

The Systematical Role of Kant's *Opus postumum* “Exhibition” of Concepts and the Defense of Transcendental Philosophy

*La función sistemática del “Opus Postumum” de Kant.
“Exhibición” de conceptos y la defensa de la filosofía
trascendental*

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Abstract

Kant's admission of a “gap” in the philosophical system of criticism, which his unpublished project of the “Transition from the Metaphysical Foundations of Natural Science to Physics” would have been meant to fill, has been the object of controversy among scholars. This article reconsiders the problem by connecting the manuscripts with the operation of “exhibition” of concepts, which already had a systematic role in the 1780s, concluding that the new project was intended to provide not a reform, but a necessary complement of previous works. In the final section Kant's new awareness of this problem in the 1790s is connected to the contemporary reception of criticism (Garve, Reinhold, Maimon, Beck, Schulze, Tiedemann, Fichte). This context provides more evidence supporting the main argument of the article about the inner development of Kant's thought.

Key words

Opus postumum; Physics; “Exhibition”; System of Transcendental Idealism

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Resumen

La admisión de Kant de un “hiato” en el sistema filosófico del criticismo, que su proyecto inédito “Transición de los Principios metafísicos de la ciencia natural a la física” pretendería cubrir, ha sido objeto de controversia para los estudiosos. Este artículo reconsidera este problema conectando estos manuscritos con la operación de “exhibición” de conceptos, que ya cuenta con una función sistemática en los años '80, concluyendo que el nuevo proyecto tenía la intención de proveer no una reforma, sino un complemento necesario de obras previas. En la sección final, la nueva conciencia de Kant acerca de este problema en los años '90 se vincula a la recepción contemporánea del criticismo (Garve, Reinhold, Maimon, Beck, Schulze, Tiedemann, Fichte). Este contexto provee mayor evidencia y apoyo para el principal argumento del artículo acerca del desarrollo interno del pensamiento de Kant.

Palabras clave

Opus postumum; Física; “Exhibición”; Sistema del Idealismo Trascendental

1. *The Opus postumum and the “gap” in Kant's system: a critical survey.*

Kant's manuscripts on the *Transition from the Metaphysical Foundations of Natural Science to Physics* (*Übergang von den Metaphysischen Anfangsgründe der Naturwissenschaft zur Physik*, 1796-1803) provide a most precious source for the understanding of Kant's late thought, whose philosophical relevance has been acknowledged by a large number of scholars, yet the systematical role of the unfinished work in the context of Kant's criticism is very debated. According to Kant's statements, in two letters of 1798, the new work would have to fill a «gap» (*Lücke*) in the system of critical philosophy.¹ But it is difficult to say what exactly this gap was, and whether its discovery involves any retrospective relevance for the understanding of Kant's published works. The several drafts of the «Elementary system of moving forces», as well as the astonishing «proofs» of the existence of the «World-Matter» – which together form the most developed part of the manuscripts – may well answer to open issues in Kant's foundation of empirical physics, but do not seem, at first glance, to have any essential connection with the problems of transcendental philosophy. Indeed, in the *Preface* to the *Critique of the Power of Judgment*, Kant had written that the critical task was completed

¹ Letter to Christian Garve, 21 September 1798, Br, AA 12: 257.08-11; to Johann Kiesewetter, 19 October 1798, AA 12: 258.19-26.

(KU, AA 5: 179.19). Hence his later enthusiasm about the unfinished work has been widely underestimated in the interpretation of transcendental philosophy.

On the contrary, according to a growing number of distinguished Kantian scholars, Kant had good reasons for connecting his new project with the core of transcendental philosophy.² At the beginning of this historiographical tradition Vittorio Mathieu and Burkhard Tuschling insisted on the radical *transcendental* turn in the *Opus postumum*, arguing that Kant essentially gave up some of the tenets of his previous writings about physics in order to leave room for his new remarkable doctrines: according to Mathieu, Kant gave up the solution to the problem of the multiplicity of empirical laws presented in the third *Critique*, which was grounded on the weak idea of the subjective («as if») principle of the conformity of nature to laws, and he looked in the *Opus postumum* for a «completely new principle», that is a whole supplement to the transcendental doctrine of determinant judgment;³ according to Tuschling, Kant was not satisfied with the dynamical explanation of matter of the *Metaphysical Foundations of Natural Science* (*Metaphysische Anfangsgründe der Naturwissenschaft*)⁴ and therefore sketched a new «transcendental dynamics», ending up, around year 1799, with a complete transformation of criticism in a kind of speculative idealism.⁵ In the light of these pioneering works Michael Friedman and Eckart Förster readdressed the question and agreed that the *Transition* was devoted to open questions of the critical framework, while keeping the most of Kant's previous results: Friedman considers as the main function of the new projected work that of connecting “top-down” determinate judgment and “bottom-up” reflective judgment, whose principles

² For a recent account see Hall, Bryan: *The Post-Critical Kant: Understanding the Critical Philosophy Through the Opus Postumum*, London 2014. For the history of interpretations see Basile, Giovanni Pietro: *Kants Opus postumum und seine Rezeption*, Berlin-Boston 2013.

³ Mathieu, Vittorio: *L'opus postumum di Kant*, Napoli 1991, 48. See also the groundbreaking book of the same author: *La filosofia trascendentale e l'«Opus postumum» di Kant*, Torino 1958.

⁴ I will use the standard english translation of this title, although a more correct translation would be *Metaphysical Principles of Natural Science*, since Kant openly intended to provide a complement to mathematical physics, thinking of Newton's “mathematical” principles as an exemplary model of the latter (MAN, AA 04: 478.21ff.).

