make this phenomenon possible.

Thus, transcendentalism, in its objectives, coincides with metaphysics, which, while expressing the natural tendency of human being to cognition², deals with identifying and studying of the “first principles (or causes) of things” (Aristotle³). In this regard, Kant says that humans have *metaphysica naturalis*, which is manifested in the fact that the human mind in the process of cognition goes beyond the “(empirical) possible experience”⁴.

However, Kantian transcendentalism acts in relation to classical metaphysics as its different — *epistemological* — modus. A new definition of metaphysics by nearest predecessor Alexander Baumgarten (1714–1762), which gives the overall specificity of the Modern European philosophizing, worth to be noted; it says that a new metaphysics explores not the “first principles of things” (Aristotle), but the subject-matter of (new) metaphysics are (should be) the “first principles of human cognition” (Baumgarten)⁵. Accordingly, Kant understands the transcendental philosophy (resp. metaphysics⁶) as epistemology: “*metaphysics is the science of the first principles of human cognition*” (B871)⁷.

Thus, we can talk about two modes of metaphysics: the ontological *what*-mode, aimed at a natural *object* (Antiquity – Middle Ages) and the epistemic *how*-mode, aimed at the

¹ All references to the Kant's *Critique of Pure Reason* (abbreviated as *Critique*) are to the standard A/B pagination of the 1st and 2nd edns and cite the translation of P.Guyer and A.Wood, *The Cambridge Edition of the Works of Immanuel Kant* (1998). References to other works of Kant are to the volume and page of *Kants gesammelte Schriften* (AA), Königlichen Preußischen (later Deutschen) Akademie der Wissenschaften, 29 vols. (Berlin: Georg Reimer (later Walter De Gruyter), 1900–). All translations of other Kant's published writings are taken from the *Cambridge Edition of the Works of Immanuel Kant*.

² See: “All men by nature desire to know” (Aristotle, *Metaphysics*, I (A), 980a).

³ In *Metaphysics* I(A), he says that “all men suppose what is called wisdom (*sophia*) to deal with the first causes (*aitia*) and the principles (*archai*) of things” (Aristotle, *Metaphysics*, 981b25–982a2).

⁴ See: “Metaphysics is actual, if not as a science yet as a natural predisposition (*metaphysica naturalis*). For human reason, without being moved by the mere vanity of knowing it all, inexorably pushes on, driven by its own need to such questions that cannot be answered by any experiential use of reason and of principles a borrowed from such a use; and thus a certain sort of metaphysics has actually been present in all human beings as soon as reason has extended itself to speculation in them, and it will also always remain there” (B21).

⁵ See: “Metaphisica est scientia prima cognitionis humanue principia continens” (Baumgarten, 1743, § 1).

⁶ See: “Metaphysics in this narrower sense consists of transcendental philosophy and the physiology of pure reason” (B873).

⁷ Kant himself also characterized the subject-matter of metaphysics in these terms in (Kant, 1992b, p.5; (1:387)).

cognition of our cognitive faculty (Modern Age – the Enlightenment). Accordingly, Kant postulated *transcendental philosophy* as ‘all cognition that is occupied not so much with objects but rather with our mode (manner) of cognition of (these) objects insofar as this is to be possible *a priori*’ (B25)⁸ thereby making a *transcendental shift* (transition, turn) in the study of objects given in experience (empirical perspective) to the transcendental conditions of their possibility (transcendental perspective)⁹ (see *fig.1* and *fig.2*).

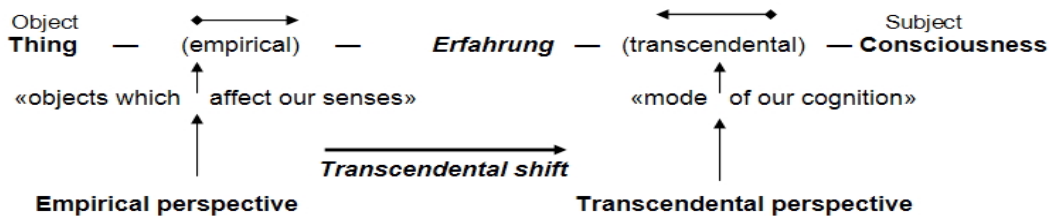


Fig 1

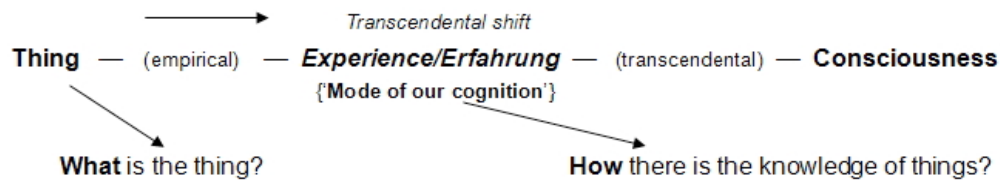


Fig 2

A new philosophical strategy which was called by Kant “*altered (transcendental) method of our way of thinking*” (BXVIII – XIX fn; see also: BXII, BXIV) is supposed by it, according to this strategy “if we ask about the possibility of cognition, we proceed not from an object, but from conditions that turn it into the object of cognition” (Gideon, 1903). Accordingly, Kant calls the *Critique* a “Treatise on the method¹⁰, (rather than *system* of metaphysics)” (BXXII), where *transcendental arguments* acts as its essential basis. At the same time Kant suggests to “transform the accepted procedure of

⁸ Comp. this with the definition in R4851 (1776–78, 18:10): "Cognition is called transcendental with regard to its origin, transcendent with regard to the object (Objects) that cannot be encountered in any experience." See also R4890 (1776–78, 18:20) (Kant, 2005).

⁹ I introduce the methodological concepts “*transcendental shift*” for the characteristics of Kant's transcendentalism in my paper “*Kant's transcendentalism as the transcendental paradigm of philosophizing*” (Katrechko, 2014b).

