IMMANUEL KANT BALTIC FEDERAL UNIVERSITY

INSTITUTE FOR THE HUMANITIES

ACADEMIA KANTIANA

THE THIRD IMMANUEL KANT INTERNATIONAL SUMMER SCHOOL

«KANT ON SCIENCE AND RATIONALITY»

JULY 22 - 28, 2019

KALININGRAD REGION, SVETLOGORSK, HOTEL «BALTIKA»

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Program
Abstracts

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Dr. Efim Fidrya
Vice-Rector for Social Communications, Immanuel Kant Baltic Federal University (Prorektor für Soziale Kommunikationen der Baltischen Föderalen Immanuel-Kant-Universität)

Dr. Michael Banzhaf
German Consul General in Kaliningrad (Deutscher Generalkonsul in Kaliningrad)

Dr. Oleg Zayachkovskiy
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Prof. Dr. Nina Dmitrieva
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Prof. Dr. Hans-Detlef Horn
Chair of Public Law, Law Faculty at Philipps-University Marburg (Professur für Öffentliches Recht, Fachbereich Rechtswissenschaften, Philipps-Universität Marburg)

Academic Cooperation in Support of German-Russian Legal Dialogue / Wissenschaftliche Kooperation im Dienste des Deutsch-Russischen Rechtsdialogs

Prof. Dr. Mark Entin
European Law Chair of the Moscow State Institute of International Relations (Europäische Recht Lehrstuhl, Staatliches Moskauer Institut für Internationale Beziehungen)

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Prof. Dr. Thomas Sturm

ICREA Research Professor at the Universitat Autònoma de Barcelona, Spain (ICREA Forschungsprofessor, Universitat Autònoma de Barcelona, Spanien)

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Prof. Dr. Alexei Krouglov, Section of the History of Foreign Philosophy, Department of Philosophy, Russian State University for the Humanities, Moscow (Seminar für Geschichte der westliche Philosophie, Philosophische Fakultät, Russische Staatliche Humanitäre Universität, Moskau)

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Abstracts

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Kant's Cosmology and the Regulative Use of the Cosmological Principle

Central to the Critique of Pure Reason is the sharp distinction between different faculties of cognition, which Kant analyses in order to find out if and how synthetic a priori judgements are possible. The different faculties can be distinguished by means of the different types of representations they produce[1]: sensibility "acquire[s] representations through the way in which we are affected by objects" (A19/B33) and Kant calls them intuitions; the understanding is the "faculty for bringing forth representations itself" (A51/B75), where these representations are concepts and, by means of applying concepts to intuitions, judgements; reason, finally, brings about cognitions by means of relating judgements in inferences (A303-5/B359-361). A way to distinguish them even further is to account for the different sets of a priori principles which govern their respective activity: within sensibility, space and time are (in the most general sense of the term) the principles of all intuitions[2]; the understanding contains, among further, more specific principles, a principle of all analytic judgements (the principle of non-contradiction; A150/B189) and a principle of all synthetic judgements (A154/B193); and reason is also said to be the "origin of certain concepts and principles, which it derives neither from the senses nor from the understanding." (A299/B355)

In many cases it can be shown that these principles were traditionally used in a different way than how Kant is conceiving of them in his critical philosophy. In the Wolffian tradition the principle of non-contradiction, for instance, was believed to be reasons highest principle. This was due to Wolff's concept of philosophy, according to which it is the "science of all possible things, how and why they are possible".[3] Given that the principle of non-contradiction grounds the distinction between what is possible and what is impossible, it marks the beginning of philosophy.[4] Kant, however, held that it is a principle not of reason but of the understanding and, moreover, that it is only a "*conditio sine qua non*, but not [...] a determining ground of the truth of our cognition." (A151-2/B191)

Kant's conceptual tool to mark the difference between the precritical and the critical use of principles belonging to *reason* is the distinction between constitutive and regulative principles. While the distinction is already present in the Transcendental Analytic[5], it is only in the Transcendental Dialectic that Kant is using it to draw the line between precritical and critical philosophy: conceiving of reasons principles as being constitutive

[1] For an analysis of Kant's concept of faculty as a capacity to bring about representations see Heßbrüggen-Walter 2004.

[2] Kant rarely calls space and time principles, but a) gives a "transcendental exposition" of them, i.e. an "explanation of a concept as a principle" (B41); b) with regard to space he states that "the form of all appearances [...] can contain principles of their [the objects, F.B.] relations" (A26/B42); and c) relates time with the "principle of inner sense [...]: all appearances in general, i.e., all objects of the senses, are in time, and necessarily stand in relations of time." (A34/B51)

[3] GW I, 1, §1, 115; my translation.

[4] Hence Wolff dedicates the very first three paragraphs of his ontology to it. (GW I, 2.1, §§10-12.)

[5] In total, the distinction has a threefold application: restricted to the faculty of reason it marks the difference between a critical and a precritical use of principles; applied solely to the critique, it draws the line between the faculties of the understanding and reason, for reason's principles do not constitute empirical judgements; and within the understanding it is again used to distinguish between two different types of principles: mathematical principles of the understanding are constitutive, while the dynamical ones are regulative. On the last two applications see Friedman 1991.

characterizes all precritical metaphysics, while their only legitimate use, according to the Critique, is the regulative one. Among the principles to which Kant applies this distinction is the famous "supreme principle of reason" from the introduction to the Transcendental Dialectic: "when the conditioned is given, then so is the whole series of conditions subordinated one to the other, which is itself unconditioned, also given" (A307-8/B364). Only much later, in the second book of the Dialectic, in the section on the antinomies of pure reason, it turns out that this principle is not literally the supreme principle of reason, but that it is restricted to the domain of cosmology. For in the solution of the antinomies, Kant is using it as the major premise of an inference which he himself calls the "cosmological syllogism" (A499/B527):

> P1: If the conditioned is given, then so is the whole series of conditions subordinated to one another also given.
> P2: Objects of the senses are given as conditioned
>
> C: Therefore, the whole series of conditions to a given conditioned is also given.

The first part of the solution of the antinomies consists in Kant's argument that this cosmological inference is only appealing to the transcendental realist, while transcendental idealism is the only philosophical position which can reveal its falsehood. In the second part Kant argues on the same grounds that (at least the mathematical) antinomy is not a contradictory and unsolvable opposition of two propositions, but that it is only contrary and thus a third answer to the cosmological questions exists. But this twofold argument is only the negative part of the solution. In the positive part, Kant applies the regulative/constitutive distinction to assure, in accordance with his conviction that "[e]verything grounded in the nature of our powers must be purposive" (A642/B670), that the cosmological principle is not useless. Therefore, he emphasizes that

> "the principle of pure reason we are thinking of retains its genuine validity only in a corrected significance not indeed as an **axiom** for thinking the totality in the object as real, but as a **problem** for the understanding, thus for the subject in initiating and continuing, in accordance with the completeness of the idea, the regress in the series of conditions for a given conditioned. [...] [T]he principle of reason is only a **rule**, prescribing a regress in the series of conditions for given appearances, in which regress it is never allowed to stop with an absolutely unconditioned. [...] [I]t is a principle of the greatest possible continuation and extension of experience, in accordance with which no empirical boundary would hold as an absolute boundary" (A508-9/B536-7).

Unfortunately, up to this point Kant does not really elaborate on the merits of the regulative use of the cosmological principle besides its importance for the solution of the antinomies. Thus, it remains unclear how the distinction plays out in practice, i.e.: it remains unclear what it really means to apply such a regulative principle in cosmology and what Kant means by claiming that the regulative use is apt for "suitably determining the greatest possible use of the understanding in experience in regard to its objects" (A516/B544). However, since this use "is the sole and proper business of reason in its principles" (A522/B520), it needs further clarification.

Finally, in the Appendix to the Transcendental Dialectic, Kant gives a detailed account of the regulative use of reason. However, among the great number of examples Kant uses to clarify his rather abstract sounding explanations is not one which relates directly to the cosmological principle.[6] In the following paper I therefore want to examine in how far Kant's own cosmological writings can enlighten what it means to use the cosmological principle in a regulative way. To this end, I want to examine a precritical writing, the *Universal Natural History and Theory of the Heavens* (1755), and a critical one, *On the Volcanoes on the Moon* (1785). I thereby hope to show that a) the constitutive/regulative distinction, despite its significance for theoretical philosophy, does not have a major effect in scientific practice and that b) precisely this practical insignificance establishes a moment of continuity between Kant's precritical and critical cosmology.

References

Citations from the *Critique of Pure Reason* follow:

The Cambridge Edition of the Works of Immanuel Kant. Critique of Pure Reason. Translated and edited by Paul Guyer and Allen W. Wood, Cambridge: Cambridge University Press 1998.

The abbreviations for *Wolff's works* refer to:

Christan Wolff. Gesammelte Werke. Herausgegeben und bearbeitet von J. Ecole, J.E. Hofmann, M. Thomann, H. W. Arndt. Hildesheim, New York, 1978ff.

GW I, 1: Vernünftige Gedanken von den Kräften des menschlichen Verstandes und ihrem richtigen Gebrauche in Erkenntnis der Wahrheit. (Deutsche Logik)

GW I, 2.1: Vernünfftige Gedancken von Gott, der Welt und der Seele des Menschen, auch allen Dingen überhaupt. (Deutsche Metaphysik)

Friedman, Michael (1991): Regulative and Constitutive. In: *The Southern Journal of Philosophy*, Volume XXX, Supplement, 73-102.

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Further Reading

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[6] Even the example taken from the field of cosmology does not relate to the principle because it serves as an example for the role of the regulative use of reason in philosophy of history and not, as one might expect at first glance, in natural science. For this interpretation see Meer 2019, 245-260.

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Science, Metaphysics, and Methodology in Kant's *Prize Essay*

From his earliest writings Kant was convinced that the natural sciences could not form a self-standing body of knowledge, unless it were provided with a proper metaphysical support. One of the overarching motives of his theoretical philosophy is the attempt to develop such a metaphysical foundation. While Kant adhered a Wolffian-Leibnizian metaphysics early on, by the mid-1760s he realized that this metaphysics was not adequate to his task, and he began several attempts at formulating a new metaphysics, which would eventually reach fruition in the *Critique of Pure Reason*. The paper considers one crucial point in that development, namely the publication of Kant's *Inquiry concerning the distinctness of the principles of natural theology and morality* (or the *Prize Essay*, as I shall refer to it henceforth). The *Prize Essay* is particularly significant, I shall argue, firstly because it marks Kant's rejection of the synthetic method the rationalist metaphysics of Wolff and Leibniz. Secondly, while the analytic method that Kant advocates in the *Prize Essay* is in some crucial respects opposed to his approach in the *Critique of Pure Reason*, I argue that the former anticipates the latter in at least two respects: (1) that metaphysics is concerned with the fundamental principles of cognition; (2) that metaphysics must be based upon experience rather than rational constructions.

By the mid 1750s Kant had become a life-long convert to Newtonian mechanics, and he looked to it throughout his life as the paradigm for empirical knowledge.[1] He nevertheless remained convinced that physics, even of the Newtonian variety, could not be a self-standing body of knowledge, but rather required a metaphysical support. As he expresses it in the *Physical Monadology* (1756), "metaphysics, therefore, which many say may be properly absent from physics is, in fact, its only support; it alone provides illumination" (I:475).[2] Why this need for a metaphysical support? Kant specifies that the natural philosopher restricts themselves to "exhibit[ing] the laws of nature" by "only admitting what is immediately revealed by the testimony of the senses." (*ibid.*). But what the natural scientist neglects and what belongs to the purview of the metaphysician to examine "the origin and causes of these laws" (*ibid.*). In the *Physical Monadology*, Kant is particularly concerned with asserting monads as the ultimate elements from which bodies are composed, and with explaining how the existence of monads does not violate the infinite divisibility of space, as posited by geometry.[3]

While Kant's commitment to a theory of monads did not endure beyond the 1760s, the broader problem of reconciling physics and metaphysics persisted. As he came to see ever more sharply, the problem was one that was internal to metaphysics itself. For while

[1] Schönfeld identifies the moment of conversion with the publication of the *Spin Cycle* essay (1754), noting that Kant makes only two references to Newton in *Thoughts on the True Estimation of Living Forces* (1747) and his awareness of Newtonian mechanics appears to be relatively limited at this time (Schönfeld 2000, 66-68, 79). Friedman is less precise in tracing Kant's Newtonianism back to the *Living Forces* (Friedman 1992, 5 & 16).

[2] All translations of Kant come from the Cambridge editions of his works and cite the page numbers in the Akademie edition (Volume Number:Page Number). All German quotations from Kant come from the Akademie edition.

[3] Schönfeld points out that Kant's target in this work was like Euler, who argued in the *Gedanken von den Elementen der Körper* that the infinite divisibility of space entailed the impossibility of monads (Schönfeld 2000, 169).

Newton was able, in Kant's eyes, to transform "the chaos of physical hypotheses into a secure procedure based on experience and geometry" (*Prize Essay*, 2:275), the field of metaphysics had undergone no such transformation. As Kant remarked in *Living Forces*, "Like many other sciences, our metaphysics is indeed only on the threshold of truly sound knowledge, and God knows when one will see that it has been crossed" (1:30). His attitude about this is essentially unchanged over a decade later when he writes the *Prize Essay*: "Metaphysics is without doubt the most difficult of all things into which man has insight. But so far no metaphysics has been written" (2:283). Even by the time that Kant writes the second edition of the *Critique of Pure Reason*, he is still lamenting the "vacillating state of uncertainty and contradictions" (B19) that metaphysics finds itself in. While Kant's adherence to Newtonianism does not waver throughout these years, he struggles unsatisfactorily again and again to formulate a metaphysics that could be the proper basis and justification for it.

Given the sorry state of metaphysics described by Kant, how could it possibly serve as a foundation for the natural sciences? Beginning with the *Prize Essay*, Kant realized that metaphysics itself required a transformation akin the one that Newton accomplished in physics. What is more, Kant explicitly sought to appropriate Newton's methodology in order to bring about this transformation: "The true method of metaphysics is basically the same as that introduced by *Newton* into natural science and which has been of such benefit to it" (*Prize Essay* 2:286). But if metaphysics is supposed to provide the foundation for the natural sciences, it is peculiar that Kant would adopt the methodology of the sciences in order to formulate an improved metaphysics. What need does natural science have for metaphysics, if metaphysics relies upon the methodology of natural science? A further peculiarity is that the results yielded by this new method appear to be no different than what Kant had previously established. As an example of the propositions that can be discovered from his new methodology, Kant essentially reproduces the conclusions of the *Physical Monadology* that he had formulated eight years prior. But notwithstanding these peculiarities, there are indications that the *Prize Essay* achieved some methodological progress relative to Kant's earlier works.

Kant understands by the Newtonian method that "one ought, on the basis of certain experience and, if need be, with the help of geometry, to seek out the rules in accordance with which certain phenomena of nature occur. Even if one does not discover the fundamental principle [*den ersten Grund*] of these occurrences in the bodies themselves, it is nonetheless certain that they operate in accordance with this law" (*Prize Essay* 2:286). But when this method is adapted to metaphysics, it appears more like an analogue of the Newtonian method than a direct application of it: "by means of certain inner experience, that is to say, by means of an immediate and self-evident inner consciousness, seek out those characteristic marks which are certainly to be found in the concept of any general property [*allgemeinen Beschaffenheit*]. And even if you are not acquainted with the complete essence of the thing, you can still safely employ those characteristic marks to infer a great deal from them about the thing in question" (*Prize Essay*, II:287).

The analogue between the two methods can be made clear in the following table:

	Newton	Kant
What is examined	Natural phenomena	Inner Experience
What is discovered	Rules governing phenomena	Characteristic marks of a general property
What is unknown	The fundamental principle of natural phenomena	The complete essence of a thing

One of the key achievements of this methodological formulation is the realization that metaphysics proceeds *empirically* and with *incomplete awareness* of its subject matter. Kant highlights this incompleteness when he gives an example of this method: "without determining what a body is, I nonetheless know for certain that it consists of parts which would exist even if they were not combined together" (*Prize Essay*, 2:286). The purpose of metaphysics is not to provide the complete determination of a body, nor does it exhibit the origins and causes of physical laws as Kant claimed in the *Physical Monadology*. It is simply to illustrate the 'characteristic marks' – in this case, 'being composed of simple parts' – that necessarily belongs to the concept of a body. There are undoubtedly other characteristics of a body besides this one, but this fact does not undermine the certitude that bodies are composed of simple parts.