⁵ Tuschling, Burkhardt: *Metaphysische und transzendente Dynamik in Kants opus postumum*, Berlin-New York 1971 and – for a more radical emphasis on the “revolution” in Kant's late thought – *Übergang: von der Revision zur Revolutionierung und Selbst-Aufhebung des Systems des transzendentalen Idealismus in Kants Opus postumum*, in H.F. Fulda, J. Stolzenberg (hrsg.), *Architektur und System in der Philosophie Kants*, Hamburg 2001, 129-170.

were laid down respectively in the first *Critique* and the *Metaphysical Foundations*, on the one hand, and in the *Critique of the Power of Judgment* on the other hand.⁶ Given this general framework Förster tried to focus on the exact problem faced by Kant in his last manuscripts. Förster's claim can be articulated in two main steps: 1) the «exhibition» (*Darstellung*) of concepts, that is the operation of providing examples *in concreto* for the categories, which was one of the main issues of the MAN, constituted at the same time a substantial «supplement» to the transcendental deduction, thereby contributing to the proof of the objective validity of the categories; 2) Kant's treatment of the issue in the MAN suffered from severe problems, which were addressed in the immediately successive manuscript reflections, and the recognition of these problems eventually led Kant to the awareness of the systematical «gap», during the early phase of work on the *Transition* project. In particular, these problems affected the dynamical construction of the concept of body, which according to Förster provided the main contribution of the metaphysics of bodily nature to the exhibition of concepts. Therefore – this is Förster's striking conclusion – the transcendental deduction itself, this core doctrine of transcendental idealism, would require the *Transition* in order to be completed.⁷

I think that Förster detected the crucial point of the systematical issue – the concept of exhibition and its connection with the foundation of physics – thus paving the way to a correct understanding of the highly technical problems lying beneath the problem of the “gap”. However I disagree with two major points of Förster's reconstruction. First, I do not think that the “gap” in Kant's system regarded the transcendental *deduction* and its proof of the objective validity of the categories. The deduction's aim, in fact, was to *prove* the possibility of the empirical reference of categories, by means of which the latter get «sense and meaning», and the abstract argument was already supplemented by the schematism doctrine, which grounds the possibility to apply discursive logical forms in the synthesis of single empirical intuitions.⁸ The exhibition of concepts, on this background, was simply devoted to give examples *in concreto*, in order to show how categories are applied to

⁶ Friedman, Michael: *Kant and the Exact Sciences*, Cambridge Mass. 1992, 242-264.

⁷ Förster, Eckart: *Kant's Final Synthesis. An Essay on the 'Opus postumum'*, Cambridge Mass. 2000, 56-61, 72.

⁸See Friedman, Michael: “Matter and Motion in the *Metaphysical Foundations* and the First *Critique*: the Empirical Concept of Matter and the Categories”, in E. Watkins (ed.), *Kant and the Sciences*, Oxford 2001, 53-69, in part. 56-59.

different kinds of concrete objects, thus providing a useful service for general metaphysics (MAN, AA 04: 472f.; in particular, in the MAN, it turns out that this application always requires some reference to bodies and is fruitful only in physics). Second, I contend that the *construction* of matter was never the objective of the MAN, which more modestly provided *principles for* this construction, leaving the task of its realization to mathematical physics. And here we find, in a different theoretical place, the open problems of the dynamical theory of matter which led to the new systematical “bridge” of the *Opus postumum*, whose building eventually needed the employment of new transcendental arguments: to sum up, it was not the proof of the objective validity of the categories, but rather the operation of their exhibition, that needed a theoretical supplement, and even a transcendental one.

I will elaborate in § 2 on this connection between “exhibition” and the *Transition* manuscripts, thereby proposing an original view of the exact open problem that Kant was dealing with and of how it connects with the complex argumentative machinery of the *Metaphysical Foundations*. Since the whole of this reconstruction draws from the inner, rather subtle, and often implicit problems of Kant’s systematical thinking, one may wonder why he suddenly decided to face such intricacies in his old age, though aware of lacking the energies for a substantive reform of his work. I will suggest in § 3 that Kant’s awareness of this open problem in his system could have well been fostered by contemporary discussions on his new transcendental philosophy. As it is well known, indeed, many distinguished thinkers, both followers and opponents, agreed in different ways that Kant’s criticism was not able to fulfill its main objectives and had to be either rejected or perfected. These discussions probably urged Kant, after much hesitation, to project a full-fledged reply, in order to show how transcendental philosophy in its original formulation –with the add-on of a more detailed connection to empirical physics, provided by the *Transition*– was well capable of conducting to a realistic account of the empirical world without any flaw.⁹

⁹According to Westphal the main task of Kant’s late writings on physics was a «transcendental proof of realism» (Westphal, Kenneth: *Kant’s Transcendental Proof of Realism*, Cambridge 2004). I find Westphal’s original reconstruction of the systematical role and open problems of the MAN as both correct and thought provoking, although I find his concept of a realism «sans phrase» untenable in the framework of Transcendental Aesthetics.

2. The problem of “exhibition”: from the *Metaphysical Foundations to the Opus postumum*.

Kant's statements of 1798 about the “gap” raise a basic question, without giving any answer: how could a *transition to physics* give any contribution, not just to natural philosophy, but even to the conclusion of critical philosophy itself? We find an interesting suggestion in the biographical account by Reinhold Jachmann, which contains a valuable testimony on Kant's views about the *Übergang* project. According to Jachmann, Kant claimed that the new work would be «der Schlußstein seines ganzen Lehrgebäude [...] und die Haltbarkeit und reelle Anwendbarkeit seiner Philosophie vollgültig dokumentieren sollte».¹⁰ Although the book by Jachmann is not always a reliable source of historical information, with its emphasis on the *applicability* it actually points out a correct connection between transcendental philosophy and physics. As the original title of the unpublished project suggests – *Übergang von den Metaphysischen Anfangsgründe der Naturwissenschaft zur Physik* – a first systematical “bridge” between transcendental philosophy and physics was provided by the “metaphysics of bodily nature” exposed in the *Metaphysical Foundations* of 1786. Kant stressed the theoretical relevance of this new work for transcendental philosophy in a striking page of the *Preface* to this work (MAN, AA 04: 478.03-20):