¹⁰ We should pay attention, that term “transcendental method” (Germ. “*transzendente Methode*”) cannot be found in Kant's works, although the last section of *Critique* is called “The Transcendental Doctrine of Method”. Thus Kant practices the *transcendental method*, but he doesn't give its the precise definition. As a technical term ‘*transcendental method*’ appears only in the Neo-Kantians' works: 1) Cohen H. *Kant's Theorie der Erfahrung* (Kant's Theory of Experience), Berlin, 1871; 2) Natorp P. Kant und die Marburger Schule, in: *Kant-Studien*, 17, pp. 193–221, 1912.

metaphysics, undertaking an entire revolution according to the example of the geometers and natural scientists”, or to make ‘Copernican revolution’ in it (BXXII fn).

2. Transcendental Method and Trancendental Arguments

The postulated by Kant *transcendental method* (as a basis of TP) is not something entirely new in the history of philosophy. As a method of identifying *the conditions of possibility* of phenomena, it is one of the main methods of philosophizing (resp. constructing of philosophical reasoning) in general¹¹, and one of its first applications can be found in Plato's ‘Parmenides’.

In this regard, A. Losev notes that the *transcendental* method, along with the *phenomenological* and *dialectical* ones¹², is the primary method of philosophy and conceptually it is superior to the phenomenological method. *Phenomenology*, which is also aimed at identifying the “conditions of possibility of the empirical” assumes “full “abstinence” from facts” (Losev, 1985) (procedure of *epoche*), while the *transcendental method* is a “synthesis of naive realism and phenomenology”, synthesis of fact/thing and eidos, “union of idea and reality, meaning and phenomena” (*ibid*)¹³, that ‘constitutes the key to the whole secret of metaphysics’ (Kant 1999, p.132 (10:130)), which is explicated by Kant in his letter to M. Herz (21.02.1772) as a semantic problem “*What is the ground of the relation of that in us which we call ‘representation’ to the object?*”, and Kant suggests his “Copernican revolution” to solve it.

According to Losev, the origins of the transcendental method are contained in the works of Plato, Aristotle, and its crucial development it gets in the works of the Neo-Platonists, who were able to synthesize the approaches of their predecessors in a single philosophical method (Losev 1985). Transcendental method of Antiquity (Neo-Platonism) acts as a method of ideal understanding of things, aimed at identifying the conditions of understanding of certain empirical phenomena (Losev 1969, pp.192, 215). For example, in order “to think a space-time thing, it is necessary to already have an idea about space in

¹¹ Studies of *conditions of possibility* set a broad interpretation of transcendentalism. Depending on the type of postulated “conditions of possibility” we can identify, respectively, either 1) *ontological* transcendentalism of Antiquity (Plato, Aristotle, Neo-platonism) associated with the study of the conditions of *existence* of things, or 2) *epistemic* transcendentalism of Kant's type which is of interest for us here, which is associated with the analysis of conditions (of possibility) of *cognition* of things. Thus similarity between them is in the fact that they both overcome empirical paradigm (*naturalism*) aimed to explore things. But below we will show that it is more precise to attach to transcendentalism the second — epistemological (Kant) — meaning, while to call the ontological transcendentalism as *transcendentism* (L. Kalinnikov).

¹² Besides these three philosophical methods, Losev also highlights the pre-philosophical method of naive realism and post-dialectical *arhythmological* method (Losev 1985).

¹³ Cf.: “The transcendental idealist... can be an empirical realist” (A370).

general and time in general” (Losev 1969, p.216), and, for example, a concept of color in general is the condition of cogitation of green (Losev 1969, p.49).

A clear demonstration of the ancient transcendental method may be found in Plato's “Symposium” dialogue: “

All the erotic hierarchy of “Symposium” has only one philosophical sense — to be a specific application of the transcendental method. There are beautiful bodies — how is this possible? The answer of transcendental philosophy is that it is possible because there is a general bodily beauty. How can bodily beauty be possible in general? It is possible because there is beauty of a soul (because body is what is moved by the soul). How can the beauty of the soul be possible? It is possible because there is a beauty of mind, ideas (because the soul is something what is cogitated by the mind...): thus we come to the idea of beauty, which, according to Plato, is the one, which allows the beauty of bodies and souls. Thus, the erotic ascent of “Symposium” is nothing else than a result of transcendental substantiation... (Losev 1969, p.233).

Thus, the essence of (ancient) transcendental method, where Plato's “Parmenides” acts as the paradigm for it, is in the fact that it puts some *hypothesis* as a purely sense (semantic) structure, in the context of which the consideration of a particular empirical data happens. Then iteration follows: suggested *hypothesis* is subjected to a new thinking and a new *hypothesis* is assumed, which is the ground of the first hypothesis, etc., and if it is necessary, at a certain level of analysis alternative hypotheses are put forward and the question about which of them is true is considered. As a result of such a mental ascent the identification of the Kantian “transcendental conditions”, or Aristotelian “first principle” of things takes place (Losev 1969, p.218, 255).

Thus, the transcendental method, which goes back to Antiquity, allows to combine in one reasoning *a posteriori* and *a priori*, and in a certain way to reconcile these dissimilar components of knowledge with each other, i.e., somehow solve the *basic aporia of apriorism* that is formulated by N. Hartmann as applied to Plato as: ‘how the soul can find in its depths a priori knowledge of the things of the external world; where this knowledge comes from and why it can be used for cognition of external things?’ (Hartmann 1940, pp.16–18, 32–38). Kant’s solution of this aporia is connected, firstly, with the his “anti-empirical” *Copernican revolution* and, secondly, with the *transcendental deduction*, by means of which Kant justifies the possibility of applying of a priori categories to (objects of) possible experience.