The reason for this incompleteness our awareness and the reason why metaphysics must proceed analytically rather than synthetically has to do with the very nature of its object: "there are infinitely many qualities which constitute the real object of philosophy" (*Prize Essay*, 2:283). This infinite complexity is is always something . In contrast to mathematics which constructs its object synthetically, in philosophy "the concept of a thing is always given, albeit confusedly or in an insufficiently determinate fashion" (*Prize Essay*, 2:276), Hence, "it is the business of philosophy to analyse concepts which are given in a confused fashion, and to render them complete and determinate" (*Prize Essay*, 2:278). Metaphysics must thus begin with concepts that are given through our inner experience and render these concepts distinct. It does not *extend* our knowledge synthetically, as Kant claims in the *Critique of Pure Reason*. Instead it it supposed to make clear the fundamental principles of cognition by analysing our concepts into their simplest and unanalyzable parts.

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The Role of Unconscious Representations for the Development of Sciences During the Silent Decade

The main purpose of my contribution is to analyze the meaning and the function of the so-called dark representations for the development of sciences. Those representations were detailed elucidated in the Anthropology courses. They were also occasionally mentioned in the courses on Logic. According to the available students' notes, Kant explained in his lectures (i) that those representations do exist, (ii) that they could become clear, and (iii) that they help us in the development of science.

The first point that needs to be explained is the very meaning of the dark representations. Briefly, they are representations that we have without being conscious of it. In critical terms, it means that we have some representations which are not to be called "*my* representations". It is not the case that clear representations, i.e. *my* representations or representations that I actually know I have, constitute the whole inner sense. Here, it becomes necessary to point out that only clear, i.e. conscious, representations are to be taken into account within logical and also within critical research. For this reason, the definition of "dark representation" does not contradict Kant's most known theses. These theses referred just to clear representations. It is important to state that my contribution does not belong to critical research. It takes into account some empirical or pragmatic indications, that are not related to the a priori knowledge.

Related to the meaning of the darkness of the representations, it is important to notice that Kant explicitly denies some rationalistic doctrines about our powers of knowledge. For while according to Baumgarten and Wolff darkness is associated with our intuition, Kant states that Darkness is not determined by the origin of our representations, but to the focusing of the conscience. Remember that, for rationalists such as Baumgarten and Wolff, clear representations are concepts, while dark representations are intuitions. Kant separates the quality and the origin of our representations. He sometimes says that concepts could be dark, and intuitions could be clear. In his Lectures on Logic, nevertheless, he seems to be contradictory, since he affirms that concepts are conscient, that means clear, representations.

The second point to present is the Kantian necessity of justifying the very existence of dark representations. As he pointed out in his lectures, there were many philosophers, such as- according to Kant- Locke, who claimed that there only were conscient representations. For those philosophers, the very idea of an unconscious representation was an oxymoron. So, they argued, how could we be aware of representations that we actually do not know we have? Kant develops an answer to this potential objection. According to him, in a few words, we have mediated access to those representations. We realize that there are some unconscious ideas through some indications provided by our clear representations. Our representations are not isolated, the refer one to another and the remarkes of one of them usually suggest the presumption of others. These kinds of relations are sometimes confusing. It is not easy to detail describe them. The main Kantian argument for the existence of such dark representations is, then, that they are supposed by our clear ones.

The difference between both kinds of representations is not static, though. Kant did

state that our conscience was able to illuminate dark representations. He chose, as it was usual in coeval texts, the metaphor of light to explain his notion of conscience. This is, according to him, like a font of light that could focus on unaware representations. With this activity, it takes them to our mental life, in which they become meaningful. Some of our present clear ideas, then, had been in darkness until they became illuminated by the conscience. And representations of which we are now not aware may become clear sometime.

I finally arrive at the main question I would like to discuss. It is, namely, the problem of the function of those dark representations in the development of sciences. Since the very starting of the silent decade, Kant has stated that science is a system of knowledge and that such a system has its own guiding idea. This system only has a set of knowledge that is organized according to an idea. In this kind of system, there is, for sure, no place for dark representations. So, you may ask if it could be possible to identify a function for these representations in the development of science. I think that minimal two functions for them are to be found. Both them, however, are so to say external. In the first place, dark representations help us to discover new knowledge. This could involve an increase in the system. That is to say, that an existent science gains new knowledge with the research of our dark representations. By examining our clear representations and discovering other representations that are not clear, we become able to add new information to our prior background. At this point, it is interesting to remark that Kant also thought, during the silent decade, that the philosophical research was an elucidation of dark representations. This conception of Metaphysics is developed in his *Preisschrift* 1763 and maintained without significative alterations until his *First Critique*.

On the other hand, dark representations are meaningful in the process of emerging of a new theory. This is to be found in the Lectures on Logic, where the philosopher states that some dark representations precede our investigations and guide them. We begin our research with some kind of intuition that we are not able to explain or describe. This representation involves something that is not conscient. If we follow it, thinking about the conscient part and trying to clarify the rest, then we could develop some new knowledge.

This kind of Kantian statements becomes relevant if we take into account his precritical difficulties to explain the very origin of science. Indeed, in some Lectures it is to be read that the development of new scientifical theories presupposes genius. Moreover, he describes Newton as a genius and says that also the philosophical research needs this kind of natural gift. This natural gift is to be supposed since the repetition of procedures is not enough to explain the origin of different knowledge.

Despite the fact that some of his psicological theses needed to be checked with the emergence of the critical enterprise, the indications about the origin of science, the dark representations and the figure of genius are coherent with the explanations developed in the B Prologue, in the paragraphs in which Kant introduced the idea of the Copernican turn. As it is known, Kant etablished in this text the thesis according to which there is an unique moment in which a set of knowledge becomes science. In the case of Mathematics, for example, this moment is represented by the systematization made by Thales. Thales' description could be concibed as a description of some genius and his discovering can be presented as the clarification of a dark idea.

However, the research I would like to present is restricted to the silent decade. As Kant did not publish texts during this period, I work with records of his lectures

(*Vorlesungsnachschriften*) and with his own annotations (*Reflexionen*). The research of these kinds of sources has plenty of difficulties but I consider that taken together they help us to understand the development of Kant's Criticism.

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Ethodological Principles of Sciences in Kant

Within the last three decades we can notice a growth of interest in what Kant calls the *faculty of principles* (ideas), yet only few researchers ask themselves what reason in its narrow and deepest sense really is. Suzan Neiman states that

> [m]ost readers of the *Critique of Pure Reason* have focused on its first two hundred pages, dismissing the 'Dialektik,' whose subject is reason, as an elaboration of the positive doctrines of the 'Analytic,' which is of little concern to any but those with an interest in the details of the destruction of scholastic metaphysics. Readers of Kant's works as a whole have tended to treat his ethics separately from his metaphysics, with little systematic probing of their mutual dependence (Neiman 1994: 3).

The most recent and major studies on pure concepts of reason (cf. Bunte (2016), Pissis (2012) and Klimmek (2005)) are devoted to the transcendental dialectic, whereas Kant's discussion of the role and functions of *ideas* can be found almost in every work in his critical phase. Thus, a general account of reason which operates with the purest form of representations in different fields of our thinking and acting is needed and is crucial for full understanding of the transcendental position. This can be found in the answers to the following two key questions: (1) What is the most general definition of *idea*? and (2) Are there different types of ideas in Kant's works?

(I)

In the first part of my presentation I will answer to these questions giving a brief outline of Kant's concept of reason and its unity. (1) I will argue that the most general definition of *idea* should include the determination of at least two predicates closely bound to the concepts of reason – *purity* and *perfection*. On the one hand, ideas must be understood as the *purest* form of representation following the progression (Stufenleiter) of representations Kant gave us in the transcendental dialectic (cf. CPR A320/B376f.). On the other hand, they express something so perfect that it cannot be found in experience: „Eine Idee ist nichts anderes, als der Begriff von einer Vollkommenheit, die sich in der Erfahrung noch nicht vorfindet" [Idea is nothing more than a concept of perfection which is not yet to be found in experience, translated by ML] (Ped AA IX 444). Not only transcendental ideas, but also such concepts like *pure will* (as, for example, shown by Peter König (1994)) or *wisdom* (cf. CPR A569/B597) represent pureness and perfectness and can therefore be called *ideas*. (2) I will differentiate between several types of ideas which can be found throughout Kant's works – they all have concrete functions and can be used in different fields of human thinking and acting. Only a few authors have done it until now, for example the conservative Kantian C.C.E. Schmid (1798) and the contributors to the Kant-Lexicon published by Marcus Willaschek, Jürgen Stolzenberg et al. (2015).

(II)

Methodological ideas (of sciences) can be counted among different types of concepts of reason in the narrow sense. Kant speaks of the *ideas* of *Critique of Pure Reason* / *of Practical Reason*, of *The Metaphysic of Morals*, of *pure thinking*, *pure will* etc. which are all used as

basic representations for scientific research. In all sciences,

> vornehmlich denen der Vernunft, ist die Idee der Wissenschaft der allgemeine Abriss oder Umriss derselben, also der Umfang aller Kenntnisse, die zu ihr gehören. Eine solche Idee des Ganzen – das Erste, worauf man bei einer Wissenschaft zu sehen und was man zu suchen hat, ist architektonisch, wie z.B. die Idee der Rechtswissenschaft [especially in the ones of reason, the idea of science is a general outline or a sketch of the same, it is a scope of all knowledge which belongs to it. Such idea of a whole – the first thing which is to be seen and searched for in a science – is architectonic, like e.g. the idea of the jurisprudence, translated by ML] (Log AA IX 93).

In the second part of my presentation I want to examine the role of this type of ideas in Kant which are needed to sketch the whole of a science as well as a certain part of it. I will argue that while transcendental ideas of reason such as *infinity of the universe* can be used as heuristic (regulative) principles in natural sciences, methodological ideas belong to the general scientific (academic) practice of researching, teaching and learning. Both types of the concepts of reason can be seen as specific *tasks* for understanding and will which can be formulated in the form of maxims.

(III)

In the final part of my presentation I will try to demonstrate with certain examples the actuality and importance of methodological ideas. Even such concepts as *rational* / *epistemic justice* or *ideal communication community* (Habermas / Apel) which are used in philosophy to articulate a central thesis of a research program can be explained by Kant's theory of reason in the narrow sense.

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Kant and the Birth of Intuition-Governed Philosophical Methodology

Nowadays it is easy to observe that philosophical thought experiments and theories are held accountable to our "intuitions" about what must be the case. In the course of an argument we often "consult", or we are told to "consult", our intuitions about particular cases or general principles. No other than Saul Kripke stated even that intuitions are and should be the ultimate recurse of a philosopher (cf. Kripke, 2010, p. 42). Recently, a significant criticism of intuition-governed philosophical methodology has been launched by Michael Della Rocca. Della Rocca argues that treating intuitions as a kind of evidence in philosophical argument results in "the taming of philosophy" (such is the title of his relevant article) and in forcing it behind what he calls (after an analogy with Ralws' "veil of ignorance") a "veil of intuition" (Della Rocca, 2013, p. 193). From behind this veil, where philosophy must test its claims about reality against the touchstone of intuition, it cannot get in touch with reality itself. For Della Rocca one of the ways out of this predicament is to turn to the history of philosophy where we can learn examples of philosophers for whom the guide in thinking was not an inexplicable intuition but rather sheer intelligibility (ibid.).[1] The relevant piece of history, for Della Rocca, would be modern period and philosophers like Descartes, Hume, Spinoza, Berkley or Leibnitz. On the other hand, the crucial moment, when the intuition-governed methodology takes over, Della Rocca locates in the rise of analytic philosophy under the aegis of Russell and Moore (ibid., p. 200ff).

Now, the question relevant for us is why Della Rocca does not mention Kant among philosophers who could be an inspiration for dismissing the idea that intuitions should play a role of evidence in philosophical thinking? The answer is, or so I argue, that Kant forms precisely the moment in history where treating intuitions as philosophical evidence begins to surface up. Rather obviously, I do not mean here by "intuition" Kantian notion of *Anschauung*, but rather his treatment of the concept of *Tatsache* or *Faktum*. For instance, in the *Critique of Pure Reason* Kant says that

> [t]he **empirical** derivation [of pure concepts of understanding] […] cannot be reconciled with the reality of the scientific cognition *a priori* that we possess, that namely of **pure mathematics** and **general natural science**, and is therefore refuted by the fact [*Faktum*]" (*KrV*, B127-8; Kant, 1998, p. 226).

Therefore, for Kant synthetic a priori knowledge is a "fact" which has to be accounted for by philosophical investigation. But it cannot be *challenged* by it. In a different place in the first Critique Kant says to a reader:

> […] if you remove from your empirical concept of every object, whether corporeal or incorporeal, all those properties of which experience teaches you, you could still not take from it that by means of which you think of it as a substance […] Thus, – Kant continues – convinced by the necessity with which this concept presses itself on you, you must concede that it has its seat in your faculty of cognition a priori (*KrV*, B6; ibid., p. 138)

[1] Here it must suffice to say that the ideal of intelligibility, for Della Rocca, signifies a commitment to the principle of sufficient reason that allows for admitting no brute intuitions or facts (cf. Della Rocca, 2013, p. 201).

In this passage Kant claims that the necessity with which the pure concept of substance "presses itself" upon us makes it impossible for us not to recognize its validity. In this sense, for Kant, synthetic a priori cognition constitutes a *Tatsache*, paying attention to which is sufficient for *refuting* empirical derivation of categories. The clearest expression of this attitude we find in a passage from the *Prolegomena* where Kant says that "[w]e have some at least *uncontested* synthetic cognition a priori, and we do not need to ask whether it is possible (for it is actual)" (Kant, 2004, p. 26).

Owen Ware drew a clear parallel between known from the second Critique fact of pure *practical* reason and such facts of "pure *theoretical* reason" as depicted above. He argues that in both domains, moral and theoretical, Kant refers to facts understood scientifically as states of affairs that are immediately certain and demand no proof (see Ware, 2014, p. 7). As facts of theoretical reason consist in consciousness of necessarily non-empirical origin of the categories of pure intellect, and therefore illustrate the existence of a pure faculty of cognition, so fact of pure practical reason, that is, consciousness of moral necessitation, illustrates existence of *pure* will, ergo of pure faculty of desire. All thought experiments brought in by Kant in the *Critique of Practical Reason* aim at eliciting in us consciousness of moral imperative (mostly via reference to ordinary moral judgment) and, subsequently, at fixing its presupposition (i.e. pure faculty of willing). As Ware notes, Kant's strategy of illustrating by examples synthetic a priori cognition is uniform across the theoretical and practical part of his philosophy. In both cases Kant claims that we are faced with incontestable *facts* which have substantive presuppositions. Given this, Graham Bird's remark from the introduction to the *Blackwell's Companion to Kant* makes perfect sense:

> Kant's project does not accept – says Bird – the authority of traditional philosophy in order to question or doubt experience, but accepts the authority of the sciences in order to question the methods of traditional metaphysics (Bird, 2006, p. 7)

As I already pointed out, Kant made not only theoretical philosophy accountable to scientific canons of thinking but he also attempted to create a scientific paradigm for ethics and it is in this extended context that the above quotation should be understood. Therefore, in an important sense, Kant wanted to base all philosophy on *Tatsachen* and so he, indeed, traded scientifically understood facts for what Della Rocca dubbed "intelligibility". These facts, in turn, later will ossify, or so I claim, in "intuitions" that are presently ubiquitous in philosophical thinking. In this context an interesting example of Kant's legacy is a chapter from *The Oxford Handbook of Philosophical Methodology* which is devoted to "transcendental arguments" as distinctive philosophical method. Derek Pereboom, the author, opens the chapter in the following way:

> In Kant's conception, an argument of this [transcendental] kind begins with a compelling first premise about our thought, experience, knowledge or practice, and then reasons to a conclusion that is a substantive […] and necessary condition of the truth of this premise […] (Pereboom, 2016, p. 444)

A case in point is Peter Strawson's defense of free will in which Strawson takes our practices (such as blaming, parsing or holding responsible) *as we know them* for an Archimedean point which allows him to identify their necessary presuppositions (cf. ibid., p.

445). Accordingly, one does not need much reflexion to realize that the "compelling premise", needed for the transcendental argument to start off, tends to be delivered by an *intuition* of what must be the case.[2] Hence the *conservatism* of intuition-governed, or "transcendental", philosophical methodology that Della Rocca criticizes as "taming of philosophy". In my presentation I will not attempt as much to argue with Della Rocca about the status of intuitions in philosophy, but rather I will attempt to display in more detail the relevant links between Kant's *Tatsachen* and contemporary notion of intuition.