«Es ist auch in der That sehr merkwürdig (kann aber hier nicht ausführlich vor Augen gelegt werden), daß die allgemeine Metaphysik in allen Fällen, wo sie Beispiele (Anschauungen) bedarf, um ihren reinen Verstandesbegriffen Bedeutung zu verschaffen, diese jederzeit aus der allgemeinen Körperlehre, mithin von der Form und den Principien der äußeren Anschauung hernehmen müsse und, wenn diese nicht vollendet darliegen, unter lauter sinnleeren Begriffen unstät und schwankend herumtappe. Daher die bekannten Streitigkeiten, wenigstens die Dunkelheit in den Fragen über die Möglichkeit eines Widerstreits der Realitäten, die der intensiven Größe u. a. m., bei welchen der Verstand nur durch Beispiele aus der körperlichen Natur belehrt wird, welches die Bedingungen sind, unter denen jene Begriffe allein objective Realität, d. i. Bedeutung und Wahrheit, haben können. Und so thut eine abgesonderte Metaphysik der körperlichen Natur der allgemeinen vortreffliche und unentbehrliche Dienste, indem sie Beispiele (Fälle in Concreto) herbeischafft, die Begriffe und Lehrsätze der letzteren (eigentlich der Transscendentalphilosophie) zu realisiren, d. i. einer bloßen Gedankenform Sinn und Bedeutung unterzulegen».

¹⁰ Jachmann, Reinhold Bernhard: *Immanuel Kant geschildert in Briefen an einen Freund*, Königsberg 1804 (repr. Bruxelles 1968), Dritter Brief, 17-18.

According to these lines – whose content is further developed in the new *General Note on the System of Principles* included in the second edition of the *Critique* (KrV, AA 03: 200-202) – metaphysics of bodily nature is a necessary condition for the sensible «exhibition» (*Darstellung*) of the concepts of intellect (for this concept see also KU, AA 05: 342f.). The *Critique* has sufficiently shown that these concepts *must* be referred to sensible intuition, and that they *can* indeed be applied to our sensible intuition (through schematism); but transcendental philosophy could not provide the actual exhibition of the concepts, by means of examples *in concreto*, because it could not give a purely intellectual explanation (*verständlich machen*) of the possibility of a thing. According to the *Preface* of the MAN, in order to give a corresponding intuition to the categories it is not sufficient that we refer to the empirical intuitions, but we need the contribution of the metaphysics of bodily nature: without this last step the concepts of transcendental philosophy would remain without any reference to actual empirical things, and therefore devoid of any «Bedeutung, d.i. Beziehung aufs Objekt» (KrV AA 03: 205.14-23).¹¹ Now, it is not immediately clear why this exhibition cannot be achieved by simple empirical intuition and should require also a new part of metaphysical science. Nonetheless this is exactly what Kant means in the quoted page and we can actually retrace the development of this claim throughout the whole machinery of the work.

First, let us consider the necessary role of metaphysics in the demonstration of the possibility of a body, which is of an impenetrable extended thing. In order to give an explanation of the physical filling of space, and thereby provide a physical meaning to the concepts of conflict and intensive magnitude, Kant demonstrates in the *Dynamics* chapter the necessity of two fundamental forces, repulsive and attractive force, whose interplay generates an «anzugebende Quantität Materie» (MAN, AA 04: 508, 31-32), i.e. a certain degree of density, in every given place of physical space. This sort of dynamical theory of matter had been a main feature of Kant's natural philosophy since the pre-critical years, and it is very similar indeed to the one presented in the *Monadologia physica* of 1756. Nonetheless, in the frame of critical philosophy, there is at least one major difference

¹¹ On empirical intuition as a condition of the possibility of the thing compare, e.g., KrV, AA 03: 207.29-33; 473.05-18. For a detailed analysis of the concept of exhibition of concepts and its different aims compared to the transcendental deduction and the schematism see Pecere, Paolo: *La filosofia della natura in Kant*, Bari 2009, 185-202.

compared to the older theory, which is of great importance for our problem: metaphysics is not anymore sufficient in order to provide a construction of the body. Kant makes clear that from the combination of the original attractive force with the original repulsive force «*müßte* [...] die Einschränkung der letzteren, mithin die Möglichkeit eines in einem bestimmten Grade erfüllten Raumes abgeleitet werden können, und so würde der dynamische Begriff der Materie als des Beweglichen, das seinen Raum (in bestimmtem Grade) erfüllt, construiert werden»; but this task, which would require a law of the ratio of both forces, is now presented as a «reine mathematische Aufgabe [...] die *nicht mehr für die Metaphysik gehört*» (MAN, AA 04: 517.18-26; 32-33. Italics are mine). Moreover, Kant's mathematical hypothesis on this law of forces, which led in the *Monadologia physica* to a demonstration of the volume of particles (MoPh, AA 02: 484f.), is very prudently presented now as a «kleine Vorerinnerung zum Behufe des Versuchs einer solchen vielleicht möglichen Konstruktion» (MAN, AA 04: 518.33-34). Kant is trying to carefully separate the metaphysical truth – matter requires the action of two fundamental forces – from the mathematical hypothesis on the law of forces, which he no longer considers to be certain. Therefore he insists, in the *Allgemeine Anmerkung zur Dynamik*, that in metaphysics «der Begriff der Materie wird auf lauter bewegende Kräfte zurückgeführt», in particular the two fundamental repulsive and attractive forces, but that «von dieser ihrer Verknüpfung und Folgen können wir allenfalls noch wohl a priori urtheilen, welche Verhältnisse derselben untereinander man sich, ohne sich selbst zu widersprechen, denken könne, aber sich darum doch nicht anmaßen, eine derselben als wirklich anzunehmen» (MAN, AA 04: 524.26-27, 34-37). Kant concludes that, according to the new metaphysical dynamics, «uns alle Mittel abgehen, diesen Begriff der Materie zu construiren und, was wir allgemein dachten, in der Anschauung als möglich darzustellen» (MAN, AA 04: 525.10-12).