At the same time it would be wrong, as we have noted above, to equal the transcendental construction of Antiquity and the actual transcendental method developed by Kant in a systematic manner, despite a certain similarity between them. A question on “the nature” of a priori *hypotheses P* is the principal difference of Kant’s transcendentalism from the previous ancient and medieval metaphysical tradition. Ancient philosophers understand it *ontologically*, as a kind of meta-physical entity. For Kant, who is the thinker of Modern Age and of the connected with it “epistemological turn”, the a priori

transcendental condition *P* is understood as a kind of *epistemological* condition of cognition, which refers to our way of cognition (resp. cognitive faculty). A comparison of Kant and Plotinus is sufficiently meaningful here. If Plotinus understands *the One* as some super-ontological entity, without which the existence of all things is impossible: every existing thing is the one, what does not allow it to disintegrate into its parts¹⁴, then Kant *the One* “turns” in the *transcendental unity of apperception* (TUA), which performs the same function of unity, but in the epistemological modus: TUA is a necessary condition for synthesizing of prehensive by us sensory manifold into a single object of cognition, or Kant's *transcendental object* (TO)¹⁵.

With that, Kant's transcendentalism is largely based on the metaphysics of Leibniz and his followers (Ch. Wolff, A. Baumgarten). In the light of this discussion the *Principle of Sufficient Reason* offered by Leibniz is significant here. The essence of this principle is that it requires a justification (substantiation) of the used in the provisions arguments, including experimental ones: *nothing exists without reason (ground)*¹⁶. The transcendental conditions, the necessity of which is postulated by Kant, act as such reasons or conditions of possibility of empirical — i.e. Leibniz's (necessary, *a priori*) *Truths of Essence* for (contingent) *Truths of Existence*. However, in contrast to Leibniz's principle, the requirement of finding of *transcendental conditions* of experienced phenomena expresses rather the principle of *necessary 'reason' (ground)*¹⁷. This change of modality expresses an important feature of Kantian approach: transcendental conditions have only *epistemic* and not *ontological* status. On the one hand, they may not be *sufficient* for the *existence* of *E* phenomenon¹⁸, as they are only the *conditions of cogitation (thinking)* of phenomena, not of the *existence* of things-in-themselves; on the other hand, the recognition of *P* as a

¹⁴ In contemporary physics' *forces* or types of *interaction* perform a role (function) 'unity' similar to *the One* of Neo-platonists.

¹⁵ TUA and TO are introduced by Kant in a correlative manner: «the transcendental unity of apperception that all the manifold, given in intuition is united into a conception of the (transcendental) object» (B140, A250–1).

¹⁶ Comp. with Proposition 8 in Kant's *Nova dilucidatio* (1755): “Nothing which exists contingently can be without a ground which determines its existence antecedently” (Kant 1992b).

¹⁷ In his work L. Abramyan (Abramyan, 1979, p.158) fixed the close connection between Kant's TA and his “*altered method of our way of thinking*” (BXVIII fn): here Kant writes about necessary of the experiment “with concepts and principles that we assume *a priori*” in order to absence of contradictions, ‘conflict of reason with itself’. The author calls the Kantian TA ‘*argument from the possibility of experience*’ and correlates it with Leibniz's *argumentum ad vertiginem*: “If this proof is not accepted, we have no way to attain certainty about the matter in question (this being taken to be absurd)”, which Leibniz himself considered less significant as compared to the principle of reason “because what it necessary to uphold our knowledge must be distinguished from what serves as a foundation for our accepted doctrines. or for our practices” (Leibniz 1982, p.492).

¹⁸ Comp. with the famous Kant's thesis: ‘*Being* is obviously not a real predicate’ (B626).

necessary condition is not *sufficient* for recognition of its real status: *P* is only a *a priori form* (of consciousness), which predetermines the structure of *phenomenon*, not an objective ontological datum for things (for example, see Kant's doctrine of the ideality of space and time).

3. Transcendental Argument(s)

In the second half of twentieth century the *second* (after Neo-Kantianism) (re-)discovery of Kant's transcendentalism appeared, especially within the analytic philosophical tradition. We are talking about the work of G. Bird, J. Bennet, W. Sellars and others¹⁹, but P. Strawson's book *The Bounds of Sense* (Strawson, 1966) played a crucial role here, where a new — *analytical* — interpretation of Kant's transcendentalism was presented²⁰. Its essence lies in the fact that it is possible to separate Kant's *transcendental idealism* from his *transcendental arguments*. Thus Strawson rejects Kant's *transcendental idealism*, which is based on representationalism, and adopts the Kantian *TA* as a crucial method of philosophy. After Strawson transcendentalism of Kant was regarded as a *transcendental method*, not a metaphysical system: see influential (for Anglo-Saxon) R. Walker's book '*Kant: The arguments of the Philosophers*' (Walker 1978), the thesis of the central role of *TA* in Kant's works is the leitmotif of which.

By *transcendental argumentation* (resp. *transcendental arguments*²¹) we will continue to mean the Kantian type of reasoning used by him in analogies of experience and

¹⁹ See: *Bird G.* Kant's Theory of Knowledge, 1962; *Bennet J.* Kant's Analytic, 1966; *Sellars W.* Science and Metaphysics: Variations on Kantian Themes, 1968; *Hintikka J.* Kant's 'New Method of Thought' and his Theories of Mathematics, in: *Ajatus*, 27: 37–47, 1965.