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[2] Another clear example is Kripke and his argument to the "intuitive" conclusion that proper names are so-called "rigid designators" (cf. e.g. Kripke, 2010, pp. 5, 10, 14).

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Kant's Account on Hypotheses

It has been considered by many that one of the most important concerns of Kant's philosophy has been the method of science. Particularly, Kant was impressed by the progress that both the method of mathematics and the one of physics had brought about. Mathematics had found their way to proceed in the construction of concepts. This procedure consists of exhibiting the concept in the intuition so that nothing that is represented in the object does not want to be represented by the mathematician[1].

On the other hand, physics use hypotheses to produce objective knowledge about nature[2]. However, Kant only mentions hypotheses, which are allegedly the method of physics, in *KrV* A 769- 83/B 797-811, B 115, *KU*, AA 05: 466, his lectures on logic[3], and some reflexions[4], and the Kantian research has not concentrated on that particular aspect of Kantian philosophy[5], making it very hard to reconstruct a whole doctrine on hypotheses.

During my talk, I will try to show you a plausible reconstruction of what Kant thought of when he used the term "hypothesis". Now, I intend to exhibit three of the problems that emerge in carrying out the task of determining the Kantian notion of hypothesis.

The first aspect I would like to highlight is the one related to the notion of ground of explanation (*Erklärungsgrund*). Every hypothesis must explain (*erklären*) some phenomena by connecting them to its cause. For instance, I explain p by considering a statement q as connected in accordance with the form of a category to its reason $pp \rightarrow qq$. Therefore, every hypothesis should be a conditional judgment, even if the statement to be proved was substantial. For instance, if I put the air under some pressure, its volume will change (q): the reason that explains that is that the air is stretchable (p). Consequently, when someone is looking for a reason that explains certain facts, he or she speculates about the possible consequences (q) of what he or she wants to prove (p). That is what I call the "reflective moment" of the formation of hypotheses. Then, that person should try some experiments in order to prove that p is true. I call that moment the "formulation" of hypotheses. I will not get into this second moment in the first part of this work. For now, I will keep my focus on the first step of hypotheses, and I will try to show which is the role that the reflective judgment carries out in this procedure, as well as which sort of principle is involved in it.

Following Capozzi[6], I will try to show the relation between the doctrine deployed by Kant in *KrV* § 12 and hypotheses. In that part of *KrV,* Kant focuses on criticizing the metaphysical doctrine concerning the concepts of *unum*, *verum* and *bonum*. Nevertheless, at the very end

[1] See *UD*, AA 02: 277-8 and KORIAKO, D, *Kants Philosophie der Mathematik. Grundlagen-Voraussetzungen-Probleme*. Felix Meiner Verlag, Hamburg, 1999, pp. 222-37.

[2] I consider that for Kant hypotheses are not constrained to empirical sciences, but that they can be found in everyday life.

[3] *Log*, AA. 9: 83-6, *V-Lo/Pölitz*, AA 24: 558-60, *V-Lo/Wiener*, AA 24: 896-90, *V-Lo/Blomberg*, AA 24: 219-25, *V-Lo/Philippi*, AA 24: 439-40, *V-Lo/Dohna*, AA 24: 746.

[4] R 2678, R 2679, R 2690, R 2681, R 2693, R 2694, R 2687.

[5] BUTTS, R. E., "Kant on Hypotheses in the "Doctrin of method" and the Logik" in: *Archiv für Geschichte der Philosphie* 44 (1962) 185-203 and BUTTS, R. E., "Hypothesis and Explanation in Kant's Philosophy of Science", *Archiv für Geschichte der Philosphie* 43 (1961) 153-170 and VAIHINGER, H., *Die Philosophie des Als ob. System der theoretischen, praktischen und religiösen Fiktionen der Menschheit aufgrund eines idealistischen Positivismus*. Scientia Verlag, Aalen, 1986, p. 634.

of that paragraph, Kant states that these supposedly transcendental concepts, which correspond to the form of every concept (and, therefore, could be wrongly predicated of every object as long as we need concepts to know it), could be used as criteria for hypotheses. I believe that what Kant meant to say with this is closely related with the criteria of hypotheses that he explores in his lectures on logic. These criteria are: 1) the absence of contradiction, both within 1.1) the hypothesis itself and 1.2) what is already known, 2) the coherency of the consequences drawn from the hypothesis, and 3) its unity or completeness. I will try to demonstrate that the criteria of the formation of hypotheses are narrowly bounded with both the forms of the concepts employed in an objective judgment and the unity of the object, which is the category at stake. In other terms, those criteria emerge from what I could call (using a terminology similar to Kant's) a "projective" way of thinking objects[7].

In *KrV* and, particularly, when Kant rejects the possibility of transcendental hypotheses (A 772-7/B 800-3), he mentions two conditions for the legitimation of hypotheses: 1) there must be empirical criteria in the formation of hypothesis, like spatiotemporal contiguity, and 2) if what we want to explain are phenomena, then we need to find their explicative reason among phenomena. In other terms, it is no use appealing to divinity or to freedom if we are dealing with phenomena.

From that could be inferred that empirical concepts are necessary for hypotheses as long as this sort of concept takes part in the unity of consciousness that Kant calls object. However, there are no doctrines about their use, because its employment depends on how much we are used to them[8]. The faculty of judgment (*Urteilskraft*) plays at this point a crucial task, because it tries to unify perceptions or facts under a concept that we already have, or it produces a new empirical concept under which these perceptions must be subsumed.

On the other hand, I would like to summarize some aspects of what I just called the "formulation" of hypothesis. This moment is closely related to the Kantian doctrine of the different ways of taking to be true (*Fürwahrhalten*). The question I would like to answer now is the following: which is the way of taking to be true that corresponds to hypotheses? The answer is clear in Kantian texts: hypothesis is a type of opinion directed by reason[9]. However, when Kant talks about opinion, he points out that "having an opinion is taking something to be true with consciousness that it is subjectively as well as objectively insufficient"[10]. Even though it could look strange, I will try to show that this position is perfectly coherent with the Kantian position concerning the ways of taking to be true. When someone is dealing with hypotheses he or she does not know, that is, he or she does not have sufficient reasons, but is looking for them using the criteria that I have explained above.

To sum up, Kant thinks of hypotheses as ways of producing knowledge. Hence, those forms which correspond to knowing are thought protectively as conditions that one has to fulfill to assign knowledge to himself or to others.

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[6] Capozzi, M., *Kant e la logica. Vol. I*. Bibliopolis, Napoli, 2002, p. 671, footnote 57.

[7] *KrV*, A 647/B 675.

[8] "*Der Pulver Fabrikant weiß, daß es eine treibende Kraft hat, daß es so und so entstanden ist. Zum Verstehen kommen sehr viele, Das macht, sie haben gewiße Regeln des Verstandes. Aber sie sehen nicht ein, non perspiciunt*" *V-Lo/Wiener*, AA 24: 846.

[9] "*Hypothese ist eine Art, durch Vernunft zu meinen*" R 2693. At this point, it is important to highlight that knowing for Kant is not believing. I follow Enskat in this point: ENSKAT, R., *Urteil und Erfahrung*. Göttingen, Vandenhoech & Ruprecht, 2015, pp. 31-54.

[10] *KrV*, A 822/B 850.

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The Apriori Presuppositions of Science: from the *Critique of Pure Reason* to the *Opus Postumum*

The aim of my talk is to lay the groundwork for an inquiry into Kant's view of the necessary and sufficient conditions of possibility of proper science. I will do that referring to extracts from the *Critique of Pure Reason* (KrV A137-147/B176-187; A832-851/B860-879), the *Metaphysical Foundations of Natural Science* (4:467-479), and the *Opus Postumum* (21:217; 22:138-139; 22:341-355; 22:487-495) focusing on the following key notions: transcendental Philosophy, Metaphysics, Physics, System and Schematism.

In the first part I will present the general task and findings of the transcendental philosophy, then I will focus on the distinction between doctrines and natural science (in a proper sense) and then move onto a final part concerning the legitimacy of a transition from metaphysics to physics.

The task for the transcendental inquiry is to determine the criteria that metaphysics must meet in claiming to justify the knowledge of its objects. Through his inquiry on the possibility of knowledge, Kant achieves the following result: metaphysics (in a proper sense) cannot become a proper science because it deals with the supersensible, with objects that lie beyond all boundaries of our possible experience and cognition, which are limited by a priori principles (KrV B166-8). From this "proper" metaphysics, a metaphysics of the corporeal nature i.e. a rational physics must be distinguished. What does this rational physics consist in? What is the relation between transcendental philosophy and physics? According to Kant (KrV840-42/B868-70; 10:9) philosophy is a system of rational knowledge through concepts which characterise different domains, legislated by particular faculties and principles. The two main domains are the metaphysics of nature and the metaphysics of morals. Since each domain has systematicity as a constraint, the notion of schema is quite central: its content has to be unified according to general rules. If so, schema assumes an important function in the transcendental inquiry (KrV A56/B80) and in Kant's general account of the relation between science and philosophy (KrV A833/B861).

As well, another constraint for science is that its sistematicity developed through schemata has to be outlined in accordance to pure rules. As Kant puts it:

> "A schema that is not outlined in accordance with an idea, i.e. from the chief end of reason, but empirically, in accordance with aims occurring contingently (whose number one cannot know in advance) yields technical unity, but that which arises only in consequence of an idea (where reason provides the ends a priori and does not await them empirically) grounds architectonic unity. What we call science, whose schema contains the outline (monogramma) and the division of the whole into members in conformity with the idea, i.e. a priori, cannot arise technically, from the similarity of the manifold or the contingent use of cognition *in concreto* for all sorts of arbitrary external ends, but arises architectonically, for the sake of its affinity and its derivation from a single supreme and inner end, which first makes possible the whole; such science must be distinguished from all others with certainty and in accordance with principles." (KrV A833/B861)

Science, therefore, relies on a priori presuppositions (e.g. categories, schemata and ideas in their regulative use). Within this framework, transcendental philosophy concerns the conditions of possibility of objects in general (without considering their specific kind or nature), while physiology deals with the particular objects of nature (physics and, if it is the case, psychology). More specifically, physiology, insofar as it concerns only a priori principles, is considered rational. Such a rational physiology does not constitute a knowledge a priori of the particular objects of nature, but rather a knowledge a priori (i.e. a metaphysics) of the general conditions of their very possibility (KrV A846-8/B874-6). This rational physiology is developed in the *Metaphysical Foundations of Natural Science*. In this work, Kant provides a clear distinction between the presuppositions of science and those of doctrines of nature which are not sciences in a proper sense. Both kinds of theory are systematic, however whilst the mere historical doctrines are grounded by empirical principles, a natural science "properly so called" (4:468) is based on a priori laws. A natural science, in this demanding sense, presupposes a metaphysic of nature, namely the reference (and not, as in the case of mathematics, the construction) to pure concepts that are at the basis of the possibility of nature. As Kant states in the preface:

> "What can be called proper science is only that whose certainty is apodictic; cognition that can contain mere empirical certainty is only knowledge improperly so-called. Any whole of cognition that is systematic can, for this reason, already be called science, and, if the connection of cognition in this system is an interconnection of grounds and con- sequences, even rational science. [...]A rational doctrine of nature thus deserves the name of a natural science, only in case the fundamental natural laws therein are cognised a priori, and are not mere laws of experience." (4:468)

This metaphysics has a transcendental part, which focuses on the laws of possibility of nature in general, and a particular science, which concerns the application of the transcendental principles to the objects of sensibility and that constitutes physics. In the *Metaphysical Foundations of Natural Science*, Kant provides the instances (i.e.claims on the general doctrine of the body) in which the concepts of transcendental philosophy (namely the form and principles of external intuitions) are realised (4:478). Is that enough? Are the claims on the general doctrine of the body sufficient to ground science in a proper sense? Can the metaphysical principles expounded upon in the *Metaphysical Foundations of Natural Science* ground physics?

In 1798 Kant writes to Christian Garve that he felt a "pain like that of Tantalus", "the unpaid bill of my uncompleted philosophy.""The project on which I am now working [...] must be completed or else a gap will remain in the critical philosophy."(12:257) A month later he writes to his pupil Kiesewetter and states that: "The transition from the metaphysical foundations of natural science to physics must not be left out of the system .... [W]ith that work the task of the critical philosophy will be completed and a gap that now stands open will be filled."(12:258.)

It is reasonable to argue that the manuscript of the *Opus Postumum* is the result of Kant's attempt to carry out this transition. But here critics have to face a fundamental problem concerning the legitimacy of this transition. In the *Metaphysical Foundations of Natural Science* Kant guards against the pretension to go beyond the universal concept of matter (4:524) and already in the *Critique of Pure Reason* Kant arrets clearly that the understanding cannot a priori determine the particular laws of appearances (KrV B127). Then, how is it legitimate to deliver the transition from metaphysics to physics?

A possible answer (Mathieu 1989) is to stress that the features of a proper natural science are: apodictic certainty and sistematicity. In the *Metaphysical Foundations of Natural Science* Kant was able to provide the necessity of the most general laws of physics however he could not give a proof of its systematic a priori unity. Transcendental philosophy has to provide a priori principles for the systematic classification of the specific forces of matter that are empirically given. As Kant explained in the *Opus Postumum* the laws of attraction and repulsion, expounded within the *Metaphysical Foundations of Natural Science*, are not sufficient to provide a guideline for the specific forces present in nature:

"The transition to physics cannot lie in the Metaphysical Foundations (attraction and repulsion, etc.). For these furnish no specifically determined, empirical properties, and one can imagine no specific [forces], of which one could know whether they exist in nature, or whether their existence be demonstrable".(22:282)

Here, again, the notion of schema assumes a central role insofar as it is through a schematism, developed through the ether (and not time, as Kant stated in the *Critique of Pure Reason*) that this transition can be finally realised.

In conclusion, I will stress some points for the discussion: Is there an evolution or change in Kant's view of the presuppositions of science? Are Kant's last writings (*Opus Postumum*) compatible with his critical ones? Does this account of the relation between philosophy and science provide a contribution in the on going epistemological debate?

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**An "Intuition" in Kant's Philosophy of Mathematics:
A Challenge for Transcendental Idealism**

Kant's account on the nature and status of mathematical propositions and reasoning has wide historical and theoretical significance. On historical significance, one can name K. Gödel, P. Martin-Löf, L. E. J. Brouwer, B. Russel, G. Frege; all of them considered Kant's philosophy of mathematics as the key point in analysis of all his doctrine. Indeed, mathematics has great theoretical significance for Kant. 1. One of the main arguments for transcendental idealism is so-called "argument from geometry". This argument shows (perhaps, incorrect) that acceptance of transcendental ideality of space and time is the only way to explain the possibility of *synthetic-a priori* character of mathematics. 2. Main task of *Critique of Pure Reason* (especially its second edition and *Prolegomena*) is to explain the possibility of *synthetic-a priori* cognition, of which mathematics is mode. 3. Everything that we can cognize *a priori* about space and time we can cognize through mathematics, therefore correct account on mathematics is greatly significant for other parts of doctrine too.

Philosophy of mathematics appears in many critical and pre-critical works. Occasionally, one cannot provide without additional constructions fully developed theory of mathematics in Kant.

Kant main claims on the status and nature of mathematics are these: A) Reasoning in mathematics is *a priori*, what means that mathematical knowledge is not gain by inductive generalization. In transcendental idealism interpretation, it means that we ourselves input this knowledge. B) Mathematical judgments have specific kind of apriority: they are *synthetic a priory*. It means that predicate and subject in judgment are connected by some intuition. C) This intuition must be an a priori intuition. The key to all Kantian conception of mathematics (as well as for his transcendental idealism and theory of experience (from 1,2,3)) is his conception of intuition, thus in frame of this particular paper I should consider the notion of "intuition" and leave aside for future researches full interpretation of Kant's mathematics.

In the beginning of *Transcendental Dialectic* section Kant presents a gradation of representations: "The genus is the representation in general (repraesentatio) <…> The latter is either an intuition or a concept. The former is immediately related to the object and is singular; the latter is mediate by means of a mark which can be common to several things"[1] (B376-377).

In this way, we can establish two criterions of "intuition": criterion of immediacy and singularity. Thus, there should be some kind of logical relation between them: either immediacy criterion is corollary of singularity (logical interpretation) or the immediacy is a fundamental one from which singularity follows (phenomenological interpretation) or, finally, there is a more general criterion from which the formers can be derived (mediate interpretation).

Consider firstly logical interpretation of which J. Hintikka[2] is a main proponent. His reconstruction is based on two fundamental premises:

[1] Here as elsewhere I follow P. Guyer and A. Wood translation of *Critique*. (Immanuel Kant, *Critique of Pure Reaso*n, ed. by Paul Guyer and Allen Wood (New York: Cambridge University Press, 1998).