This conclusion clearly draws a gap between the principles of pure physics and the exhibition of the actual object of outer sense, i.e. material substance. In fact, this is precisely what Kant made clear in the *Preface*, where he wrote that the new metaphysical principles are «Principien der Construction der Begriffe, welche zur Möglichkeit der Materie überhaupt gehören» (MAN, AA 04: 472.03-04): these principles are *necessary* but *not sufficient* for the construction of the concept of matter, which requires moreover quantitative details as well as data of experience (MAN, AA 04: 534.15-18), and therefore

has to be accomplished by experimental physics. From the systematical point of view, this means that the new principles, though certainly required for exhibiting examples *in concreto* of the metaphysical concepts, are not sufficient in themselves to present these examples.

The most important confirmation of this conclusion regards the concept of material substance. *Theorem 4* of *Dynamics* shows that matter is infinitely divisible as well as space, and that therefore, being an object of outer intuition, it is nothing in itself. This phenomenalist solution to the problem of infinite divisibility is turned against monadism, who allowed of empty spaces between point-like monads (according to Kant's own theory in the *Monadologia physica*). Kant holds now that every part of the physical *continuum* contains material substance (MAN, AA 04: 503f.), which is now similar to a continuous fluid.¹² On the other hand, in the *Mechanics* chapter, Kant assumes that material substance, as separated in coherent parts (bodies), has a determinate extensive magnitude and provides an *a priori* theory about its quantitative estimate (AA 04: 537f.). We can then wonder why the transition from the material *continuum* of *Dynamics* to the discrete body of *Mechanics* cannot be made by means of simple empirical intuition.

The answer is to be found starting from the large *General Note to Dynamics*, which joins the *Dynamics* and *Mechanics* chapter, and precisely addresses those physical concepts that pure metaphysics was not able to introduce. The first two concepts under discussion are the concept of body itself and that of a particular force of cohesion that – as commonly happened in Newtonian physics – could be introduced in order to explain the body's figure (MAN, AA 04: 525f.). The hypothesis of a *purely intuitive* origin of the concept of body is here considered as a fault of *mechanical natural philosophy*, that «vom altern Demokrit an bis auf Cartesen» (MAN, AA 04: 533:2f.) feigns filled space and void in order to explain phenomena such as the variable density of matter. Even though Kant recognizes that this method could allow of an intuitive construction of matter, he sharply criticizes it because of its being grounded on a «leeren Begriff (der absoluten Undurchdringlichkeit)» which allows too much freedom of imagination in the field of philosophy (MAN, AA 04: 525.14). This same defect affects the *empirical intuition* of the body, which is of course not empty and is indeed the starting point of pure physics, but

¹² On this transition to a new concept of matter see Friedman, Michael: *Kant's Construction of Nature. A Reading of the Metaphysical Foundations of Natural Science*, Cambridge 2013, 130-154.

cannot explain by itself the possibility of bodies if not by surreptitiously introducing the non-empirical concept of the «solid», as an absolutely filled extension (MAN, AA 04:497.30-33, with reference to «Lambert und andere»¹³).

Generally speaking, both Cartesian mechanism and empirical deduction of the body share the conception of impenetrability as an intrinsic (not relative) property of bodies, that is as a purely *logical* determination, rather than as a *real* determination grounded on a measurable conflict of magnitudes (a mistake that is in Kant's view is also shared by Leibnizian philosophy of nature, though the latter constitutes the fundamental historical origin of Kant's anti-mechanistic dynamism). Contrary to these views, *dynamical natural philosophy* is preferred because it «der Experimentalphilosophie weit angemessener und beförderlicher ist, indem sie geradezu darauf leitet, die den Materien eigene bewegende Kräfte und deren Gesetze auszufinden» (MAN, AA 04: 533.21-24). Indeed, the explanation of the filling of space as a dynamical property is presented not only as *heuristically* more suitable, but (following *Dynamics's* theorems 1 and 5) as an *a priori*, *demonstrative* result of metaphysics (MAN, AA 04: 534.31-36).

In the light of these developments we can see that Kant's new metaphysics of bodily nature could not anymore rely on any purely rational or merely empirical deduction of body as the material substance, yet could offer a conclusive account of the possibility of the construction of the body, as it was the case with the old monadological metaphysics of Kant. This problematic situation remained latent and unnoticed in the intricacy of the new work, where it is made clear only in the lengthy *General Note to Dynamics*, but did worry Kant in the following years. In fact, not only was an *a priori* construction of body as the material substance beyond the boundary of his metaphysics of bodily nature (as Schelling and Hegel correctly recognized, considering this as a fault of Kant's metaphysical dynamism¹⁴); moreover, even the *hypothetical* deduction of the finite degree of density—given the boundary of matter which makes possible the interplay of attractive (penetrating)

¹³ See Lambert, Johann Heinrich: *Anlage zur Architektonik, oder Theorie des Einfachen und Ersten in der philosophischen und mathematischen Erkenntnis*, Riga 1771, Bd. I, § 88, 68, where «absolute density» is attributed to the solid body. About the origin of this concept Lambert himself referred to Locke in a letter to Kant (Br, AA 10: 66; see Locke's *Essay*, II, 4). Another reference of Kant's criticism was quite certainly Euler, in whose natural philosophy—contrary to Kant's theory—an (absolute) impenetrability is the foundation of moving force.