²⁰ K. Ameriks (Ameriks 2003) says about the contemporary third wave of Kant scholars, represented in the United States by interpreters such as Henry E. Allison and Paul Guyer, and in part anticipated by the work of leading postwar German philosophers such as Dieter Henrich and Gerold Prauss (Allison H.E., *Kant's Transcendental Idealism: An Interpretation and Defense* (New Haven, 1983); Allison H. 2004, *Kant's Transcendental Idealism: An Interpretation and Defense*, New Haven, Revised and Enlarged Edition); Ameriks K., *Kant's Theory of Mind* (1982); Bird, G. 2006, *The Revolutionary Kant: A Commentary on the Critique of Pure Reason*, Chicago and La Salle: Open Court; Guyer P., *Kant and the Claims of Knowledge* (Cambridge, 1987); Henrich D., *The Unity of Reason: Essays on Kant's Philosophy* (Cambridge, Mass., 1994); Prauss G., *Erscheinung bei Kant: Ein Problem der 'Kritik der reinen Vernunft'* (Bonn 1971); Prauss, G, 1974, *Kant und das Problem der Dinge an sich* (Bonn 1974).

²¹ In the 60-ies the interest in *TA*, in addition to P. Strawson's book was also heightened by B. Stroud's article (*Stroud B.* Transcendental Arguments, *Journal of Philosophy*, 1968, № 65). Currently hundreds of articles on *TA* are published. In 80-ies among them we can point on collections of articles: 1) *Transcendental arguments and Science: Essays in Epistemology*, 1979 (eds. Bieri, Horstmann, Kriger); 2) *Bedingungen der Möglichkeit: 'Transcendental Arguments' und Transzendentes Denken*, 1984 (eds.

transcendental deduction of the categories from *Critique* (A84–92/B117–69, B218–66, B274–9, B 811–23 and others). Early uses of the term “*transcendental argument*” for arguments of this type (technical term) have been noted J. Austin (Austin, 1939)²², although an earlier in the beginning of XX century C. Peirce used the term in his manuscripts. Kant himself repeatedly uses this type of reasoning in *Critique* and, moreover, treats it as the fundamental method of philosophy, but does not impose it as a technical term and does not give its precise definition²³. In *Critique* several similar expressions are used: *transcendental argument* (B 655), *transcendental exposition* (B 40–45, 47), *transcendental deduction* (B 117–69), *transcendental critique* (of inference) (B 637, 654) and *transcendental proof* (B 619, 642, 657 (‘transcendental kind of proof’), 811–23), — the class of which forms *transcendental arguments* in the broadest sense (TA*), and TA serves as the core of this class. TA in the narrow sense is related, usually, to the Kant’s reasoning of the 1st and 2nd analogies of experience of *Critique* (A84–92/B117–69, B218–66)²⁴.

Schaper and Vossenkuhl) and *Reading Kant: New Perspectives on Transcendental Arguments and Critical Philosophy*, 1989 (eds. Schaper and Vossenkuhl); 3) *Kant's Transcendental Deductions: The Three 'Critiques' and the 'Opus Postumum'*, 1989 (ed. E. Forster). Contemporary studies on TA are presented in: Stern R., *Transcendental Arguments: Problems and Prospect*, 1999 (there is a bibliography of more than 250 items). Among contemporary works I should also highlight book: Stapleford S., 2008, *Kant's Transcendental Arguments: Disciplining Pure Reason* (see also: Stapleford S. 2006, *Kant's Transcendental Arguments as Conceptual Proofs*, in: *Philosophical Papers*, 35:1, pp.119–136), and the article of D. Pereboom in SEP (Pereboom, 2013).

²² Although Austin uses term TA in the analysis of the proof of the *Universals*’ existence and even says that the term was used by him in the Kant’s sense, but it is not that entirely correct as he speaks about argument in the ontological, not in epistemic sense (see (B617)). And Austin largely duplicates Kant's criticism to similar proofs that apply to *transcendental theology* (B599–659) and still he does not take into account a number of important limitations what Kant imposes on TA in order to avoid such “errors” and turn the *metaphysical* argument into TA. However, in contemporary literature such proofs (of the existence of God) is called the *transcendental* one (TAG) (http://en.wikipedia.org/wiki/Transcendental_argument_for_the_existence_of_God) although the relation to TAG of Kant himself is quite negative. In the Kant’s TA P has no *ontological* status, but acts merely as *epistemic condition* (of conceivability) of objects of possible experience.

²³ Lexically Kant uses the expression ‘*transcendental argument*’ (Germ. ‘*transzendentalen Argumente*’) in his *Critique* only once (B 655) and more with a negative sense, while talking about avoiding to use TA in some reasoning and the need in “*the sharpest transcendental critique*” ((B654; see also (B811–23)) in relation to such sort of inference.

²⁴ With that, the arguments from the field of his contemporary theoretical physics, which Kant critically conceptualizes and “transfers” in the realm of philosophy, is another source of TA (along with ancient and Leibniz's metaphysics). For more information see (Serck–Hanssen, 2003), in which she reconstructs *a la* transcendental ‘*method*’ (of Bülfinger – Herr von Mairan)’ from Kant's early work “*Thoughts on the True*

What is the essence of TA* in the broadest sense? As contemporary researchers note, the anti-skeptical focus of this argument on reasoning of authenticity of sensory experience and, therefore, the existence of the external world is an important intention of it. For example, Kant develops the doctrine of the thing-in-itself as a real “cause” of our affectations²⁵, and in the 2nd ed. of *Critique* he adds ‘Refutation of Idealism’ (B274–9). At the same time the *transcendental deduction* of Kant is one of his most important innovations (AXVI).

To understand the experience we choose a set of categories, including, inter alia, the category of *reason/cause* (or *substance*)²⁶. But why exactly this system of categories as a condition (theoretical understanding) of possible experience is chosen? Through his *transcendental deduction* Kant argues his proposed system of categories, i.e. substantiates the possibility of their application (including the categories of *reason/cause* and *substance*) in experience or ‘*objective validity*’ of categories (B122), while it is impossible to argue the objective validity of the categories by using either empirical (Locke), nor rational ways (Descartes, Leibniz). Thus, Kantian *transcendental proof* (*deduction, arguments*) is the only possible way to substantiate the use of a priori categories in experience, i.e. is the solvation of Hartmann’s ‘*basic aporia of apriorism*’.