[2] See, for example: Jaakko Hintikka, 'Kant's Theory of Mathematics Revisited', *Philosophical Topic*s, 12.2 (1981), 201–15.

a) Hintikka proposes that the model for reasoning in mathematics is Euclidian geometry and Euclid's theory of geometrical proof.

b) He postulates that Kant's account on mathematical method from Doctrine of Method (A713-731/B741-760) is presupposed to *Critique*. That gives him a possibility to say that critical doctrine is based on certain mathematical theory, which can be modernized without transcendental idealism and transcendental phycology.

His approach is very seductive, it gives a way to rule out hard problems of transcendental idealism and change it by Hintikka's own doctrine of "seeking and finding" of applications of theories. However, there can be doubts whether it is genuine Kant's doctrine and thus, whether Hintikka's reconstruction is correct, respectively.

There are dome basic problems in Hintikka's reconstruction. Firstly, it based on unverifiable premise (b). Secondly, it uses apparat of predicate calculus, which was unavailable for Kant. Hintikka considers intuition as singular term and takes rule of *existential elimination* for explanation of the role of intuition in mathematical reasoning. He may be correct logically, but leaves a little from Kant's original conception. Thirdly, Hintikka cannot explain the difference between constitutive and regulative principles and the difference between philosophy and mathematics, respectively. Finally, Hintikka's reconstruction fails to appreciate Kant's doctrine of transcendental ideas (from his conception follows that idea of God is intuition) and his theory of concept and intuition.

It is natural to suppose that if one criterion fails to account for all variety of theoretical significances of intuition, then other criterion is fundamental and can rule out the problems of the former one. However, the criterion of immediacy is far more problematic. One cannot start theoretical investigation from something immediate because others cannot share it. What can be immediate for one can be mediate for another: the only way to arrive at a consensus is to believe that others understand proposition with private reference just in the similar way, as I am. It is without a doubt very weak theoretical position.

Thus, only one conclusion remains: there is more general genuine criterion of intuition from which criterion of immediacy and singularity can be derived. There are many ways to come to this criterion, in this particular paper I want to choose an analytical a-historical way. I will try to follow K.D. Wilson mereological reconstruction and then try to show how his approach can be used for interpretation of main theses of Critique and especially for his philosophy of mathematics [3].

Kant usually uses the notion of "intuition" in opposition to "concept" (or in idiom of intuiting/thinking) (for at least in *Critique* and in *Lectures on Logic*). In *Logic* Kant notices that "Every concept, as partial concept, is contained in the representation of things; as ground of cognition, i.e., as mark, these things are contained under it. In the former respect every concept has a content, in the other an extension"[4]. Thus, concepts have taxonomical structure and form a hierarchy, where species contain under genus and genus contains in species. This structure provides special rules foe operation with concepts: "What belongs to or contradicts higher concepts also belongs to or contradicts all lower concepts that are contained under those higher ones; and conversely: What belongs to or contradicts all lower concepts also belongs to or contradicts their higher concept"[5]. How-

[3] Kirk Dallas Wilson, 'Kant on Intuition', *The Philosophical Quarterly*, 25.100 (1975), 247.

[4] Immanuel Kant, 'The Jäsche Logic', in *Lectures on Logic*, ed. by Michael J. Young (New York: Cambridge University Press, 1992), pp. 521–642 (p. 593).

[5] Kant, 'The Jäsche Logic', p. 596.

ever, what is for intuition, does it has any special structure?

It has and Kant makes it clear in Aesthetic. In metaphysical exposition of concepts of space and time, Kant argues that every concept "is contained in an infinity set of different possible representations" but one cannot think about a concept as "if it contained an infinite set of representation within itself" (B40). The difference between *containing under* and *contained* is crucial for current analysis. While division of concepts follows according to taxonomical mode of relation, division of intuition is determined by mereological one (intuition is divided by limitation in opposite to concepts specification).

This apparat helps to solve some basic problems of interpretation of "intuition".

I. As Wilson argues, Kant's account of mathematics is unclear and new apparat that A. Tarski (one of the main proponents of mereological project[6]) presented can show that Kant was in some ways mistaken – however, not hopelessly. Firstly, mereology as formal system provides a logical foundation for the geometry of solids in general and for Euclidian geometry in particular. Since, Kant's logic cannot include mereological axioms we can continuously talking about Kant's mathematics as grounded by intuition (read, by non-logical kind of relations for Kant and non-set-theoretical for us). However, one can ask what this pure intuition is and has it any *a priori* connection with sensibility? Geometry of solids represents the structure of pure intuition and, as I noted before, mathematics is the only way to know something about space and time *a priori*, thus, we have *a priori* intuition since we have mathematics. However, the connection of this intuition with sensibility is more difficult question.

The structure of the object of intuition is isomorphic to intuition, so, the fact that something can be described by geometry of solids means that it actually has the described properties. This account anlage Kant's notion of sensibility, but this step is essential in the face of development of logic, mathematics and natural science. Overall, mereology saves the distinction between intuition and concepts.

II. Mereological analysis can lay the foundation for Kant's distinction between mathematical and dynamical principles, since formers are isomorphic to intuition, while later are not.

III. One of the problems of Hintikka's approach is that it cannot account, for example, for the notion of God, because according to it God would be an intuition. Mereology has no problems with concept of God, because God is the most general possible genus, but genus-species structure is not the structure of intuition.

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[6] For more details see: Alfred Tarski, 'Foundation of the Geometry of Solids', in *Logic, Semantics, Mathematics: Papers from 1923 to 193*8 (Oxford: Clarendon Press, 1956).

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Kant on Linneaus's Hope: A New Look at the Transcendental Deduction in the Introduction to the *Critique of Judgment*

In the Introduction(s) to the *Critique of Judgment* Kant famously argues that the reflective power of judgment requires a transcendental principle: the principle of nature's objective formal purposiveness. Kant tasks the reflective power of judgment with discovering universals (concepts or rules) for given particulars. Kant insists, however, that the activity of the reflective judgment would not be possible without presupposing that nature lends itself to such empirical concept formation, that nature is, in other words, purposive in relation to the human understanding. Kant calls this presupposition the transcendental principle of the objective formal purposiveness of nature: the principle "that for all things in nature empirically determinate concepts can be found" (*EEKU*, 20:211.26-27).[1] Yet, in a long footnote in Section V of the unpublished Introduction Kant acknowledges that the principle of purposiveness might appear tautological, superfluous. Given that nature *does* factually lend itself to empirical concept generation, does it not indeed follow from this that empirical concepts *can* be found for all things in nature? Provided that experience is factual, nothing further seems to be required to establish its possibility. Does reflective judgment really require a deduction of a transcendental principle for its employment then? While most commentators explain the validity of the principle of purposiveness with reference to the need to establish the *necessity* of empirical laws as *laws* (which cannot be obtained merely empirically), I would suggest that Kant's deduction cannot be understood without recalling that he borrows the concept of purposiveness from the sphere of practical behavior: "This concept [of purposiveness] is also entirely distinct from that of practical purposiveness (of human art as well as of morals), although it is certainly conceived of in terms of an analogy with that" (*KU*, 5:181.8-11). For Kant appears to argue that nature must be assumed a priori as conceptually manageable for human cognizers. Indeed, it is as if the understanding could not begin research into nature without expecting the success of the project. As Kant suggests in another footnote in the unpublished Introduction, Linnaeus would not have undertaken his research into nature without the *hope* in the fruitfulness of his efforts, in the agreement of nature with human reason. And the emphasis here should be placed specifically on the expression "hope." This is another way of saying that the human mind cannot just wager to cognize nature, as it were, blindly and without a guarantee. It requires the transcendental assurance (the principle of formal purposiveness) that the endeavor will be successful, that nature will be conceptually manageable. And it is because this epistemological surety must precede all cognition that the principle of purposiveness is transcendental rather than empirical. To enter the labyrinth of nature, that is, the human agent must be assured that she can find a way out. Although Kant nowhere states it explicitly, therefore, it appears that the principle is grounded in the idea that the human being cannot intend an a priori futile action but is always concerned

[1] Kant's Critique of Pure Reason (KrV) is cited according to the pagination of the first (A) and second (B) editions. All other works are cited according to volume, page, and line numbers from the Academic Edition of Kant's works, edited by the Berlin Akademie der Wissenschaften (29 vols., Berlin: de Gruyter, 1900–). For the most part I use the Cambridge translations of Kant's works with occasional modifications.

about the outcome (which appears in turn to cut across Kant's theoretical and practical philosophy). This idea in turn forms the heart of Kant's moral argument for God's existence and his conception of practical faith (hope). My suggestion is that much helpful light can be thrown on the deduction of the principle of purposiveness in the Introduction(s) to the Critique of Judgment by reading it alongside Kant's argument for moral theology.

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Why it is Necessary to Appeal to Kant's View on Organic Processes, Human Subjectivity and a Medicine in Contemporary World?

The necessity of the philosophical reflection to be turned to the organic processes is determined by the contemporary sociocultural transformations. The cultural landscapes of the megapolis destruct the organic processes. Machine reality reduces everything to its purposes. We can not have a total prognostic about human being in case of the replacement of his organs on its analogs. Digital and net worlds establish the conditions for their functionality including specific organization of a human body (development of a hand with fingers and anchylosis of joints of the other parts of a body) and creation and spread of a virtual image of organic. Various kinds of organic such as growing, development, eating, reproduction, dying, aging, fading, fatigue can be defined as the elements of a functional system. Within of this system these elements may be redefined, relicted and engendered. The reflection appealing to organic as its subject is turned to the transformations of the organic processes in cultural symbolic order and has to reflect them in a passage - from increase to decrease, from opening them for eyes to closing, from agony to irreparable loss.

For a long time organic was a subject only of natural sciences and the human and social sciences paid attention to it as what to be overcome by man and society in reasonable, aesthetic and valuable plans of their beings, organic had no place in spaces of freedom, creation, will and spirit. This point of view was expressed in the first place by N. Fedorov, who was a representative of the Russian Cosmism. N. Fedorov called for overcoming of the organic laws (necessity of a passage from birth to death). Within of this approach a man/woman can not, for example, answer the question what kinds of destruction we have to expect from losing the linkage between the human and the social being and the organic processes. On the contrary, contemporary philosophers call for researching a topos as a natural and cultural landscape. Topos is a foundation of a reflection, a human subjectivity and practical actions. Drawing of this approach I plan to appeal to the Kant's philosophy. Kant suggests, that human ability to understand organic in its reasonability and human hope that it is true is a foundation of human social cultural actions such as moral being in society and medical actions. I should note that there were only beginning of machine reality and no digital and net worlds in Kant's time. It is in apposite on methods of the researching. The methodology consists in the reconstruction of Kant's view on organic processes, human subjectivity and a medicine in order to point out the problems of contemporary world and the methods of their solving.

The goal is in an analysis of the consequences of the organic processes' transformations in contemporary world via appealing to Kant's philosophy.

Firstly, we should ask could a man/woman understand the organic processes in contemporary world via the principle of reasonability (according to teleological ability of judgement). This question is based on Kant's thought that we have to suppose reasonability in nature for reaching the knowledge about it. In case of human using teleological ability of judgment for comprehension of nature, the organic processes are interpreted as purposes and means. Paying attention to Kant's thought I can directly understand the consequences of the transformations of the organic processes as a result of sociocultural expansion in contemporary world. A man/woman can no longer interpret the organic processes as purposes and means because of the organic processes' transformations, for example, in

situation of losing functionality. Rest and sleeping are no longer goals of nature and means for reactivation in megapolis, because people are suffering from chronic fatigue under the influence of sedentary and stressful lifestyle. Some of the organic processes stopped to be themselves and became unreachable for the researcher, who appeals to nature using the principle of reasonability. It leads to the conclusion, that a man/woman can be sure no longer in successfully using his/her teleological ability of judgment to reach the knowledge about the nature, part of which he/she is.

Secondly, what consequences the organic processes' transformations have for ethics in contemporary world? This question is based on Kant's statement of the linkage between human ability to understand organic in its reasonability, human hope, that it is true and moral human actions. Necessity of this linkage can be explained next step. Practical reason for Immanuel Kant is an independent formation, because it overflows limits of empirical matters. Studyng practical activities of humans Kant faces reasons' law-making in the nature. The problem consists in the distinction between reason and physical nature, which leads to impossibility of moral actions. According to Kant' conception this problem can be solved only in one way: moral actions determined by reason ability are possible in physical world if a subject can understand the organic processes via the principle of reasonability and be sure, that it is true. I suppose the transformations of the organic processes in contemporary world lead to uncertain foundation for moral human being. I mean different kinds of the transformations of the organic processes in contemporary world such as forced development, growing, eating, reproduction, and on the contrary, delayed dying, aging, fatigue and consequences of such transformations for ethics. The most difficult questions: what is the topos of moral human being? Can we find the reasonable order in being constantly transformed physical nature? And is it important for moral subject to be sure in reasonability of the forced and delayed organic processes?

Thirdly, what consequences the organic processes' transformations have for medicine in contemporary world? Kant was sure, that a doctor acts according to nature' laws. The understanding of nature in its reasonability is the foundation of doctor's knowledge and as it possible to conclude is the limit of his freedom to take decisions. This Kant's position is not obvious in contemporary world, because we are the witnesses of transformations of the organic processes as a result of social cultural expansion. So we have to redefine what is the foundation of medicine in contemporary world. And it is in apposite to Kant's logic - he supposes, that medicine must have its foundation and it should be interpreted by philosophers. I also consider, that the transformations of the organic processes lead to the second problem of a medicine – the transformations of its subject. And it should be reflected too in philosophical thought.

We need to appeal to Kant's conception in order to understand what happens in contemporary world and what the questions philosophers have to answer first of all. The analysis of Kant's conception of organic leads to the conclusion, that a man/woman can not successfully understand organic in its reasonability in contemporary world. It has at least two consequences. 1. The transformations of the organic processes in contemporary world lead to uncertain foundation for moral human being, so philosophers have to answer the question what is the topos of moral being and how it can be interpreted. 2. Medicine has uncertain subject and foundation for its decision too, so philosophers have to answer the question, what is the subject of medicine, from what the doctors can borrow their knowledge and how this foundation can be interpreted.

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Kant: Opposition in General Logic and Transcendental Logic

In his *Lectures on Logic* Kant regards logic a science completed by Aristotle in its basic outline—a science that is therefore unlikely to change. Logic has its own principles; it does not borrow principles from other sciences. As a science of reason, logic has both matter and form. Its matter is the reason. But in respect of objects, logic is merely formal. Kant describes this kind of logic as general logic. He distinguishes between general and transcendental logic. In transcendental logic, an object is represented as an object of the mere understanding; general logic, on the other hand, concerns itself with objects in general.

In the first *Critique,* it is stated that general logic abstracts all content of cognition and considers only the logical form in the relation of cognitions to one another, i.e., the form of thinking in general. Transcendental logic has to do with the laws of the understanding and reason insofar they are related to objects a priori. This is not the case for general logic because it does not draw a distinction concerning the origin of its objects or cognition. Even though called transcendental logic also abstracts from its subject: a kind of self-cognition. Kant states that transcendental philosophy could be called transcendental logic. It occupies itself with the sources, the extent, and the boundaries of pure reason, without going into objects.

As a separate science, general logic has its own principles. One of them is the principle of non-contradiction. In his lectures on logic, the principle of non-contradiction is given first as a formal criterion of truth. This principle determines the logical possibility of a particular cognition. A cognition is logically possible when it doesn't contradict itself. The principle provides a negative truth, that is, a formal criterion of truth.

According to the KrV, the principle of non-contradiction must be content-free and merely formal, but when we formulate it in the traditional way as "It is impossible for something to be and not be at the same time" we find two elements of synthesis; the condition of time and the modal word “impossible”. Time belongs to the realm of syntheticity and hence Kant leaves out "time" from the traditional formulation of the principle. The modal word “impossible” is one of the categories of understanding which are applied to *Sinnlichkeit*. Kant thus provides a new formulation of the principle containing no synthesis: "No predicate pertains to a thing that contradicts it". Kant states that the principle of non-contradiction must be the highest principle of analytical judgments not of synthetic ones.

In the *KrV* we see that transcendental logic makes use of the principle of non-contradiction, which is mainly a principle of general logic. Even Kant acknowledges that it is only a formal use, still, it is an open question how this general logic and transcendental logic related to each other. To be able to differentiate two logics we can use of Kant’s distinction between two types of opposition.