¹⁴ Schelling, Friedrich Wilhelm: «Allgemeine Deduction des dynamischen Prozesses oder der Kategorien der Physik», §§ 30f., in: *Zeitschrift für speculative Physik*, I.1-2. Jena-Leipzig 1800, now in *Werke*, Bd. 8, Stuttgart 2004, 318-20. Hegel, Georg Friedrich: *Wissenschaft der Logik*, Berlin 1832², I.III.C.c., *Anmerkung*. In: *Gesammelte Werke*, 1968f., Bd. 21, Hamburg, 167f.

and repulsive (surface) force – appeared to Kant as subject to a logical circularity, since both forces are proportional to the same dynamical factor of intensive filling.¹⁵ On the whole, pure physics had provided principles for the exhibition of concepts, but this foundation was not complete and needed supplementary work.

The metaphysical issue of material substance overlaps with an inquiry into the conceptual and methodological foundations of empirical physics, and here is exactly where many recent scholars usually place the “gap” crossed by the *Transition*. It would separate the general principles of determinant judgment and the multiplicity of empirical laws as a field of investigation for reflective judgment. This is generally correct, but does not explain as such the connection of the gap with the tenability of the whole critical system. The aesthetic principle of the conformity of nature to laws, introduced in the third *Critique* in order to ground our expectation to find a system of empirical laws, still leaves undetermined *how* to connect the concepts of metaphysics with their dynamical exhibition in empirical physics. This is precisely the main problem of the *Transition* manuscripts. In the writings of the years 1786-1796 Kant was already looking for a new representation of the conflict of realities, grounded on the joint consideration of moving forces and the concept of ether or caloric. The work on the «Elementary System of Moving Force», started in 1796, concerned the basic concepts which were instrumental for this research, such as body, density, cohesion, rigidity, and ether. Lacking a dynamical theory of conflict, Kant tried to systematically organize all the concepts involved in such a theory according to the guiding thread of categories, connecting them with «a priori thought» moving forces (OP, AA 21: 289f.). Next to this classification, the new proofs of the existence of world-matter were connected to the project of a new «schematism of the faculty of judgment» (OP, AA 22: 263; 21: 363; 168; 174), since they were intended to provide an omnipresent and «all-moving» World-matter as the substratum for the hypothetical, yet a priori anticipation of moving forces.¹⁶

¹⁵ See letter to J.S. Beck of 16(17) October 1792 and Kant’s preliminary notes (Br, AA 11: 375-377; 361-365).

¹⁶On the “ether-proofs” see: Guyer, Paul: «Kant’s Ether Deduction and the Possibility of Experience», in: Funke, Gerhardt (hrsg.), *Akten der siebenten Internationalen Kant-Kongresses*, Bonn 1991, 119-132. Mathieu, Vittorio: *L’opus postumum* cit., 117-133. Friedman, Michael: *Kant and the Exact Sciences* cit., 290-341. Förster, Eckart: *Kant’s Final Synthesis* cit., 82-101. Emundts, Dina: *Kants Übergangskonzeption im Opus postumum*, Berlin 2004. Pecere, Paolo: «Space, Aether and the Possibility of Physics in Kant’s Late Thought», in: Pecere, Paolo-Cellucci, Carlo (eds.), *Demonstrative and Non-Demonstrative Reasoning in Mathematics and Natural Science*, Cassino 2006, 237-306.

Kant's recognition that this whole new enquiry was connected with the problem of exhibition appears in the sheets 'A-Z' (1799), where the fundamental question finally appears: «how is physics as a science possible?». In sheet 'G', Kant discusses the *a priori* anticipation of moving forces which is necessary in order to represent the physical object, as different from the perceptual object (the theory of «indirect appearance»), and there he writes:

«Der Gegenstand einer indirecten Anschauung ist die Sache selbst d.i. ein solcher den wir nur in so fern aus der Anschauung herausheben als wir sie selbst hineingelegt haben d.i. in so fern unser eigenes Erkenntnisproduct ist.

Wir würden nämlich kein Bewustseyn von einem harten oder weichen, warmen oder kalten usw. Körper als einem solchen haben wenn wir nicht vorher uns den Begriff von diesen bewegenden Kräften der Materie (der Anziehung und Abstoßung oder der diesen untergeordneten der Ausdehnung oder des Zusammenhängen) gemacht hätten und nun sagen könnten daß eine oder die andere derselben unter diesen Begriff gehöre. – Also sind *a priori* Begriffe als für das empirische Erkenntnis gegeben die darum doch nicht empirische Begriffe sind zum Behuf der Erfahrung [...] und nur dadurch daß wir den Gegenstand der empirischen Anschauung (der Wahrnehmung) selber machten und für die Empfindungswerkzeuge durch Zusammensetzung selber in uns hervobrächten *und so ein Sinnenobject für die Erfahrung nach allgemeinen Principien derselben darstellten*» (OP, AA 22: 340.30-341.16, my italics).

In page 2 of the same sheet Kant concludes:

«Wir können aus unseren Sinnenvorstellungen nichts anders ausheben als was wir für die empirische Vorstellung unserer selbst hineingelegt haben mit dem Bewustseyn seiner Darstellung d.i. durch den Verstand (*intellectus exhibit phaenomena sensuum*) und diese Darstellung macht aus einem Aggregat der Wahrnehmungen ein System nach den formalen Bedingungen der Anschauung und ihrer Coexistenz im Subjekt ein Erkenntnis des äußeren Sinnenobjects als Erscheinung zum Behuf der Möglichkeit der Erfahrung» (OP, AA 22: 343.09-16).