Estimation of Living Forces” (1749): «One needs to have a method that allows one to decide in each case, by a general consideration of the principles on which a certain opinion is built and by a comparison of this opinion with the implications drawn from those principles, whether the nature of the premises really contains everything that the doctrines that are drawn as conclusions require. This happens when one precisely notes the determinations adhering to the nature of the conclusion and carefully examines whether, in constructing a proof, one has selected only those principles that are restricted to the specific determinations contained in the conclusion. If one does not find this to be so, then one can safely believe only that the arguments, which are thus flawed, prove nothing, even if one has not yet been able to discover where the mistake is actually located, and even if this would never be found out.» (Kant, 1992a, §88; (AK 1:1-181)).

²⁵ Let us note that the transcendental argument in favour of the necessity of postulating things-in-themselves is contained in *Prolegomena*: “In fact, if we view the objects of the senses as mere appearances, as is fitting, then we thereby admit at the very same time that a thing in itself underlies them, although we are not acquainted with this thing as it may be constituted in itself, but only with its appearance, i.e., with the way in which our senses are affected by this unknown something. Therefore the understanding, just by the fact that it accepts appearances, also admits to the existence of things in themselves, and to that extent we can say that the representation of such beings as underlie the appearances, hence of mere intelligible beings, is not merely permitted but also inevitable” (Kant, *Prolegomena*, 2002; (4:315)).

²⁶ The category of *substance (reason)* as a condition of possibility (of explanation) of experience is introduced in the 1st (2nd) analogy of experience (B224–56), and their genesis is explained by Kant through *metaphysical deduction* (B91–109).

We should note that above we talked about *transcendental proof*, a component of which is *TA* (Sacks 2005). Moreover, some researchers even talk about a *transcendental circle* (comp. with *hermeneutic circle*), based on (B810–11) (Malpas 1977). It is formed by two complementary structures of *transcendental proof*: *transcendental arguments* itself, through which the necessary a priori (*transcendental*) condition is sought, and *transcendental deduction*, which is substantiated by its use in experience.

* * *

We turn now to the analysis of the *transcendental argument(s)* itself (in the narrow sense). The concept of *transcendental conditions* appears to be determining for it: “Every necessity has a transcendental condition as its (*transcendental*) ground” (A106) – and further – “There must be a (*transcendental*) condition that precedes all experience and makes the latter itself possible, which (in turn) should make such (*made earlier*) a transcendental presupposition (*objective*) valid²⁷” (my inserts in ())²⁸. In the text of *Critique* several implicit definitions of TA can be found. This is how Kant defines *the transcendental exposition* (as a kind of TA): “I understand by a *transcendental exposition* the explanation of a concept as a principle from which insight into the possibility of other synthetic a priori cognitions can be gained. For this aim it is required 1) that such cognitions actually flow from the given concept, and 2) that these cognitions are only possible under the presupposition of a given way of explaining this concept” (B40)²⁹. Kant says the following on the necessity of the *transcendental principle* as basis of TA:

The transcendental deduction of all a priori concepts therefore has a principle toward which the entire investigation must be directed, namely this: that they must be recognized as a priori conditions of the possibility of experiences... Concepts that supply the

²⁷ When quoting (A106–7) we have shifted the focus of Kantian thought from the role of the transcendental apperception (TUA) as a major transcendental condition of cognition to the *methodological* aspect of Kantian thought to reveal its structure.

²⁸ Let us note that structurally TA is an *analytical* (or *regressive*) *method* of ascent from a given to conditions of its possibility: “The analytic (or *regressive*) method, insofar as it is opposed to the synthetic (or *progressive* method); it signifies only that one proceeds from that which is sought as if it were given, and ascends to the conditions under which alone it is possible” (Kant 2002, 4:277).

²⁹ In cl. 2 Kant emphasizes the *onlyness* of the transcendental explanation. He further emphasizes this: “(Only) our explanation alone makes the possibility of geometry as a synthetic a priori cognition comprehensible. Any kind of explanation that does not accomplish this... can most surely be distinguished from it by means of this characteristic” (B41). See about this specific of TA in (B815–17).

objective ground of the possibility of experience are necessary just for that reason (B126)³⁰.

In conclusion we give an implicit characteristic of that of TA from the 1st and 2nd analogies of experience of Kant (relative to transcendental principles/categories of *cause/reason* and *substance*):

- “Persistence is accordingly a necessary condition under which alone appearances, as things or objects, are determinable in a possible experience” (B232);
- “From this it follows that the criterion of necessity lies solely in the law of possible experience that everything that happens is determined a priori through its cause in appearance” (B280).

Thus, Kant while formulating his famous “*How-possible?*” question by using TA looks for limiting conditions (of cogitation) of *possibility E* (or *E'*)³¹. For transcendental approach the transition from *E* to *possible E'* is important, it turns the search of *empirical reasons* of what is happening in *transcendental background* by TA. The transition to the modality of *possible* acts as new metaphysical – *transcendental* – generalization of empirical³², that ensures universality of transcendental reasoning: in modality of *possible* we throw away ‘*natural illusion*’ (comp. with Husserl’s ‘*natural attitude*’) and talk not about just a specific fact or object, but about a entire field of possible experience, or an *object in general*³³. By TA for this possible *E'* *the necessary conditions* are searched, which Kant

³⁰ In continuation Kant writes: “without this original relation to *possible experience*, in which all objects of cognition are found, their relation to any object could not be comprehended at all” (B127). Here I would like to draw attention to the italicized phrase “*possible experience*”, which as a refrain goes through entire *Critique* (see, for example (BXIX), (B811–23) and others (below)). The developed by Kant *transcendental metaphysics* as a system of a priori concepts is designed for understanding of *possible* experience and can be applied to the (*possible*) object-in-general (see the definition of TP in 1st ed.; (A11–12)), which act as a (transcendental) *condition of possibility of possible experience*.