In Kant, contradiction is a particular kind of opposition (i.e., logical opposition). In his pre- critical work *Attempt to Introduce the Concept of Negative Magnitudes into Philosophy*, Kant examines logical opposition and real opposition. Logical opposition and real opposition both produce a kind of nothing, yet these are different "nothings". He relates logical opposition to contradiction, whereas real opposition is without contradiction. In real opposition, there are two predicates of a thing that are opposed to each other without the law of non-contradiction. The consequence of a real opposition is also a negation, but it is still

something because it is "representable". Kant calls this consequence 0 (zero), a cancellation. He points out that the philosophers before him considered this kind of negation as a negation of lack (Mangel). He, on the other hand, refers to the negation of real opposition as privation.

In the *KrV* logical opposition is a contradictory opposition. The example Kant provides for this opposition is this: "The body is either good-smelling or not-good smelling". In this proposition, there are two judgments that are contradictorily opposed. The first judgment is false, but its contradictory opposite is true, because "The body is not good-smelling" also includes those bodies that are devoid of smell. In contradictory opposition, Kant mentions mostly true-false pairs.

We mentioned earlier that logical opposition produces nothing at all but that as a consequence of real opposition we have something. This can be explained with the help of Kant's account of how something is nothing. In the KrV Kant divides to four that in which meaning is something is "not" or nothing (nichts); *ens rationis, nihil privativum, ens imaginarium, nihil negativum*. For my present purposes, the second one, "nihil privativum", and the fourth one, "nihil negativum", are particularly important. In the “nihil privativum", Kant provides an explanation similar to his explanation of real opposition in his pre-critical period. He states that reality is something and that negation is nothing in the sense a concept of the absence(Mangel) of an object; if extended beings were not perceived, one wouldn't be able to represent space. *Nihil privativum* is empty data for the concepts.

In the "nihil negativum", the object of a concept contradicts itself. It is nothing (nichts) because the concept is nothing, the impossible. For example, we can speak of "a rectilinear figure with two sides", but in the end, we don't say something; we say nothing. It is called "non-thing (Unding)". This kind of concept is the opposite of possibility because the concept destroys itself. We can call this logical impossibility.

If a concept doesn't contradict itself, it is possible. This is the logical mark of possibility, and the object of this concept is different from the object of a "nihil negativum". Logical possibility of a concept in thinking is different from the transcendental possibility of its object in reality. Similarly, the logical impossibility of concept and the transcendental impossibility of its object should be distinguished. We can see that the explanation of *nihil negativum* is valid for both logical and transcendental impossibility. But in the case of transcendental possibility, we need more than to be only conceptual possible.

All of the types of mentioned nothings with the exception of "nihil negativum" belong to the realm of possible concepts. Kant demonstrates in another text how contradiction produces nothing. Whether or not there is a sensual object corresponding to intuition, we need the principle of contradiction for all that we possibly think. This principle is valid for thought in general, without regard to any particular object. Whatever is not in accordance with this principle, it is nothing (not even a thought).

Kant’s differentiation of logical opposition from real opposition renders the difference between logical negation and real negation. The difference between these two negations is related to Kant’s account of *nihil negativum* and *nihil privatium*. Logical negation is a matter of judgment but real negation has a categorical sense. Negation as a pure concept of understanding is the privation of a real determination. Real negation is the mere form of intuition. Since the real opposition, in the case of real negation, is representable, it creates a cognizable privation. The aforementioned opposition is related to reality. For example, the negation of hot is cold yet these are two are not contradictories, they are opposites.

The new formula of the Kantian principle of non-contradiction supplies logical opposition and logical impossibility without using the word impossible. However in Kant for a real impossibility, a categorical impossibility is necessary. What is logically impossible is also really impossible, but the reverse doesn't hold. In real impossibility, no possible object corresponds to the concept. The real impossibility belongs to the area of transcendental logic. But the dependence of transcendental logic on general logic as a completed science produces problems for this situation.

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Predictive Processing and Transcendental Realism

Recent developments in the cognitive neurosciences have brought a paradigm shift toward the Bayesian brain and Predictive Processing(PP). Philosophical reflections on these developments have also been intensely debated (Clark, 2013; Hohwy, 2013, 2014). But, as proponents of the theory noticed themselves, the very roots of these theories are already found in Kant (1871), Helmholtz (1867) and later Dretske (1981). However, these recent debates on PP merely mention Kant yet do not devote a comprehensive analysis to the compatibility of Kantian account of perception with PP. Indeed, in the very beginning of his book, Hohwy says that there is a distinct Kantian element -"to the idea that perception arises as the brain uses its prior conceptions of the world (the forms of intuition of space and time, and the categories etc.) to organize the chaotic sensory manifold confronting the sensory system"- in PP[1]; also Anderson finds Clark's account of PP to be very similar to Kant's two-fold account of perception[2]. But, while these Kantian comparisons require detailed analysis, the references to Kant are no more than vague remarks. A careful examination of the similarities and divergences between PP and the Kantian approach to the role of prediction and anticipations of perception upon prior conceptions of the world is very much needed. This particular study however departures not from the role of *anticipation* or *prediction* in our perception to see the Kantian link; but rather, focuses on the transcendental implications of the principles of PP.

The aim of this paper is to show (§IV) that Predictive Processing (PP) in its vanilla form[3], supplies premises which indicates that Kant's argument for Transcendental Idealism is unsound (§V) that PP needs to learn from Kant's transcendental method to see that its (PP's) very principles imply commonsense realism. This is an investigation into the non-subjective transcendental conditions for the possibility of experience given the picture of PP. The key point to realize is that both Kant's transcendental arguments and the principles of PP imply that it should be the case that nature itself possesses regularities and patterns, rather than being chaotic or uncertain, for us to have any experience. But, realizing this requires transcendental reflection to understand why it follows both from the principles of PP and from Kant's view's on 'transcendental affinity' as Westphal carefully elaborated[4]. While PP is considered to have very distinct Kantian elements in, it is yet unnoticed how the fundamental principles of PP don't fit with Kant's central argument for transcendental idealism, which however Kant claimed to be necessary for the validity of his transcendental arguments. The very first reason for missing this tension should be the fact that proponents of PP focus much on the uncertainty, noise, and ambiguity in the sensory manifold rather than acknowledging that PP and generative modeling wouldn't have any function whatsoever, if nature didn't possess patterns, orders, repetitions and similarities; realizing which, however, requires transcendental reflection.

I will proceed as follows in order to present the picture where both a naturalist

[1] Hohwy, 2014, p.16.
[2] Anderson, 2017, p.10.
[3] Wiese, W. & Metzinger, T., 2017.
[4] Westphal, 1997.

neuroscientific and a critical approach should require unqualified, commonsense realism. I'll begin with presenting Kant's central argument for transcendental idealism. Then, I'll introduce Predictive Processing for the unfamiliar reader with its widely accepted fundamental principles. Thereafter, I'll show that the bottom up pattern discovery and hierarchical model generation upon frequency of the data, to which the brain is exposed, will give us the conditions for both objects and the brain to satisfy for the experience to be possible. If all the brain does is to discover the patterns in incoming data, learn and model, and then predict upon its models; then this only is possible if nature itself is learnable, possesses patterns and regularities that allow a proper system to model objects and events efficiently. Why our brains became such a system in the first place must already be answered by the very fact that nature is ordered and predictable such that it is best to have this kind of a system (like PP) to navigate in it, which I'll discuss later. All these imply, we'll see, that Kant's central argument for the a priori intuitions and the Categories to be subjective conditions of the possibility of experience is unsound; where I'll show that the knowledge of them can still be a priori. Thus, we will see that PP gives us a way to argue for commonsense realism without empiricism. The possibility of this, contra what Kant thought, is argued perceptively by Westphal[5] already. I'll show how this can even be taken up further by considering the implications of a young but very promising brain theory.

In my discussion, I'll consider the transcendental arguments for the outer sense, space, and will assess them only. But parallel arguments can easily be given for the inner sense and the categories.

In the main discussion of the paper I show that from the principles of PP we can conclude that our capacity to represent space, and to represent spatial features of objects, is a priori. Then I show that Kant's argument for Transcendental Idealism is unsound as it is not true that we can represent space a priori only if the content of our representation of space is a form of our (human) sensibility. My argument is as follows:

(1) From the very first stimuli-meaning whenever the brain is ready to be stimulated in the womb- exposed to the data from objects in space.

(2) The brain is exposed almost only and richly to data from objects in space.

(3) The very infant brain, as being the most active of learning in its life time, begins discovering the most frequent pattern in the incoming rich input.

(4) While objects in space, that it is exposed, are changing, the data that they are in space is not changing.

(5) Thus, the most frequent data it gets with zero error is that objects are in space and this pattern most rapidly discovered and taken up in the hierarchy.

(6) As there is no experience of objects but only noise until some patterns are discovered and that modeling begins which allows the top-down predictions to be formed; thus, the very first patterns cannot be obtained through experience of objects.

(7) After the discovery of the pattern, the brain will become predicting that the next data will be from a spatial object; and it will have no prediction error associated to this prediction according to (2). This will be repeated with each input it gets. Which means its prediction and its model will be strengthened.

(8) Thus, the spatiality of objects will be taken almost to the top in the hierarchy as it is associated with zero prediction error and attached to every stimuli.

[5] Westphal, (1997), (2005).

(9) Thus, the brain soon stop checking prediction error of the spatiality of objects; and its perception in spatial order will be purely top-down.

(10) All this process is before any proper experience of the infant begins as the very first modeling are the foundation of the experience in PP.

(11) Therefore, the representation of the space is not obtained through the experience of objects in spatial order.

(12) Our representation of space is necessary as we cannot represent to ourselves any object that is non-spatial and we become blind anything non-spatial or that we perceive anything given in space necessarily.

(13) Therefore, our representation of space is non-empirical and necessary, thus is a priori. Here, from the principles of a credible neurocognitive theory, we see that the premise that the spatiality is a real feature of objects can give us the conclusion that we can represent space a priori. Therefore the premise (3)[6] of Kant's argument (Allison) for Transcendental Idealism is falsified which shows that his argument is unsound.

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[6] Kant's composite argument for the transcendental ideality of the space, in the form given by Allison:

(1) Our representation of space is a priori.

(2) (1) is possible if the content of our representation of space is a form of our (human) sensibility.

(3) (1) is possible only if the content of our representation of space is a form of our (human) sensibility.

Therefore (4) Space is a form of human sensibility.

Therefore (5) Space is transcendentally ideal (though empirically real).

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Possibility of Self-Knowledge in Kant's Philosophy

One of the most remarkable achievements of Kant's critical philosophy is a significant reassessment of the subject's (cognizing agent's) place in cognitive process, known as Copernicus's revolution. "...Our representation of things as they are given to us does not conform to these things as they are in themselves but rather that these objects as appearances conform to our way of representing" — Kant maintains (Kant, 1998, p. 112). The thinking subject, which ascribes to the object something taking out of itself, provides the universal and necessary character of knowledge and makes scientific knowledge possible. At the same time, a quite important question arises: is it possible from the perspective of Kant's critical project to talk about the possibility to direct the cognitive activity of subject to the subject itself, i.e. about the possibility of self-knowledge? The purpose of this report is to answer this question.

First of all, I would like to draw attention to how pre-critical Kant solves the problem of self- knowledge. In his Inaugural dissertation *On the Form and Principles of the Sensually Perceived and Intelligible World* (1770) Kant distinguishes sensibility from intelligence (rationality). Sensibility deals with the receptived presence of an object, which in virtue of its relation to our senses is phenomenon. There are phenomena of the external sense (examined in physics) and phenomena of the internal sense (examined in empirical psychology) (Kant, 2009). Intelligence, as a superior faculty of soul, deals with the intelligible (noumenon) and also subordinates the results of sensuous cognitions (Kant, 2009). The result of sensuous knowledge is "the representation of things as they appear", the results of intellectual knowledge are "the representations of things as they are" (Kant, 2009).

In the same dissertation I. Kant openly admits rational and empirical psychologies as independent sciences and defines their subject areas. Later, in the lectures on rational psychology of the latter half of the 1770s, the philosopher clarifies the specifics of both parts of psychology, separating them according to the source of knowledge (Kant, 1997, p. 114). Rational psychology explores the soul by force of reason (within its limits) through a priori concepts. In empirical psychology the soul is examined exclusively from experience. A cognizing subject is able to consider itself (i.e., the noumenal soul) as an object of knowledge due to intellectual intuition (Kant, 1928, s. 226).

In Kant's critical philosophy (after 1780) the situation is radically changed. Kant asserts, that knowledge of things as they really exist is impossible, as well as intellectual intuition is a forbidden move. But does it mean that the Critique's answer to the question about objective knowledge of the subject itself is unambiguously "no" and the "Copernicus subject" is empty? The problem is that Kant writes in *Critique of Pure Reason* about the subject of cognition, its cognitive capacities, — and all that give an idea that we can nonetheless know something about the subject.

Firstly, the subject may know itself through inner sense. In contrast to the outer sense, by means of which we represent objects outside us, as objects in space, the inner sense allows the mind to intuite itself or its inner state. At the same time, the inner sense "gives, to be sure, no intuition of the soul itself, as an object; yet it is still a determinate form, under which the intuition of its inner state is alone possible, so that everything that belongs to the inner determinations is represented in relations of time" (Kant, 1998, p.

174). In other words, from the point of phenomenal view we know our subject through phenomena of our inner life, due to a priori form of time, which is applicable to the states that the soul experiences.

Secondly, behind these successive states of inner life remains something permanent, which Kant calls "the unity of consciousness" (die Einheit des Bewußtseins). By means of this unity it is possible to unite perceived manifold of sensibility. But from the perspective of the critical approach, we cannot know anything about the unity of consciousness and we should be vigilant to prevent us from the path of delusions. Misunderstood unity of consciousness can be a basis for such a pseudoscience as rational psychology. "The unity of consciousness, which grounds the categories, is here taken for an intuition of the subject as an object, and the category of substance is applied to it. But this unity is only the unity of thinking, through which no object is given; and thus the category of substance… cannot be applied to it, and hence this subject cannot be cognized at all" (Kant, 1998, p. 453).

Thirdly, Kant insists on distinguishing between the unity of consciousness und so-called "transcendental subject". "I confuse the possible abstraction from my empirically determined existence with the supposed consciousness of a separate possible existence of my thinking Self, and believe that I cognize what is substantial in me as a transcendental subject, since I have in thought merely the unity of consciousness (Kant, 1998, p. 455). Kant characterizes the transcendental subject as a subject of "all inner appearances, which is not itself an appearance" (Kant, 1998, p. 504). In spite of the fact that the transcendental subject is represented through I, accompanying all concepts, this representation is far from transcendental subject itself, or "the real self as it exists in itself" (Kant, 1998, p. 512). In fact, we do not know any properties of the transcendental subject and for us this subject is only a something in general, *x*. In contrast to the unity of consciousness, the transcendental subject is nevertheless provided with an ontological[1] meaning: in relation to the transcendental subject Kant uses the concept of substantial (but not the category of substance) as "the concept of a subsisting object in general" (Kant, 1998, p. 463).

It can be supposed that the extreme positions in this multi-level subjectivity correspond to a pair "thing in itself — appearance". In this case, the states of inner soul's life, given in inner sense, would be appearances, whereas the transcendental subject would correspond to the pole of a thing in itself.

However, it should be remembered that Kant understands a thing in itself ambivalently (as noted even by Russian philosopher S. N. Trubeckoj). On the one hand, a thing in itself is a source of empirical knowledge: from the sidelines of a thing in itself there is affection of sensibility. On the other hand, the thing in itself is only an idea (Trubeckoj, 1994, p. 534). In this sense, God or freedom are the things in itself: they exist "in itself" and cannot be grasped by sensibility. Such things in itself are only mental entities that are irrelevant to sensibility and have not any direct relation to experience.

To consider the transcendental subject as a thing in itself, both in the first and in the second senses, is quite doubtful. Firstly, the transcendental subject as such cannot be a source of knowledge, which affects sensibility. Kant directly claims that this subject "is not given as an object, and regarding which none of the categories... encounter conditions of their application" (Kant, 1998, p. 504). To recognize the transcendental subject as an

[1] The ontology in this case is not used in the sense the theory of categories (as it is understood in *Critique of Pure Reason*), but as a study of being.

idea means to make everything that stems from this subject, all its activity, ephemeral (because Kant characterizes a transcendental subject as a ultimate level of human subjectivity). The argument in favor can be found in *Critique of Pure Reason*, when Kant denies that the concept of substantial (as previously noted, the philosopher marks the transcendental subject with this concept) can be an idea (Kant, 1998, p. 463).