In the light of this new conception of exhibition Kant can write on the margin: «nur das System ist die Sache selbst» (OP, AA 22: 343.07). The new theory of physics, grounded on the idea of an *a priori* determination of any physical object according to a system of moving forces (actually properties which must be later reduced to forces), provides a new justification of the exhibition of concepts of the intellect. The exhibition is not achieved by simple intuition of outer senses, but by the whole (intellectual and schematical) determination of the physical object, whose basic concepts and method are provided by the

Übergang. And this, in my view, is the essential contribution that the «transition to physics» had to give to transcendental philosophy.

Lest we do not think that this rarely mentioned and unfinished conclusion of the whole “exhibition” doctrine constitutes a merely historical curiosity, we can consider how the problematic of a dynamical construction of matter was taken up by Neokantian philosophers, notably by the Marburg school grounded by the work of Hermann Cohen. One of the main features of Cohen’s critical reading of Kant was the denial that empirical intuition can provide by itself the concept of matter, and the bold statement that a consequent philosophical criticism must involve a pure construction of matter (as well as of space and time).¹⁷ This construction, according to Cohen and his followers Natorp and Cassirer, does not happen in the abstract realm of speculative metaphysics, but is to be found in the concrete, historical development of physical science. This historical reform of the concept of *a priori* knowledge led the philosophers of the Marburg school to the problem of how to justify the validity of pure concepts – such as substance – by referring to the ever changing forms of the latter’s applications in empirical science of nature. Their overall approach to this problem was grounded on the claim that historical evidence allows to read off an idealistic and constructive tendency in the development of natural science. For instance, the primacy of a dynamical and mathematical understanding of matter in physics was detected in several groundbreaking theories of post-Newtonian physics, such as the energetic theory of late XIX century, the electromagnetic theory of matter and the relativistic field theory.¹⁸ Although these authors did not recognize the importance of the *Opus postumum* for the understanding of Kant’s philosophy of natural science, their philosophy of natural science, their struggle to extract some stable logical elements from

¹⁷ Cohen, Hermann: *Kants Theorie der Erfahrung*, Berlin 1871 (= *Werke*, Hildesheim-Zürich-New York 1987–, Bd. 3/1), 49.

¹⁸ For Cohen’s confrontation with contemporary physics see the three editions of his *Einleitung mit kritischem Nachtrag zu F.A. Lange*, “Geschichte des Materialismus”, Iserlohn-Leipzig 1896, 1902², 1914³. Energetics and electromagnetic theory of matter receive particular attention in Natorp, Paul: *Die logischen Grundlagen der exakten Wissenschaften*, Leipzig-Berlin 1910 and Cassirer, Ernst: *Substanzbegriff und Funktionbegriff. Untersuchungen über die Grundlagen der Erkenntnis Kritik*, Berlin 1910. In the 1920s, Cassirer started emphasizing the epistemological meaning of relativistic field theory, with particular reference to the work of Hermann Weyl. E.g. see Cassirer, Ernst: *Philosophie der symbolischen Formen*, III, *Phänomenologie der Erkenntnis*, Berlin 1929, in *Gesammelte Werke*, Bd. 13, 541, 548f. For the connection of Kant’s interpretation and the understanding of contemporary physics in the Marburg School see Pecere, Paolo: «Il “platonismo” e il problema della conoscenza scientifica da Cohen a Cassirer», in: Chiaradonna, Riccardo (a cura di), *Il platonismo e le scienze*, Roma 2012, 193-216, in part. footnotes n. 1 and 19 for an appraisal of the *Opus postumum* in this context.

the cauldron of empirical concepts of physics, as well as their particular attention to a dynamical interpretation of matter and ether, as a way to deduce the representation of the body from concepts of mathematical physics, actually takes up in the light of XIX and XX century mathematical physics the open problems faced by Kant himself in his last manuscripts within the framework of late XVIII century Newtonian natural science.¹⁹

3. *Connecting the Transition to the defense of transcendental philosophy: a look at the context.*

The present reconstruction of the systematical role of the *Transition* project, grounded on the intrinsic importance of the exhibition of concepts, may sound a little scholastic, since it builds on inner, open problems of Kant's writings, by abstracting so far from the actual defense of his philosophy in the years of criticism. I will try to show, now, that Kant's new reflections on the technical problem of exhibition could have been stimulated by the polemical context of the interpretation of transcendental philosophy in the years of criticism. From this point of view, indeed, the problem of providing examples *in concreto* –or «meaning» – to ontological concepts appears as a possible source of Kant's increased awareness of the crucial importance of his new work around the year 1798, which corresponds to the transcendental turn in the manuscripts.

As a first source of the problem we can consider the well known charge of idealism, which Kant had to challenge since the publication of the *Critique*. In order to contrast the Garve-Feder review he had tried in several places to reconcile transcendental idealism with common realistic views, stressing the difference between transcendental ideality and empirical reality of the forms of intuition (and therefore of *phaenomena*), in contrast with the material idealism attributed to Berkeley. The very idea that only external intuition, and physics, can objectively realize the pure concepts of metaphysics, presented in the *Metaphysical Foundations*, appears as a consequent development of this general point of view. Although Kant publicly refused to connect these charges of idealism or skepticism with open problems of his works, in the early 1790s he also composed several manuscript attempts at building a new refutation of material idealism. The awareness of this problem

¹⁹ Kant's own original and critical appraisal of Newton's physics was also connected to his search for a theory of matter as a continuum. See Pecere, Paolo: «Kant's Newtonianism: A reappraisal», in: *Estudos Kantianos*, 2.2, 2014, 162-171.

runs parallel to the conception of the new work, which was already in the process of elaboration by 1795.²⁰