³¹ Let us note that Kant includes in *E* not only *experience*, but also an a priori knowledge, as it can be seen from mentioned (B40–1) and (B80–1). This is due to the difference between physics and mathematics. In case of physics subject to transcendental reflection are the *empirical intuitions*, in case of mathematics — the *pure a priori intuitions*, expressed in its (*a priori*) axioms.

³² If the generalization of classical metaphysics is the transition from an object to its *essence*, then transcendental generalization is the transition from the *actual* (specific) object to a *possible* object as an *object-in-general*.

³³ See: “In accordance with a natural illusion, we regard as a principle that must hold of all things in general that which properly holds only of those which are given as objects of our senses. Consequently, through the omission of this limitation we will take the empirical principle of our concepts of the possibility of *things as appearances* to be a transcendental principle of the possibility of *things in general*” ((B610); my italics).

calls *transcendental ones*. Thereby (logically) transcendentalism substantiate experimentally — *possible* by a priori — *necessary*.

The formal explication of ((A106–7, B40–41, B126–7, B232, B280 and others) of *Critique* and fragment of *Prolegomena* allows us to offer the following formal–propositional scheme of TA³⁴:

1. E/E' (where E – is some *experimental* fact (experience); hereinafter denoted by E' – possible experience).
2. P is a necessary (transcendental) condition of (possibility) E/E' (where P – is not evident *non-experienced* (a priori) ‘hypothesis’ or principles).

3. Consequently, (application in experimental cognition) of a priori P (is substantiated). Logically, this argument (its central cl. 2) is constructed with the help of ‘*reversed*’ *deduction* that expresses a general intention of *transcendental shift* from given (E/E') to the conditions of its possibility (P). We should also note that if to formalize cl. 2 as a simple implication (“if P , then E ”, what involves the interpretation of P as a *sufficient* condition of E), then the general reasoning is built on the invalid propositional scheme ‘affirming the consequent’, but if P is treated as *necessary* condition, then cl.2. is formalized as “if E , then P ” and the conclusion (cl. 3) is correct, as is constructed using the *modus ponens* scheme. As we have noted above, TA is largely initiated by Leibniz’s *principle of sufficient reason*, as it is connected with the identification of a priori *reasons/ground* (“truth of understanding”) for *possible experience* (“truth of facts”). However, in contrast to Leibniz, TA of Kant focuses on finding a *necessary reason* of (possible) experience³⁵.

As we have already noted, this or that explication of TA’s formal structure is the result of a later interpretation of Kant’s reasoning, and we do not see it in his works. Despite the attractiveness associated with simplicity and readability of *syntactic* (propositional) formalization of TA (today it is the main explication of TA), it alone cannot convey all the details of Kant’s thought. In particular, such propositional model does not take into account its modal (necessity and possibility) context, and material implication does not convey exactly the relation of “transcendental deduction” between a priori P and experienced E (see the thesis of ‘reversed’ deduction above). The *semantic*, rising to P. Strawson understanding of transcendental condition P as *presupposition* is an alternative

³⁴ In this propositional formalization of TA, while basing on (A106–7), we follow R. Walker, who gives the following wording of TA: “*There is experience; it is a (necessary) condition of the possibility of experience that P; therefore, P.*” (Walker 2006, p. 238). At the same time, we specified the wording of Walker by replacing E to E' . With that, Walker takes into account (B40) and put forward a generalized version of the propositional formalization of TA: “*We have experience (or, knowledge). If there is experience (or, knowledge), P must be true. Therefore, P*» (Walker 1978, p.10).

³⁵ That is why cl. 2 cannot be explicated as a logical *implication*. In classical logic implication $A \rightarrow B$, antecedent A expresses a *sufficient* condition, and consequent B — a *necessary* condition.

to propositional model of TA (Strawson, 1950). Here's how this approach is presented by R. Hanna: “*Transcendental argument (as a presupposition) can be contextually defined as follows: A proposition Q presupposes a proposition P if and only if the truth of P is a necessary condition of the truth of Q and also a necessary condition of the falsity of Q. Thus P is a necessary condition of the meaningfulness and truth-valuedness of Q*”³⁶ (Hanna, 2007, pp.179–180)³⁷. Can we give a logical model of *presupposition*? A positive answer to this question (on the connection of implication and presupposition) is given in (van Fraassen, 1968, pp.136–152). Another possible way of formalizing of presupposition is associated with the involvement of apparatus of non-classical logic (many-valued logic: three-valued logic) and semantics (semantics with a truth-value gap and a truth-value glut) (Beaver, 1969; Beaver & Geurts, 2011).

4. Transcendental and Metaphysical Proofs

In the pointed above general scheme of TA Kant introduces a number of clarifications and limitations. This is due primarily to the fact that this type of reasoning is not homogeneous, since it contains conceptually diverse experienced and a priori components that should somehow reconciled with each other. Moreover, since Kant's transcendentalism is a criticism of the previous metaphysics associated with its theoretic nature, then the *axiomatic method* of mathematics (Euclid's geometry) and, in particular, the *experimental method* of natural science (Galileo), which implies a logical rigor and experimental reasoning of transcendental metaphysics, becomes the paradigm of construction of *scientific* (or ‘*experimental*’) metaphysics for Kant. Kantian clarifications of TA target to limit speculative positions of metaphysics.