Thus, self-knowledge of a subject in Kant's critical philosophy is faced with the difficulties that are uncharacteristic of the knowledge of external objects. These difficulties arise, firstly, from the requirements of the critical project as such and Kant's refusing of the rational psychology approach; secondly, from the specifics of the subject matter, which is both a cognizing subject and an object of cognition. Thirdly, from the fact that Kant presentes subjectivity as if multi-level, cascading entity. Each subsequent level is more and more unknown to us. Even the soul, given in the inner sense, cannot be indicated as an object, say nothing of the transcendental subject, which is necessary, but absolutely unknown for us.

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Ideas as 'the Divinity of Our Soul': Kant's Theocentric and Platonic Model of Human Cognition

Scribbled in the margins of Kant's copy of Baumgarten's *Metaphysica* (1757) is a reflection that Adickes dates to just a few years prior to the publication of Kant's magnum opus, *The Critique of Pure Reason* (1781/7): "That is the divinity of our soul, that it is capable of ideas."[1] Kant's thought here is poetic, poignant, even a bit Shakespearean: "What a piece of work is man, How noble in reason, […] In apprehension how like a god."[2] This essay pursues Kant's intriguing description of our ideas as "the divinity of our soul" with the aim of correcting a popular but misleading narrative that he flatly rejects a *theocentric* model of human cognition.

Henry Allison is today a prominent spokesperson for the narrative I wish to challenge. Central to his influential interpretation of transcendental idealism is the thesis that this doctrine can be understood by way of a positive point of difference with transcendental realism. What distinguishes and thereby defines these doctrines on this interpretation is the thesis that the realist is committed to a theocentric model that measures our cognition against the norm of the so-called 'intellectual intuition' or, equivalently, 'intuitive understanding' enjoyed paradigmatically by the *divine* intuitive intellect. By contrast, the critical Kant is said to reject such a model in favor of an anthropocentric one that "consider[s] the human mind as the source of the rules or conditions through which and under which it can alone represent to itself an objective world."[3]

To be sure, Allison's interpretation fits well with a certain extreme, albeit prevalent, view of Kant as being in some sense antagonistic towards theism. Such a view finds expression in Moses Mendelssohn's criticism of him as 'the all-destroying Kant' for his refutation of the traditional theoretical proofs of God's existence as well as in Heinrich Heine's dismissal of Kant's alternative practical proof as a "half-benevolent, half-ironic" sop to his old servant Lampe, who (Heine imagines Kant saying) "must have a God, or else the pathetic man cannot be happy. However, man must be happy in the world—so says practical reason—for all I care [!]—and so practical reason can guarantee the existence of God." Even setting aside such an extreme view, Allison's interpretation also fits well with a more judicious appreciation of Kant's critical system, wherein the human mind, rather than God, is supposed to be responsible for the laws of nature and morality and wherein there is little patience for any *deus ex machina*.

Yet however natural, the idea that Kant flatly rejects such a theocentric model fails to do justice to the complexities of his notion of an intuitive intellect and, with this, his account of our cognition. To begin to see this, notice that by a theocentric model, Allison simply means one on which the "the proper objects" of our cognition are things in themselves.[4] He labels this model 'theocentric' because cognition, for Kant, "requires that its objects somehow be "given" to the mind" via intuition, and "the only kind of intuition that could supply the objects themselves is intellectual, which is traditionally thought to

[1] R5247 18:130 1776-8.

[2] *Hamlet* II.2

[3] Allison, Henry. *Kant's Transcendental Idealism: An Interpretation and Defense.* New Haven: Yale University Press, 2004: 38

characterize a divine […] intellect." Given this, the transcendental realist, unlike Kant, is said to regard our intuition "*as if it were intellectual*, because [she] tacitly assumes that, insofar as our intuition acquaints us with objects at all, it acquaints us with them as they are in themselves." In other words, she measures our cognition against the norm of the divine intellect simply in the sense that she holds that we "know objects just to the extent to which our thought conforms to […] God's thought of these same objects."[5]

There are, however, a number of difficulties with Allison's interpretation here. Most notably for present purposes is that it neglects the complexities of Kant's notion of an intuitive intellect. As a result, the narrative it presents of Kant as rejecting a *theocentric* model—again, one measuring our cognition against the norm of the divine *intuitive intellect*—is deeply misleading. This is because Kant tells us not only that an intuitive intellect intuits things in themselves (what I call the 'thing in itself characteristic')[6] but also that it does not represent objects via discursive concepts (the 'non-discursivity characteristic');[7] that it represents only actual objects (the 'modal characteristic'); [8] that it guarantees the existence of objects just by representing them (the 'productivity characteristic');[9] and that it enjoys a synoptic representation of its object in which the whole precedes its parts (the 'synoptic characteristic').[10] Allison's anthropocentric interpretation of Kant focuses almost exclusively on the thing in itself characteristic. So understood, he is right that Kant rejects a model on which we cognize objects only to the extent that we intuit things in themselves. Yet *this* fact should hardly constitute license for so simplistically characterizing Kant's model as anthropocentric since there are clearly other ways in which the divine intuitive intellect might serve as an important model for our own.

This is at any rate what I aspire to show in this essay, taking as my inspiration Kant's description of our ideas as "the divinity of our soul" cited at the beginning of this essay and exploring its relation to the *synoptic characteristic* of the divine intuitive intellect. In particular, this essay aims to show that the official Allisonian narrative that maintains that Kant "den[ies] the normativity of [some theocentric standard] for finite cognizers" is false.[11] To this end, I begin with the "excellent and indispensably necessary regulative use" of the ideas set forth in the Appendix to the Dialectic.[12] In brief, I show how by guiding our understanding's cognitions toward systematic unity, reason, by means of its ideas, is at the same time fashioning our discursive understanding after the model of the synoptic representation of the divine intuitive intellect— contrary to the popular narrative. I will then approach Kant's theocentric model, and his description of our ideas as "the divinity of our soul," from a slightly different although very much converging *Platonic* perspective. That is, Alfred North Whitehead famously proclaimed that that the European philosophical tradition "consists of a series of footnotes to Plato."[13] According to Allison, the theocentric

[4] Allison (2004): 28
[5] Allison (2004): 37
[6] See, e.g., KrV B307, V-Met/Mron 29:800 1782-3, and V-Met-K3E/Arnoldt 29:978 1794-5.
[7] See, e.g., KrV B145, A256/B312 and Prol 4:356.
[8] See, e.g., KU 5:402-3 and R6020 18:425-6 1780-9.
[9] See, e.g., KrV B72, B139, B145. Cf Leech ("Making Modal Distinctions: Kant on the possible, the actual, and the intuitive understanding." *Kantian Review* 19.3 (2014): 339-365), who also uses this 'guarantee' formulation.
[10] See, e.g., KU 5:407 and R6174 18:478-9 1780-9.
[11] Allison (2004): 79
[12] A644/B672
[13] Allision (2004): 39

model represents yet another footnote in this series: "The theocentric model, with its ideal of an eternalistic, God's-eye view of things, is the common heritage of the Platonic tradition."[14] What is interesting about this remark, and provides further support for my contention that Kant is committed to such a model, is that this heritage is very much shared by Kant's doctrine of ideas and his notion of an intuitive intellect.[15] Recognition of this common heritage allows us to more readily see just how closely his doctrine of ideas is tied to his notion of a divine intuitive intellect.[16] This in turn allows us to better appreciate that he regards our ideas as the "divinity of our soul" in the (Neo-)Platonic sense that it is through such ideas that we (in both the theoretical sphere and the practical) strive after divinity.

[14] Allison (2004): 28-9

[15] This latter point has gone mostly unremarked in the Anglo-American literature. Among German scholars, Max Wundt (*Kant als Metaphysiker*. Enke, 1924), Gerhard Mollowitz ("Kants Platosauffassung." *Kant-Studien* 40 (1935): 13-67), and Heinz Heimsoeth ("Kant und Plato." *Kant-Studien* 56.3-4 (1965): 349-372) provide some of the more illuminating discussions of the Platonic origins of Kant's notion of an intuitive intellect.

[16] See, e.g., R6050 18:434-5 1780s; R6051 18:437-8 1780s; R4275 17:492 1770-1; V-Met/Mron 29:759-61 1782-3; V-Met-K3E/Arnoldt 29:953-6 1794-5; KrV A313/B370ff, A853/B881-A854/B882; Prol 4:375n; VT 8:391, 8:398ff; Anth 7:141n.

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Reflexive Judgments and AI

I would like to propose the following notion: any attempt at building an intelligent artifact has to include the development of a certain function which is equivalent to what Kant calls the reflexive use of judgment. I claim that this use of judgment is what sets human intelligence apart from computational reasoning.

In the First Introduction to the *Critique of the Power of Judgment*, Kant puts forward three kinds of judgment, each with its own a priori principles. These are theoretical, aesthetic and practical judgments. The latter two kinds are marked by what Kant calls "purposiveness". As he puts it: "aesthetic judgments relate to the feelings of pleasure and displeasure, and practical judgments stand under the idea of a form of purposiveness that is qualified for universal law, as a determining ground of reason with regard to the faculty of desire" (FI 20:246).[1]

The key point is that we can only make sense of purposiveness via the reflexive use of judgments. Our intentional actions, that is, setting ends and striving to achieve them through the appropriate means, can not be understood merely mechanistically (by appeal to natural laws), since these actions and the thought processes that lead up to them ought to be regarded as spontaneous and hence, free. Neither can certain organic formations in nature be understood merely mechanistically. If they were, the determining aspect of judgment would suffice. This is why we are forced to think of another principle "as the ground of the possibility of certain forms in nature" (KU 5:388).

This use of reflexive judgment is so central that even to have an experiential cognition of the internal constitution of organized things, we require "the thought of a generation with an intention"(KU 5:398). This is especially significant for moral purposes, since, through the use of reflexive judgments, we are able to recognize the purposive behaviors of others, which could only have arisen from intelligent beings.

Reflexive judgments, then, are required in order for us to identify beings (including ourselves) which have rational capacities and hence can act according to reasons (good or bad). This rationality is the mark of humanity: it is what makes us morally responsible, which in turn bestows upon us certain rights and duties. It is clear from these points that reflexive judgments play a central role in all our rational undertakings, whether practical, theoretical or aesthetic. This point finds further traction via the thought that reflexive judgments are primarily about our state of mind (KU 5:264).

The specifically Kantian account of judgment already declares that judgment is normative, self- critical, fallible and communicable.[2] Rudolph Makkreel (2002) ties reflexive judgment to our finitude: Reflective judgment is our way of compensating for our finitude, without relying on a dogmatic faith in religious doctrines (p. 215). Reflexivity, then, is also the way in which reason becomes the sole authority for itself. Even though reaching complete knowledge is impossible, reflexive judgments allow us to foresee a comprehensive plan for the systematic expansion of knowledge (KU 5:386).

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[1] References to the third critique and the first introduction to the third critique are from: Kant, I. (2000). *The critique of the power of judgment* (P. Guyer & E. Matthews Trans.), Cambridge, Cambridge University Press. (Original work published 1790). FI is short-hand for the First Introduction, and KU is a short-hand for the third critique.

In these endeavors, the normative principles at work in cognition and volition can be used reflexively to reach judgments that can warrant universal assent; since these principles are shared (or ought to be shared) by everyone. As Paul Guyer (2003) notes, this attempt at systematic unity presents us with an ideal —toward which we must always strive, but also [one] that we can only approximate and never fully attain (p. 7).

This is the point that ties reflexive judgment with systematicity. No agent can have complete cognition of nature or society, whether from a religious, philosophical, political or scientific perspective. The search for truth in any domain has to be a joint effort, since all agents have certain cognitive limitations. However, this search can not be conducted by arbitrarily going through various principles, judgments or explorations, it must be grounded in certain principles which can be adopted universally by those who are conducting the search in question. The success of this undertaking is only possible by the intelligibility/communicability of our assertions, arguments and ideas. In this sense, asserting what we hold to be true must be both our right and our duty

With these point in mind, I would like to argue that mere information processing, logical deduction and the like can not be substitutes for the reflexive use of judgment. This is especially important in the design and development of AI, which is an area mainly concentrated on "computational reasoning". The reason for this unbalanced concentration is that the development of AI is necessarily tied to the recent advances in computer technology.

What sets the Kantian notion of judgment apart from other forms of reasoning is that it is strictly non-algorithmic and hence it is not amenable to formalization (. In other words, judgment can not be directly coded into a programme; it needs to be exercised spontaneously.[3] This poses a significant challenge to those aspects of AI development and design which rely on algorithmic forms of reasoning. However, if we really aim at creating intelligence, I stipulate that the design of a properly intelligent machine can not be solely based on computational logic, but it must contain elements which set human rationality apart from mere information processing.

This discussion is only a precursor to the much larger philosophical project of understanding embodied intelligence. Reflexive judgments are required by human beings because we have an existential stake in getting things right, by using cogent, justified, justifiable, normative and self- critical judgments. Recognizing purposiveness through the reflexive use of judgment is thus a significant property of human intelligence which must be incorporated into attempts at building intelligent artifacts.

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[2] On this point, see Westphal, K. R., Universal Moral Principles & Mother Wit,*or* Étienne Tempier & Cold War Rationality, Forthcoming in: M. Kaufmann, J. Thompson, M. Massa und S. Brandt, Hgg., *Regelfolgen,Regelschaffen, Regeländern – die Herausforderung für Auto-Nomie und Universalismus durch Ludwig Wittgenstein, Martin Heidegger und Carl Schmitt* (Frankfurt am Main, Peter Lang)

[3] On this point, see Kant"s Critique of Pure Reason, (A133/B172), "judgment cannot be taught, but only practiced."

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Noumena and Freedom:
Understanding Kant's Journey from Intellectual Intuition to the Fact of Reason

Between Kant's two major moral works—*Groundwork of the Metaphysics of Morals* (1785) and *Critique of Practical Reason* (1788)—there is a complete overhaul of Kant's argument for freedom of the will. While most scholars acknowledge the difference between the arguments in the *Groundwork* and the second *Critique*, no one has put notable focus on **why** the shift occurs. The fundamental question of what it was that changed Kant's mind has yet to be grappled with; herein lies a potential answer. This presentation deciphers what made Kant discard his original justification of freedom of the will and opt for the more prudent alternative of grounding freedom of the will in the immediate nature of the moral law. What I aim to show is that the dereliction of Kant's original argument for freedom of the will in the *Groundwork of the Metaphysics of Morals* stems entirely from the revision of the *Critique of Pure Reason* made in 1787—specifically Kant's distinction of positive and negative noumena. With a significant focus on the differences found in the first and second edition of the *Critique of Pure Reason* (1781, 1787), a narrative begins to emerge which can help to better understand Kant's reasoning for abandoning his first argument for freedom of the will.

The idea of freedom first appears in the first edition of Kant's *Critique of Pure Reason* (1781), but Kant does not fully develop it nor apply it to the human will until his later works— both of which incorporate his categorical imperative. His two major works on the issue of freedom of the will, however, are wholly different from one another in their ideas, proofs, and application. To account for the discrepancies within Kant's overall body of work, one must note when each book was written. Kant wrote the first edition of the *Critique of Pure Reason* in 1781 and followed it with the *Groundwork for the Metaphysics of Morals* in 1785; before publishing his third major work, the *Critique of Practical Reason*, in 1788, he put forth a second edition of the *Critique of Pure Reason* in 1787.

My presentation will be divided into five sections. The first section focuses on the first edition *Critique of Pure Reason* (1781) and the relevant theories it presents—most notably, the unity of consciousness. As perhaps the most fundamental a priori condition of experience, the unity of consciousness exemplifies Kant's emphasis on cognition under rules, and is an integral part of his future theories. This section lays the foundation for the rest of my argument; if not for the unity of consciousness and all that it requires of his epistemological theory, the theory of freedom of the will would have taken a very different shape.