Yet the most worrying ‘idealistic’ interpretations could come from the followers, rather than from the critics. The only pure rational treatment of the traditional concepts of metaphysics in the frame of criticism, as Kant made clear in several occasions, had to be found in moral philosophy; nonetheless the problematic concept of the thing in itself—whose treatment in the *Critique* could easily lead to doubts – continued to suggest a possible esoteric noumenal knowledge, and therefore the need for an integration of Kant’s original transcendental philosophy. In a note to the *Preface* of the MAN Kant already replied to one of the first followers who asked for a deeper treatment of noumena, Johann Schulz (MAN, AA 04: 474-476). In the second edition of the *Critique*, then, Kant was very careful to avoid possible misunderstandings of his idealism: he stressed the “negative” aspect of the thing in itself, as a pure thought-object; he tried to contrast material idealism with a new *Refutation* which did not involve any reference to the thing in itself; and again he referred to the crucial role of empirical intuition of matter in order to give objective meaning to any metaphysical thinking (KrV, AA 03: 193.06-12).

But the issue was far from closed; on the contrary, it was beginning to gain a major role in the discussions on criticism. Karl Leonhard Reinhold, whose influent *Briefe über die kantische Philosophie* appeared in 1786-87, while defending Kantian philosophy considered possible, and necessary, a further foundation of the basic concepts of the *Critique*, first of all representation. Kant tried to discredit this idea in his essay *Über den Gebrauch teleologischer Prinzipien in der Philosophie* (1788), insisting on the necessity and validity of the transcendental deduction in its actual form. In 1789 Kant also received, by his follower Markus Herz, a first draft of Maimon’s *Versuch zur Transzendentalphilosophie*, which contained the claim that only a speculative foundation of criticism could avoid the latter’s skeptical overturn. Since the author was still not known Kant contented himself by dismissing this idea in private form and even expressed sincere appreciation of Maimon as the one among its critics who best understood his own theoretical problems (Br, AA 11: 48f.). Kant appeared open to recognize that criticism did have some problems, insofar as these problems were to be solved without a substantial

²⁰ These include the so called *Kiesewetter Aufsätze* (Refl. 6311-6316), AA 18: 607-623. In a letter of June 8, 1795, Kiesewetter noted that the work on the *Transition* project had been communicated to him by Kant in the same year (Br, AA 12: 23).

reform of his philosophy. Yet Reinhold's exposition and interpretation became very popular, and in 1792 they became the main object of Gottlob Schulze's attack to criticism in his *Aenesidemus*. Schulze, by advancing the famous objection of the inconsistency of the concept of the thing in itself, concluded that critical philosophy was not able to establish nothing certain neither about the existence (or non-existence) of things-in-itself, nor about the limits of human knowledge.²¹ Such a statement, as it were, sets the stage for the extensive discussions on transcendental philosophy which took place in the next years: the idea that the *Critique* could not, or at least was *not sufficient to* ground a new philosophy, and thus eradicate both dogmatic metaphysics and skepticism, became a spread view among followers as well as opponents of criticism.

Though aware of these opposite tendencies of skeptical meta-criticism and speculative developments, Kant did not show much preoccupation in the early 1790s. In 1794, answering to Johann Sigismund Beck, who projected a refutation of *Aenesidemus* by means of a new treatment of pure synthesis as preceding the representation of objects, he commented evasively that a representation with no reference is a nonsense, which would be as much as a private and incommunicable feeling, and that anyway he had no more energy to work on such «einfache dünne Fäden unseres Erkenntnisvermögens».²² Beck was not satisfied and in the third and final volume of his *Erläuternder Auszug aus den kritischen Schriften des Herrn Prof. Kant* (1793-96), the *Einzig-möglicher Standpunct, aus welchem die kritische Philosophie beurtheilt werden muß* (1796), he insisted on the need of a deeper foundation of criticism by means of an examination of the «original» act of representing. He did not – or did not want to – catch Kant's point about the lack of meaning of philosophical investigations. Indeed, Kant's was thinking to his own procedure for establishing the objective reference of the concepts of the intellect by means of intuitive examples, i.e. exhibition, whose treatment lay hidden in the intricacies of the *Metaphysical Foundations* and as such was not suited to satisfy the philosophical community. In 1794, as Kant was trying to convince his follower Beck to abtain from useless speculations, the

²¹ [Schulze, Gottlob]: *Aenesidemus, oder die Fundamente der von dem Herrn Professor Reinhold in Jena gelieferten Elementar-Philosophie: Nebst einer Verteidigung des Skeptizismus gegen die Anmassungen der Vernunftkritik*, [s.l.] 1792, 24.

²² Letter to J.S. Beck of 1 April 1794 (Br, AA 11: 514-516).

charge of idealism was repeated in Tiedemann's *Thäetet*.²³ Quite significantly, "Thäetet"'s name will appear, together with "Aenesidemus", in the latest sheets of the *Opus postumum*, in what appears as a list of possible critical objectives of the new work (OP, AA 22: 20.26).

Most interesting, in order to connect these questions with the *Transition* project, are the *public* documents of Kant's renewed involvement with the problem of objective meaning of concepts in the years 1798-99, again stimulated by a new interpretation of transcendental philosophy: Fichte's *Wissenschaftslehre* of 1794. Fichte had struggled with the problem of a subjectivistic interpretation of criticism since his reading of Hume and the "neo-Humian" charges in the writings of Jacobi, Platner, Schulze, Maimon. He correctly saw a common point in the critical writings of Kant's opponents, and his early work can be seen as an effort to reply to these critics by taking Kant's parts.²⁴ Nonetheless his attempt to rebuild criticism on a firmer foundation eventually appeared to Kant – who had at least some first hand knowledge of the *Wissenschaftslehre* – as itself dangerously grounded on a formalistic view of criticism. After declaring his perplexities in a letter to Johann Heinrich Tiefunk of 5 April 1798 (Br, AA 12: 240f.), Kant finally decided to openly state his dissent in the *Declaration* on the *Wissenschaftslehre* of 7 August 1799. There he lamented the absurdity of the idea of developing transcendental philosophy through a reflection grounded on pure form and no *material* of knowledge – which is in fact «bloße Logik» (Br, AA 12: 370.17).