Firstly, although a priori *P* of cl. 2 acts as transcendental condition for an experienced *E*, and, of course, is not directly derived from *E*, but the sensory experience, according to Kant, is the foundation and serves as a necessary condition of our a priori concepts. In his “Lectures on Metaphysics” (L1) Kant writes the following about this:

³⁶ See nextly: “So what then is a transcendental argument? In its general form it looks like this: 1. Assume either the truth or the falsity of the proposition Q, where Q is a contingent claim about the world of human experience. 2. Show that the proposition P is a (or the) presupposition of Q, where P is a claim that is necessarily true and a priori if it is true at all. 3. Derive the truth, and thus also the necessity and apriority, of P” (*ibid*).

³⁷ In this regard let us note that if the propositional case expresses the case of *weak* presupposition, the use of «the meaningfulness» excessively strengthen this relation from a logical point of view, whereas Kant himself uses “the possible” (Resher, 1961) a strong relation of presupposition, which takes the modality into account (*P* is a necessary condition for the possibility of *E*), and shows that weak relation logically follows from the strong relation of presupposition (Nerlich 1965, 1967).

But one must mention this: that even the concepts of the understanding, although they are not drawn from the senses, do arise on the occasion of experience; e.g., no one would have the concept of cause and effect if he had not perceived causes through experience. No human being would have the concept of virtue if he were always among utter rogues. Accordingly the senses do constitute to this extent the ground of all cognitions, although not all cognitions have their origin in them. Although they are no principle of being <principium essendi>, they are still a necessary condition <conditio sine qua non> (Kant 1997; (28:233))³⁸.

Thus, Kant sort of imposes on TA an additional requirement: a priori **P** should not be just any “transcendental hypothesis” (B800), as it was in pre-Kantian metaphysics, but in a certain way to conform to empirical experience: empirical data **E** should “confirm” or even inductively “direct” a priori principle **P**. ‘Possible experience’ plays an important role and serves as a “guideline” (B811/A783) when postulating **P**. In his analysis of “*proofs of transcendental*” Kant formulates this requirement as follows: “in transcendental cognition, as long as it has to do merely with concepts of the understanding, this guideline is *possible experience*” ((B811/A783), my *italics*; see also (B765; B227)). A priori principles though they are not derived from experience, but they “are not simply enthused, but are invented (by imagination) under the strict oversight of reason (and) the possibility of the object itself (serves as the reason of the reliability for which)” (B798). And they are not the inductive generalization of experience obtained through *empirical deduction* (B97) as Locke believed it³⁹, but a priori principles (concepts) a sort of “deductive guesses” (Lakatos/Polya) as “acts of pure thinking” (B81), which

have arisen through the understanding, according to its nature... but rather come about through reflection on the occasion of experience; for on the occasion of experience and the senses the understanding forms concepts which are not from the senses but rather drawn from the reflection on the senses (Kant 1997; (28:233))⁴⁰.

³⁸ See also: “If cinnabar were now red, now black, now light, now heavy, if a human being were now changed into this animal shape, now into that one, if on the longest day the land were covered now with fruits, now with ice and snow, then my empirical imagination would never even get the opportunity to think of heavy cinnabar on the occasion of the representation of the color red” (A 100–1).

³⁹ “Locke was badly mistaken here in that he believed *all* his concepts to be drawn from experience” (Kant 1997; (28:234)).

⁴⁰ We can say that transcendentalism is a kind of middle way between Scylla of empiricism and Charybdis of rationalism. On the one hand a priori concepts are not derived from senses (experience). On the other hand Kant distances from the concept of *innate ideas* (Descartes/Crusius), because “one must not assume them as innate and inborn, for that brings all investigation to a close, and is very unphilosophical» (*ibid*). Kant calls his conception *epigenesis* (‘a system of the epigenesis of pure reason’ (B167–8)), thus emphasizing the “concluded” character of postulated a priori forms of cognition.

Secondly, the presence of dissimilar *E* and *P* in the same reasoning can lead to logical failure in inference. For example, if we turn to the 2nd analogy of experience (a priori concept of *reason*), then “the proof does not show, that is, that the given concept (e.g., of that which happens) leads directly to another concept evidence... does not show that this concept (for example, the concept of what happens) directly leads to another concept (that of a cause (a priori concept of reason)), for such a transition would be a leap for which nothing could be held responsible” (B811). As we have noted above, ‘*possible experience*’ (B811) appears to be a mediator in such cases. At the same time, the modality of possibility of a priori principle *P* allows it to serve as a basis not for an individual fact, but for a whole class of facts of this kind, although transcendental principle determines only the *form* of the empirical law, not its contents, what is the prerogative of experience (or science).

The third feature of TA (or *transcendental proofs*) is the following: “... For each transcendental proposition only single proof can be found... (because) Every transcendental proposition, however, proceeds solely from one concept, and states the synthetic condition of the possibility of the object in accordance with this concept. The ground of proof can therefore only be unique, since outside this concept there is nothing further by means of which the object could be determined, and the proof can therefore contain nothing more than the determination of an object in general in accordance with this concept, which is also unique” (B815–6). This is due to the fact that TA applies to the *object in general*, which by virtue of its abstract nature is single.

Fourthly, Kant's *transcendental argument* is fundamentally different from *transcendental hypothesis*, to which Kant related negatively because “order and purposiveness in nature must in turn be explained from natural grounds and in accordance with laws of nature, and here even the wildest hypotheses, as long as they are physical, are more tolerable than a hyperphysical hypothesis” (B800–1) and that’s why “transcendental hypotheses of the speculative use of reason and a freedom to make good the lack of physical grounds of explanation by using all sorts of hyperphysical ones can never be permitted at all” (ibid).