The second section of my presentation takes up Kant's theory of freedom of the will as found in the *Groundwork of the Metaphysics of Morals* (1785) and its debt to the Phenomena and Noumena chapter in the first edition of the first *Critique*. The particular focus of this section is to emphasize the theory in the *Groundwork III* because it is the view that Kant abandons in favor of the one he presents two years later in the second *Critique*. In order to form his theory of freedom of the will in the *Groundwork III*, Kant grants us, sensible beings, an intellectual intuition to know ourselves as free. It is this intellectual intuition that is at immediate odds with his overall epistemology. This section of my presentation also examines the chapter on Phenomena and Noumena present in the first edition of the first *Critique*. To fully understand the change in views, it is necessary to present the shift in the metaphysics as well. Kant leaves the chapter on Phenomena and Noumena ambiguous

in the first edition of the first *Critique*; there is no true clarification on what noumena is meant to be—whether it is something knowable, actual, or merely a concept. It is, however, primarily presented as though noumena is meant to be the "really" real and phenomena is "merely" an appearance. Many scholars continue to read the section in this way. Today, we understand this as the two world reading of Kant, and while it has been the dominant reading for some time, it is one that I do not want to endorse. Although Kant's moral theory also plays a role in developing the overall story that this presentation wishes to portray, it is not the focus, nor should it be. The moral law is only a means to ground freedom of the will, and the true foundation for the theory is the revised metaphysics and epistemology contained in the second edition of the *Critique of Pure Reason*.

The core of this presentation is to develop the 'why' in the evolution of Kant's theory of freedom. The third section is where the bulk of this argument will take place. It focuses on the revisions between Kant's first edition of the first *Critique* in 1781 and the second edition— published after the *Groundwork*—in 1787. The utmost importance is put on the change in the chapter on Phenomena and Noumena. With the addition of the distinction between positive and negative uses of the concept of noumena, Kant is covertly admitting that he made a mistake in the *Groundwork*. In the second edition of the first *Critique*, noumena simply becomes a necessary concept rather than an actual entity that grounds objects as it was made to seem in the first edition. Noumena in the negative sense—the only noumena we have access to—is merely the thought of objects apart from the rules that make experience possible; it does not assert, or even apply, that such objects are real and somehow exist outside of us. Noumena in the positive sense, on the other hand, is far different; Kant confirms that we do not and can never have access to noumena in the positive sense. This leads Kant to abandon his original account of freedom of the will and to theorize a new one in the *Critique of Practical Reason* (1788). Section three will also address how this revised noumenal doctrine makes it impossible for Kant to continue to defend the theory of the *Groundwork*.

The fourth section of the presentation will focus on Kant's new theory of freedom of the will in the second *Critique*, how it tracks the revisions found in the second edition of the first *Critique*, and how the notorious "fact of reason" is a direct result of the theory's journey. The theory of freedom of the will that Kant presents in the second *Critique* is much sounder than his original one in the *Groundwork III* and will be presented as such. This presentation is meant to show where the notorious "fact of reason" comes from and why it is a powerful line given the revisions made earlier to the metaphysics.

The final section, my conclusion, conveys my opinion on Kant's 1788 theory of freedom. While the full presentation is my position on why Kant's theory changed, the conclusion will be an explanation for why seeing the change in this way is important for understanding Kant's body of work up to the *Critique of Practical Reason*. When reading the *Groundwork of the Metaphysics of Morals* and the *Critique of Practical Reason* with a specific focus on Kant's use of noumena, the reason Kant drastically changes his argument for freedom of the will becomes less ambiguous. This presentation dissects the arguments for freedom of the will through the lens of Kant's use of noumena and further investigates how coherent Kant's final argument is.

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The Role of History in the System of Transcendental Idealism: Freedom or Nature?

Immanuel Kant's biography is penetrated to the depth of its origin by its exeptional sensitivity to a single asymmetry that does not give rest to European culture for a long time — to disproportionate relations of philosophy and science. In fact, not only the structure of the system developed by Kant in mature years repeats this discrepancy, at the same time trying to erase it, as I will try to show further, but the very first attempts of a young student of Albertina in philosophical writing testifies in favor of all the same.

We can just cast a glance on the very first Kant's publication – «Thoughts on the true estimation of living forces…» — and read in this text as he tries to reconcile the positions of two authorities of his time on the part philosophy and science — Leibniz and Descartes — concerning an important, if not the most important, question about the movement of bodies. At stake, of course, is not the abstract complementarity of speculation with the scientific exeprimental data or their calculations, but something more substantial — the world itself. The movement in this case should be understood as the beginning from where each body acquires its own being. What are the alternatives? What are the principles that are put forward with a claim to an explanation of motion-being? In the perspective of the explanatory potential of scientific thinking, every body, *corpus* is defined within the limits of a given set of rules also known as physical laws. Φιλοσοφία, wisdom, on the contrary, sees in the body a spark of self-activity — a difference that returns all the same set of bodies to the place it originally belongs — to the lifeworld of men.

The principle of motion of bodies, in other words, is hidden either in mechanical or in the so-called "living forces" (lebendigen Kräfte). Regarding these extreme positions, Kant prefers to remain modest but in a certain sense independent. He concludes his consideration with an intermediate conclusion: «The thing is that there are free movements that would remain continuous and non-decreasing if they did not meet with any resistance»[1]. Freedom and necessity coexist with each other in a single world. In this neighborhood, one resists the other, inhibits it: the natural bodies set in motion by themselves move until they collide with the mechanical forces that exist alongside them, are braked and eventually stop[2].

This problem — the correlation of freedom and necessity, scientific explanation and some *other* point of view, respectively — was the point Kant constantly returned to, albeit in a different way. I can name several instances, articulated in their own way, but nevertheless interrelated, in which Kant comes to this key difference. It's for example, Kantian elaboration of new metaphysics and history as a concomitant background of this work of thought. This, in turn, is repeated in the thinking over the mutual belonging of the pair of phenomenon-noumen.

The years of Kant's life following the opening writing are marked by an intensive search for a suitable method of philosophy (ie, metaphysics). Under the name of the main

[1] Kant I, "Thoughts on the True Estimation of Living Forces and Assessment of the Demonstrations That Leibniz and Other Scholars of Mechanics Have Made Use of in This Controversial Subject, Together with Some Prefatory Considerations Pertaining to the Force of Bodies in General (1746–1749)" in, Kant: Natural Science. Ed. by E. Watkins Cambridge University Press, 2012. P. 118.

[2] Ibid. P. 125.

disadvantage in current theories in pre-critical pappers we find the tendency for a certain mistake which creeps into it and brings down its entire building in advance. Kant, in essence, is not satisfied with how for a long time one has been trying to bring together the representation and the thing[3]. Breakthrough in critical philosophy will be associated with the proposal of a new way to achieve a coincidence of one and the other. This, however, will require Kant to formulate a new method — critique — and with it the first truly scientific groudning of metaphysics.

Kant's grounding of metaphysics in subjectivity, meanwhile, became the first scientific one exactly because it refracts the scientific achievements of its time — first of all, Newtonian physics — into philosophical inquiry[4]. Kant's analysis of experience is in fact a demonstration of invisible connections within and between the things themselves. Together they give an objectivity which allows something like an object (das Gegenstand) to come into the world. Consequently, the problem of representation has been solved, since we now have in our hands the understanding of truth as the correspondence of this very objectivity. To be true, to be is to stand in the opposite, to be an object. It would be easy to show how the method involved in the deduction of categories repeats the hypothetical-deductive method of science, and the categories describe the structure found predominantely in a scientific experiment.

It is noteworthy that in those works where Kant shows his greatest proximity to science, history is presented from the point of view of the development of the method from less fruitfulness to ever greater[5]. So is there history in Kant? Is a philosophical system capable of so cleverly and accurately dealing with representation, what's more — like any representation showing them in a certain light, — to conceive such a «place» of difference raveling as history? Moreover, Kant himself speaks about the possibility of completing scientific metaphysics in full vocabulary of pure concepts[6], but can there really be history and difference where everything is finished?

I propose a simple set of theses: 1) the system of transcendental idealism tematizes history, mainly in its practical part; 2) in some stronger sense, history is a condition of the possibility of this system itself, an access point to it. As for the first, here it should be said, theoretical metaphysics really ends with Kant in the sense of developing its ultimate capabilities. That allows Kant to shift the focus of attention to its practical part. As we know, Kant had to limit the knowledge in order to make room for faith[7]. But what sounds in this famous phrase? This is not about fideism, but rather Kant shows the possibility, opened up in the light of the achieved understanding of the general limits of metaphysics, to look deeper in its heart. From now, practical metaphysics takes over the most important life concepts — that unconditional which in theoretical sphere was narrowed to the modest regulatory status. I mean: freedom, the world as a whole, and God[8].

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[3] Kant admits, he found the key to solving the puzzle that occupied him in one of the letters to Hertz (1772) - see Kant, I., Correspondence (Ed. by A. Zweig). Cambridge University Press, 1999, pp. 132-138.

[4] Doesn't exactly this sound in the famous call to make metaphysics finally a science? In addition, Kant bluntly states how fruitful for philosophy would be If it replicates scientific mode of acting - see Kant I., Critique of Pure Reason. Ed. by P. Guyer and A. W. Wood. Cambridge University Press, 1998. BVI.

[5] Ibid. BXIII,BVI.

[6] Ibid. AXXI, AXX, BXXIV.

[7] Ibid. BXXX.

[8] Kant I., “Critique of Practical Reason”, in: Kant I., Practical Philosophy (Ed. by Mary J Gregor). Cambridge University Press, 1996.

Very briefly, I would like to touch upon the idea of freedom keeping in mind the fact that transcendental ideas should not be discussed isolated. Freedom is present both in the first and in the second critique. In the first case, Kant considers the transcendental or general metaphysical freedom, that is *the possibility* of freedom in the cosmic order of nature. Whereas in the Critique of Practical Reason, he approaches *the reality* of freedom which reveals itself in categorical imperative. We still may ask, whether Kant actually succeeds, although he is trying to show it as real, to demonstrated freedom as a separate and equal with nature area of being? By and large, freedom remains what everyone can encounter in the experience of duty but what is doomed to be inscribed in the natural order. Despite all the efforts, Kant does not discover history in ontological sense. The reason why — is that the practical freedom is thought by Kant in terms of general framework of transcendental freedom, that is by the standards of nature and science.

I would like to finish with a series of questions that will lead from my first thesis to the second. Even if Kant actually fails to fully understand history, must not he have some sort of "rough" understanding of history, to somehow locate himself and his own project in time? He, as I said, could understand it naturalistically. In this case, the course of history is equal to the development of the scientific method and the perfection of science. But that is not all, possibly we should look for Kantian history in his theology and the Ideal. The divine creation, in turn, can be interpreted in two ways: 1) borrowing the idea of creation from the Christian tradition; 2) as a poetic act — through art. Ultimately, the answer to the question asked here should clarify what the reason is, therefore, what kind of ability Kant uses in his own criticism.

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Rationality in Kant's Politics

The turbulence of contemporary political situation has motivated a lot of people worldwide to take various sorts of political actions. These include various sorts of illegal actions: from peaceful civil disobedience to violent acts of protest that result in the destruction of property and harm done to people or even in civil wars and thus the destruction of society. Some of these actions are interpreted as irrational or as motivated by ideas or ideologies that have no rational basis. Some political actions made by people who legally possess political power: from a citizen voting for a certain party to a member of parliament voting for or against a new law, are also deemed to have no rational basis. This raises a constant threat of our lives being somehow influenced in a harmful way by such irrational political actions. And this threat, in turn, urges us to ask: what political action would be rational?

In this paper I would try to answer this question in a Kantian way by showing how exactly Kant's vision of politics is tied to human rationality. For that I will show how political freedom is only made possible in a state under the rule of law, contrary to the claims that laws and governmental regulations only impede the freedom of an individual, that is, argue that the pursuit of political freedom rationally leads us to a civil condition, while breaking the laws and leaving the society is not something an actively rational agent might will. Then I would present Kant's theory of property as means of achieving our ends that is only made possible in a civil condition, that is, argue that pursuing any goal rationally leads us to a civil condition. In conclusion we would try to formulate a Kantian answer to the question stated above.

Freedom for Kant has a very strong connection to the notion of rationality. In his practical philosophy, the only freedom one can have is the freedom of moral action. The moral action, in turn, is an action towards other person that is chosen solely from respect for the moral law. This moral law is not something we get from experience, e.g. the Ten Commandments, and not some innate human property that acts akin to Thomas Reid's moral sense. The moral law, for Kant, is the law which is discovered by our reason:

"[…] in reason's practical use the concept of freedom proves its reality by practical principles, which are laws of a causality of pure reason for determining choice independently of any empirical conditions (of sensibility generally) and prove a pure will in us, in which moral concepts and laws have their source." (AA 6:221)

This moral law, however, is not external to the moral agent, but internal. Human will determines itself by the use of its capacity for internal law-giving, that is it has autonomy:

> "Autonomy of the will is the property of the will by which it is a law to itself (independently of any property of the objects of volition). The principle of autonomy is, therefore: to choose only in such a way that the maxims of your choice are also included as universal law in the same volition. That this practical rule is an imperative, that is, that the will of every rational being is necessarily bound to it as a condition, cannot be proved by mere analysis of the concepts to be found in it, because it is a synthetic proposition; one would have to go beyond cognition of objects to a critique of the subject, that is, of pure practical reason, since this synthetic proposition, which commands apodictically, must be capable of being cognized completely a priori." (AA 4:440)

As we can see, every rational being is able to be autonomous and therefore moral. For Kant, when it comes to practical philosophy (for rationality in theoretical philosophy is concerned with principles of cognition only), the only way it is possible to exercise our capacity for rational actions is by acting morally. And on the contrary, acting against our law-giving reason is not free, and, therefore, it is irrational:

"We can also see that freedom can never be located in a rational subject's being able to make a choice in opposition to his (lawgiving) reason, even though experience proves often enough that this happens (though we still cannot conceive how this is possible)." (AA 6: 226)

Now that we have briefly explicated the connection between moral freedom and rationality, we can move on to Kant's political philosophy. For Kant, the state is a necessary means of providing rights for humans, with right being defined by its principle:

"Any action is right if it can coexist with everyone's freedom in accordance with a universal law, or if on its maxim the freedom of choice of each can coexist with everyone's freedom in accordance with a universal law." (AA 6: 230).

There are two basic kinds of rights: natural and acquired ones. The former is innate, the latter is based on positive law. Kant argues that there is only one natural right:

"Freedom (independence from being constrained by another's choice), insofar as it can coexist with the freedom of every other in accordance with a universal law, is the only original right belonging to every man by virtue of his humanity." (AA 6: 237)

That right of political freedom serves as a regulator for the positive laws: any law that infringes on the right of freedom is no law. But, since many, if not the most of the laws do hinder our freedom of choice, to counter that, Kant explains that a law (or any action of the state) that hinders freedom in order to protect it from some danger is actually increasing freedom. For example, a law that forbids murder is not an impediment for our freedom, but the source of our right not to be murdered. The other conditions the law must meet in order to be a proper law are: equality of all subjects of the state before the law, that is, the law may not discriminate and not to contradict the moral law. More than that, only in the civil condition the possession of property, i.e. the means of achieving ends, is possible. In the natural condition the only possible possession of property is the sensible possession, as if holding something in the hand. Only by establishing laws in the civil condition, Kant argues, it is possible to have such possession that requires not the physical possession of property, but only the intelligible one. And without any property, a person can not pursue any ends, including the moral ends.

As we can see, only our moral actions are truly rational, so the only political action that is rational in the strict Kantian sense is a moral political action. However, the action we may call *rationally desirable* would be any action that is aimed at maintaining the civil condition of human beings, as this condition provides us with the possibility of acting morally.

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Abstract for Kant's Philosophy of Anthropology and his Scientific Racism

Kant was an egalitarian (4:428,4:435, 8:115, 6:463). He believed, in virtue of each person being an autonomous, or self-legislating, agent, each person has equal dignity, or absolute worth. But Kant was also a racist (2:253, 25:655, 25:1187, 9:316). He believed, in virtue of a human being a member of a certain race, that human is either inferior or superior to another human of a different race. Furthermore, he developed a highly complex system to support these views. How are we to reconcile these two positions? Some people, e.g. Frierson (2013), Kleingeld (2011), Boxill & Hill (2001), Louden (2000), and Wood (1999), have argued that Kant was an inconsistent egalitarian. Their main strategy is to emphasize Kant's moral and political writings and argue that his anthropological views related to race ought to be jettisoned in order to make Kant consistently egalitarian. Others, e.g. Mills (2017), Bernasconi (2001), Larrimore (1999), and Eze (1994), have argued that Kant was a consistent inegalitarian. Their main strategy is to show that Kant's racist anthropological writings effectively undermine any interpretation of Kant's moral and political writings that try to make Kant an egalitarian.[1]

I argue in this presentation that the main players in the debate over how we should make this reconciliation undervalue Kant's philosophy of anthropology. As a result, they either misrepresent the kind of racist he was or fail to recognize, by his own lights, that this tension between his egalitarianism and racism is indeed central to his critical project.[2] On the first point, I argue that Kant's theory of epigenesis and race are merely regulative—and not constitutive—ideas necessary to systematize cognitions into the distinct science of anthropology. He held that, like the idea of an organism (5:375- 6, Ginsborg, 2001), race is not something out there in the world. Rather, we have a subjective demand to categorize the wide diversity of humanity into races (8:163, 8:103, 25:679, cf. Cohen, 2006). On the second point, I argue that Kant took the equally regulative cosmopolitan ideal, where we imagine a far-off future world with a maximally just constitution securing the capacity for each individual citizen to be worthy of happiness (8:26, 5:455, 5:450, 25:696-7), to also be necessary for anthropology to be a distinct, systematic body of cognitions. We thus have two perhaps incompatible ideas, race and the cosmopolitan ideal—each of which hold an equal subjective demand—baked into Kant's anthropology. This tension between regulative ideas is exacerbated by Kant's repeated claims that the science of anthropology is both the centerpiece of his critical project (9:25) and the "pendant" to the empirical sciences (A849/B877).

In arguing for this claim, I first make a brief detour into the regulative use of reason—e.g. the postulation of ideas, the demand to find purposes in nature, and the requirement to classify concepts in terms of genera and species—and connect them with Kant's hierarchy of the sciences given in the preface to the *Metaphysical Foundations of Natural Science* (4:467-4:471). I claim that a given science's rank in Kant's hierarchy

[1] This distinction in strategies is due to Allais (2016).

[2] This is not to say that all of the main players completely ignore this. For examples of people on either side of the debate who do discuss, for instance, the teleological role of races, see Louden (2000) and Larrimore (1999). However, they fail to adequately appreciate that this role of races is merely regulative.

of sciences is in part determined by the extent to which the regulative role of reason is appropriate to that given science. Specifically, the distinction between a natural description of nature and a historical doctrine of nature is grounded on only the latter being appropriate for our reason to apply purposes to the science at hand. While both of these types of sciences include the other two regulative uses of reason, this addition of the teleological role of reason to sciences classified under the heading of a historical doctrine of nature results in scientists in these fields having more *a priori* resources to conduct their empirical investigations and thereby produce a more sophisticated, systematic body of knowledge.[3] In short, while natural descriptions of nature aim to merely classify objects in experience,[4] historical doctrines of nature are classificatory systems like mere natural descriptions except that the entities so classified are conceived of as having a purpose.

Having established the specific role reason plays in historical doctrines of nature, I then both argue that Kant assigned the science of anthropology to be a historical doctrine of nature and identify some of the key ideas of reason at work in anthropology. As natural beings, we must conceive ourselves as a biological species embedded in a system of natural purposes with a beginning and an end. However, since we have no empirical access to either our species' beginning or our species' end, reason must step in and postulate ideas for our beginning and our end that are maximally useful to determine our current place in nature. First, Kant's epigenesis thesis, whereby we assume preformative seeds that—once occasioned by a certain climate of the earth—blossoms into a distinct category of human, is the idea that reason employs for us to be satisfied with questions regarding our species' beginning (8:173, 2:435, 5:424). Second, the cosmopolitan ideal, whereby we assume that there will one day exist a just constitution binding together a federation of nations across the world that secures each one of its citizens their worthiness to be happy, is the idea that reason employs for us to determine our species' end (7:333, 8:27, 5:432).

I finally argue that together these ideas serve as the basis for Kant's racism. As Kant mentions, the idea of race does not figure into any natural description of nature and thereby does not exist in nature (8:163). Instead, race, for Kant, only shows up in our inquiries when we adopt a teleological point of view. When we think teleologically about man's place in the world, as I have already established, we must posit the ideas of the preformative seed and the cosmopolitan ideal. The first idea requires us find a category of humanity that best matches our need to survive everywhere on Earth. The idea of race fits this demand, according to Kant. The purpose for the idea of race to figure in anthropology is that this idea guides the anthropologist to explain how the physiological and character traits of different people most closely matches the challenges brought about by their particular environment. This adaptation, suggested by the idea of race, stems from nature's purpose for the human species to survive (Cohen, 2006, 8:103, 25:679). The cosmopolitan ideal directs us to find a category of humans that best makes it possible for us to achieve our ultimate moral and political purpose. The category of race fits this demand, according to Kant, in that it gives license to the anthropologist to compare the degree to which different peoples on Earth are to achieving this ideal (25:1187, 9:316). Race, therefore, is fundamentally an evaluative term for Kant.

[3] For more treatment on Kant's hierarchy of the sciences, see especially van den Berg (2011) and Watkins (1998).

[4] One instance of which is Linnaeus' system.

I conclude that, for Kant, races are not out there in the world. Rather, as Kant's philosophy of anthropology shows, when we study the diversity of human kind, we have a subjective demand to divide people up into races. Indeed, he believes is maximally useful to do so. Also, Kant thought that we are required to rank these races in order of best to worse, with the best being the race that has contributed most to the cosmopolitan ideal. I do not wish to say that, if this interpretation is right, Kant is any more or less a racist. One might, or one might not, think it is just as heinous to believe that we must evaluate people according to races as it is to believe that races are natural kinds. But I do wish to claim that the main players in the debate regarding Kant's racism, because they do not fully appreciate Kant's philosophy of anthropology, misunderstand the kind of racist Kant really was.

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Immanuel Kant on the Scientific Ethos. Ethical Issues in Scientific Publications

Kant's "Copernican revolution" has changed the traditional canons of scientific knowledge. Until now, both epistemology and deontology of Kant has not lost their relevance. They are still a part of the contemporary philosophical discourse.

However, the fact that the problems of modern ethical thought, its language and categorical schemes were largely established by Kant is particularly important for this presentation. Taking into account access to new technologies, in present-day realities the question of practical (in the Kantian sense) regulation of research that is, regulation addressed to the foundations of morality, is becoming increasingly acute. Even despite the continuous development of new recommendations in this field and the creation of international documents[1] regulating research ethics, scientists from time to time violate their own restrictions.

What is the measure of social responsibility of the scientist for the results of his work? Which of the research methods are morally acceptable? Is it possible to establish universal norms of the academic community? How the policies of scientific publications should be managed? All of these questions exist in the field of a relatively young discipline – in science ethics, part of which is the scientific ethos. The ethos of science is aimed at protecting true science from pseudoscience, as M. Weber would say it aimed at providing the "taking off the spell from the world". The most important issues of the scientific ethos are the problem of the scientific discoveries' authorship, plagiarism, incompetence of the scientist and falsification of scientific findings. The academic community has always taken quite tough sanctions for committing falsification or plagiarism.

Unfortunately, science is not such a "clean" and "objective" enterprise as it may seem. Since R. Merton proposed his own principles of scientific ethos, the idea of the scientist's moral qualities has repeatedly undergone great changes. Already by the end of the *20*th century, taking into account the peculiarities of the academic selection, it became obvious that blindly following Merton's principles cannot guarantee good scientific career. Since the *1990s* the basic thesis of the social scientific studies is the idea that any knowledge was socially constructed, so that its veracity can be questioned at any time. And humanities and social studies, which do not presuppose an empirical base of the research and the aim of which is considered as the production of multiple interpretations, are always committed. The modern scientific community has accepted the idea of impossibility of the "pure" and neutral knowledge.

Scientific knowledge is also produced in accordance with certain social conventions. These conventions can be learned and imitated. There are many striking examples of the relevance of this problem in contemporary scientific discourse. So we can recall the scandal in the 2014, when two articles were published in the Nature, both of them were based on fake data about the new method of obtaining stem cells. Or we can remember the

[1] For example, Max Planck Society Guidelines and Rules on a Responsible Approach to Freedom of Research, The Declaration of Helsinki, The European Code of Conduct for Research Integrity, The Code of Ethics in Science of the General Assembly of the Polish Academy of Sciences , Code of Conduct for responsible Research of the World's Health Organization, Rigour, respect and responsibility: a universal ethical code for scientists. Code of Ethics of Estonian Scientists etc.

last year's scandal which was associated with an attempt to critically rethink ensure the commitment of the social "agenda" in selection procedure in scientific journals. In the autumn of 2018 a group of American scientists[2] has published several completely falsified articles in the field of so-called grievance studies[3] and then they exposed this mystification in terms of the actual (at least as they thought) "agenda". But who can assure that these scientists were not biased themselves?

As it was mentioned at the beginning, Kant was the one who established the conceptual framework within which ethical issues in science are discussed. Therefore, it is extremely interesting to analyze this problem by referring to the first sources, by going "back to Kant". Thus, the ethos of science can be considered as a set of moral imperatives, norms, that were accepted by the scientific community and that were determined the behavior of the scientists. The scientific ethos is an ideal of the epistemological knowledge which is expressed by universal moral requirements. In particular, it is possible to hear an echo of Kant's moral principle in most of the imperatives of the academic community that were set in the agreements of scientists. From this perspective the scientist could be considered as a moral agent.

However, if we will accept this thesis and, at the same time, we will take into account everything that were written above, we will get a problem of analysis of the scientific ethos as a result of the functioning of the communicative community, because it turns out that in the modern philosophy of science, the place for the transcendental subject, that constitutes reality through a priori forms, is occupied by the scientific community, which generates knowledge in the process of communication. But the importance of the subjectivity in epistemological knowledge, nevertheless, is not discredited completely. The person that becomes an author is still the moral subject. Moreover, the nature of the communicative norms must presuppose subjectivity as a possibility of free, untied action. In this case, a person is not only a member of a certain community, he should be considered as a responsible holder of the scientific ethos.

So, as a result of this research it is supposed to find answers to the following questions: Does Kant's ethics, postulated by him as universal for any sphere of human activity, find application in modern scientific ethos? Is it applicable to the knowledge which is considered as communicative? What is the subject's role in science? What could be the rules of scientific ethos from the Kant's point of view? Is it possible to evaluate them as regulating rules of conduct, or would they become operational only? And according to the examples the second task is to suppose what would be the deontological method for the selection of scientific publications.

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[2] Dr. James Lindsay, Helen Plakous and Dr. Peter Boghossian.

[3] This is the term that were used by this group of scientist for designation of the complex of such disciplines as gender studies, masculinity studies, queer studies, sexuality studies, psychoanalysis, critical race theory, critical whiteness theory, fat studies, sociology, and educational philosophy.

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From 'Mental' to 'Social' Constructivism. Kant vs Wittgenstein

In this presentation, I'll first define the problem of 'objectivity', and then briefly outline three main responses to it, each of which are based on one of the domains of human experience: the natural-physical world, the cognitive-mental world, and the social world. In the second step, I'll reconstruct Kant's theoretical views as a version of 'mental constructivism' to the problem of objectivity. In the third step, I'll try show how some contemporary philosophers feel needed to turn to the social world, instead of mental one, for resolving that problem. In this prosses, I'll draw upon Wittgenstein's philosophy which offers a version of 'social constructivism'. The basic idea I'll be focusing on is that the subjective-objective distinction, as the core of the idea of objectivity, is only meaningful by relying upon some 'intersubjective' criteria.

1. The problem of objectivity

Philosophy, from its outset in history, beginning from Plato's ideas, has been engaged with a problem that can be called the 'problem of objectivity': if our concepts, beliefs, values, and so forth are of any non-arbitrary, non-personal character, what is the source and/or nature of this property; i.e. what is it that gives the apparent stability and generality to our, e.g., concepts? In another words, what is the source and foundation of the subjective-objective distinction which lies in the core of our conceptual activity? Here is a vivid description of this original problem:

How did we come by the concept of an objective reality in the first place? It is one thing to ask how we can tell if our beliefs are true; it is another to ask what makes belief, whether true or false, possible. This question concerns not just belief, but everything we call thought… How have we come to be able to appreciate the fact that our beliefs may be false, that there is a basic difference between what we believe and what is the case?… What explains our grasp of the concept of objective truth? (Davidson 2004: 3-4)

In response to this fundamental problem, philosophers have offered three main solutions, each of which are related with one special world, with which epistemic subjects are contacted and related: (1) the external world (be it some 'ideal platonic forms' world, or some natural-physical world); (2) the internal world (cognitive, mental world); and (3) the social world (the intersubjective, communal world); in a nutshell, they explain the objective aspect of our beliefs/concepts by relating them to some external facts or events, such as ideal forms (e.g. Plato) or some 'facts' (e.g. Russell, early Wittgenstein); or by connecting them to a certain structure/content of human nature (e.g. Descartes and Kant); or by locating them in some communal world (e.g. Wittgenstein and Davidson).

The last two solutions are the ones I'm concerned with in this presentation; and I'll try to show which shortcoming in the second solution have led some philosophers to appeal to the third option.

2. The definition of constructivism

For the sake of clarity, I must first define the term 'constructivism', so that this label will be using consistently throughout my writing. A constructivist believe that our 'representations' of the world around us in some way are 'caused' or 'constituted' (two typical

version of it) by human 'intentional activities', such as our linguistic or mental faculties, so that we aren't passively receive and record the raw data from this resource, but rather actively process them and work on them through our faculties; so, in every and each version of constructivism – mental or social - there is some medium through which our representations and concepts are formed and structured.

3. Kant's mental constructivism

Thus said, I suggest that we can reconstrue Kant's theoretical vies as a version of 'mental constructionism'. Kant, particularly in the 'Analytic of Concepts' in the area of the 'pure understanding', undertakes the task of discovering the *apriori* categories of human mind, which totally constitute the human mind/knowledge, and therefore our experience of the word around us (= mental constructivism). The method Kant adopts here is important for us, since the typical social-constructivist criticism against any mental- constructivism arise out of it.

There are three features in Kant's view related to our topic: First, for Kant, concept-application is some mental activity which is equal to 'thinking' and 'judging'; i.e. in every mental judgment and any though, we already apply some concepts. Secondly, for Kant, the categories aren't any 'abstraction' from perception (which is some Aristotelian idea), but rather, in every concept-application, we actively 'unify' or 'integrate' a manifold of presentations or data (in contrast to the 'passive apprehension' as the hallmark of sense-perceptions). Thirdly, Kant, in order to reach to his preferred categories, ascends from these 'perceptual judgements' to 'objective (empirical) judgments', which possess two further characteristics: in contrast to subjective empirical judgements, they refer to an object and not merely to a subjective impression or intake; furthermore, these judgments, if true and valid, are true and valid for 'every epistemic subject'.

Now, here, Kant asks exactly the same question as the one I'm considering in my presentation: which factor or feature in an objective empirical judgement gives 'objectivity' and 'generality' to the corresponding perceptual judgement? After rejecting the apparent candidates, e.g. perception itself, or the concepts involved, Kant appeals to 'the way of organization or structure' in which the objective judgment unifies the presentations being already unified in these concepts (i.e. the 'logical form' of the judgment). By this maneuver, and drawing upon the traditional logic for finding out the list of all sorts of logical forms, He can extract his pure categories (=pure concepts of the understanding), each of which corresponds to one special logical form.

Thus understood, Kant gives a 'mentalistic' solution to the problem of objectivity: the generality and stability of objective concepts refer to our mind and its pure categories: they are somehow innate to our mind!

4. Wittgenstein's social constructivism

As I've mentioned, some dissatisfactions with the idea of mental constructivism have led some contemporary philosophers to rely upon a much richer units of analysis. In this part, I'll try to reconstruct some version of social constructivism which directly undermine any account, including Kant's view, to attempt to build the 'objective' character of concepts on some mental-cognitive structure. For this purpose, I draw upon Wittgenstein's considerations about 'rule-following' which shows how our basic cognitive-epistemic world are mediated and constructed with our social-linguistic activity.

Wittgenstein's rule-following considerations poses a problem which is the same as

Kant's: assuming that every concept-application is some rule-following, the main problem is, how can we account for and discriminate between 'S is actually following the rule S' and 'S is thinking or feeling that he's following the rule R'? I believe that this distinction between 'actual correctness' and 'seeming correctness' ('is correct' v. 'only seems correct') is another expression of the problem of objectivity, and is closely related to the 'problem of error': what is the main source which provides a criterion for the understanding the concept of an error, and makes possible the objective-subjective distinction? The Wittgensteinian social-oriented answer to this question is that the norms governing the distinction is based upon a community of agents, through their interactions which the 'logical space' for the concept-application activity is formed and constructed.

Therefore, the main thought that I want to stress on is that, any mentalistic account of the norms structuring our conceptual-epistemic world, including Kant's, is failed because it can't explain the very issue which itself recognizes; and, the only solution for that is to appeal to some 'intersubjective criteria' which only obtained by a community of epistemic subjects; and this is the gist of an social-constructivist doctrine. So, it's an apt analogy to say that, in respect of the problem of objectivity, the passage from Kant to Wittgenstein is the move from mental to social constructivism.

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