Fifthly, Kant's transcendental argument, of course, differs from the empirical (more precisely, theoretical) argumentation used in natural science, i.e., by arguments relating to the identification of *empirical hypotheses* (as the *cause/reasons* of what is happening). In the case of the theoretical (scientific) explanation *P* from our scheme, in general has an arbitrary and variable nature: it is possible that instead of *P*₁ we should/could take other *P*₂, or *P*₃, ..., or *P*_n, which will be the “reason” condition of *E*. Let us assume that we have an empirical fact *wet asphalt* (*EI*), which we would like to “explain” by some *P*, i.e. identify the conditions (= possibility) of its existence. To explain this scientifically means to find it “(physical) reason/cause”. For example, a *recent rain* appears to be the physical reason of *EI* (as *P*). We should note that in this case (similar to TA), we reason using ‘reversed’ deduction: we conclude from the *EI* experimental datum to its condition (cause) *P*, although in this case we didn’t experienced rain and, therefore,

we can only assume its existence, which is prior to *EI*. And 'rain' may be only one of many *possible* hypothesis: perhaps, a watering machine drove through this street recently, which was the real cause of *EI*. Therefore, we need additional criteria that turn one of *possible* condition into the *only* and *necessary* condition: in science (despite the difference of sciences) the method of a *controlled experiment* performs as such, it allows to observe both the reason and its (con)sequence⁴¹.

It is clear that no experimental verification (in the strict sense of the word) of TA is possible. Moreover, it is necessary, following Schopenhauer (Schopenhauer, 1813), to distinguish the "reasons" (primary grounds) of various types, including differing *reasons* from natural *causes* (law of causality as one of types of reasons): transcendental conditions are not (physical) causes/causality (the ground of becoming vs. the ground of knowing). Nevertheless, in his 2nd *Preface* Kant speaks about the "*altered method of our way of thinking*" as a method which "imitated from the method of those who study nature" (BXVIII fn), thus developing a mode of *experimental metaphysics*⁴². The essence of suggested by Kant approach is to reconcile a sensual experience with "a priori admitted *concepts and basic principles*", i.e. to practice "dual view (of considering of the same things)" (BXVIII fn), that should not lead us to a contradiction. So, if we turn to the Copernican *revolution*, it can be said that the *theoretical* "explanation" of visible motion of the sun across the sky, i.e., allegation that in fact the Sun is still and the Earth revolves around it – should take into account our phenomenal (sensual) experience of perception and not to contradict it. In this regard it is important to emphasize that Kant's transcendentalism is a *two-level* theory, or the synthesis of *empirical realism* and *transcendental idealism*. Transcendentalism does not reject the empirical point of view (empirical perspective) and "embed" it in its *transcendental perspective*, or at least allows for it.

However, despite the above presented Kantian clarifications and limitations of TA, a specific and arbitrary nature of any metaphysical (including transcendental) argumentation is their generic shortage, because a priori *P* of cl. 2 is not concluded deductively and is not "directed" on *E* inductively, but its experimental verification in general is not possible. Therefore, the actual TA associated with the identification of some

⁴¹ At the same time, we can talk about the structural similarity of TA and theoretical scientific explanation, in particular, the similarity of the Kant's TA and the Hempel – Oppenheim's Deductive–Nomological (DN) model (of scientific explanation). See about this in (Katrechko 2008, 2015).

⁴² Kant compares also the proposed by him 'experiment of pure reason' with *synthetic method* of chemistry: at first to decompose the starting material and then re-*synthesize* it, which proves the correctness of the established in the analysis components of the originally given (BXX fn). With that, the similarity of experimental metaphysics of Kant and experimental science of Modern Age has more essential character. Method of *mental experiment* (modality of possibility) associated with the identification of conditions conceivability of empirical is an important component of science. Kantian TA can be considered as a kind of mental experiment (see more on connection of Kant and Galileo (Bibler, 1991).

a priori-necessary (transcendental condition) *P*_j of possibility of *E*, should be supplemented by “external” procedures of 1) search for alike a priori reasoning and 2) substantiation of their use in experience. For the categories of understanding Kant calls such dual procedure a *deduction*⁴³ and accordingly carries out: 1) *metaphysical* deduction, the task of which is to find such a reason that will allow in a rigorous way to specify the exact composition of a priori categories; 2) *transcendental* deduction as substantiation of “objective validity” of categories or their ability to be used in experience. This Kantian innovation, regardless of the success of its solution by Kant himself, seems to be very important. We should note that in many respects it anticipates the requirements of *completeness* (metaphysical deduction) and *consistency* (transcendental deduction) of contemporary logical formalisms (deductive systems). Thus Kant constructs his *metaphysics* in a systematic way: a set of *P* should form some connected system – what unites it with the axiomatical Euclid’s geometry. This, along with the introduction of Galileo’s *experimental method* in it, allows Kant to constitute a new *metaphysics as a science*⁴⁴.

Conclusion

Kant’s transcendentalism is associated with the *transcendental shift* from given objects (phenomena) to (transcendental) *conditions* of their possibility. It is, above all, a new “altered method of thinking” (*transcendental method*) and Kant’s TA is its essential base. The transcendental method of Antiquity (Plato, Aristotle, Neo-Platonists), which has an ontological orientation, acts as TA’ forerunner. The epistemic character of Kant’s TA forms its specificity: it is associated with the identification of conditions (of possibility) of conceivability (not existence) of a phenomenon. It makes Kant to impose on the general scheme of transcendental arguments as one of the main methods of metaphysics a number of significant limitations, which bring his *method* together with experimental method of science of Modern History and turn his *metaphysics* into a scientific metaphysics. However, the experimental nature of Kant’s transcendentalism let us speak about the similarity of Kantian transcendental arguments and the method (methodology) of contemporary science.

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⁴³ For the a priori forms of sensibility Kant provides only *exposition* (see above; (B40–1)).

⁴⁴ See: “*Critique* (or transcendental philosophy/metaphysics) stands to the ordinary school metaphysics precisely as *chemistry* stands to *alchemy*, or *astronomy* to the fortune-teller’s *astrology*” (Kant 2002; (4:366)).

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