Again these were mere "negative" reproaches: Kant's way of avoiding the risk that the concepts of transcendental philosophy remain «mere forms of thought» was still connected with the old work on the physical exhibition; but that work was now being revised. Indeed, a look at contemporary manuscripts of the *Opus postumum* shows that Kant now recognized the importance of the new work for supplementing the "formalistic" idea of critical philosophy as mere propedeutic. In sheet 'B Übergang', for instance, he writes: «diese Übergang ist nichtblos Propädeutic, denn das ist ein schwankender Begriff und betrifft nur das Subjective der Erkenntnis» (OP, AA 22: 240.25f.). And in a Draft of *Introduction* to the new work he insists on the «completeness of the system» of knowledge

²³ Tiedemann, Dietrich: *Thäetet, oder über das menschliche Wissen: ein Beitrag zur Vernunftkritik*, Frankfurt a.M. 1794. See e.g. KgS XXII, 19-20.

²⁴ For this point see Beiser, Friedrich: *German Idealism. The Struggle against Subjectivism, 1781-1801*, Cambridge Mass. 2002, 223ff.

of nature, articulated in the «three degrees» of metaphysics of nature, physiology and physics, where the latter two are to be connected by the new “Transition” (OP, AA 21: 361.04-19). In sheet ‘Übergang u[sw]’, opening a new draft of *Introduction*, he comes back to criticism of the *Wissenschaftslehre*, as a circular enterprise that «von der Materie derselben (den Objekten der Erkenntnis) abstrahirt» (OP, AA 21: 207.23f.). According to the standard dating, these sheets were written approximately in the same year as the ones – quoted and discussed in § II – that regard the new transcendental theory of physical knowledge and its consequence for the doctrine of exhibition: *completing* the system of critical philosophy and *contrasting* Fichte’s formalism are evidently two sides of the same problem.

An analogous move appears in *Konvolut I* (1800-1803), where Kant, considering the idea of the «system of transcendental idealism» challenges the Spinozist development of the problem by Schelling and Lichtenberg (OP, AA 21: 87.29-30). Spinozism had notably been a major worry for Kant, who had to reply to Jacobi’s charges and at the same time recognizes, in metaphysical lectures, that Spinozism is the consequent form of «transcendental realism» (e.g. AA 29: 977-8; 28: 732; 29: 1008-9). In the very sparse and fragmentary reflections of *Konvolut I*, which contain his last philosophical writings, Kant argues that transcendental idealism is a condition of empirical realism, in that it catches in its own way the true (transcendental-idealistic) idea of spinozism:

«Wir können keine Gegenstände weder in uns noch als ausser uns befindlich erkennen als nur so daß wir die *actus* des Erkennens nach gewissen Gesetzen in uns selbst hineinlegen. Der Geist des Menschen ist Spinozens Gott (was das Formale aller Sinnengegenstände betrifft) und der Transcendentale Idealism ist Realism in absoluter Bedeutung» (OP, AA 21: 99).

Here, trying to interpret in his critical way spinozism – which he considers throughout the critical years as the most exemplar kind of transcendental realism – Kant evidently presupposes his recent work on the foundations of physics: first, the proofs of the existence of the World-matter, which is conceived as a substrate of moving forces and a phenomenal analogous of the transcendental ideal of the *Critique*, that «liegt in den Vorstellungsvermögen des Subjekts» (OP, AA 21: 574.29); second, the consequent, new view of knowledge as grounded on «self-affection» of the subject and the anticipation of the indirect phenomenon, which can be considered as a development of the “exhibition”

doctrine which we have examined.²⁵ His new epistemology of physics, which has reshaped the task of exhibition, plays now a crucial role for the reconsideration of transcendental philosophy as a whole. This feedback from the new enquiry on physics to transcendental philosophy is finally recognized in *Konvolut I*, where Kant writes of a «Übergang von der Physik zur Transzendentalphilosophie» (OP, AA 21: 17.21).

4. Conclusion.

Let me resume the two threads of my argument. As we have seen, the task of the “exhibition” of concepts connected transcendental philosophy to physics, and different open problems of the MAN determined the systematical importance of the *Transition* project. On the other hand, in the years 1798-1799, we have found growing evidence of Kant’s concern with attacks to critical philosophy, whose common point was the *Critique*’s inadequacy to fully justify the reference to real objects (in space) as well as the exact meaning of the thing in itself, in order to refute material idealism and, at the same time, to ground a new natural philosophy. Both skeptical overturn and dogmatic developments of transcendental idealism shared this view, whose direct rejection, in Kant’s original philosophy, required a full treatment of “exhibition” as well as a more subtle distinction of the concepts of objectivity.

Such a treatment can be found in the *Transition* manuscripts. Besides elaborating on the “exhibition” and the schematic anticipation of physical objects, Kant repeatedly insists on characterizing the thing in itself as the «thinkable» (*cogitabile*), defined by contrast with the «real (*dabile*)» (OP, AA 21: 24.1), as the «*ens rationis*», by contrast with proper objects (OP, AA 22:27.25; 31.4), as the idea of an «*ens per se*» (OP, AA 22: 26.28) which is actually the correlate of phenomena (OP, AA 22: 412.19) or a different way of considering phenomena («*respectus*», OP, AA 22:26.29, 44.22).²⁶ On the whole Kant sharply distinguishes between three moments of objectivity: (1) *phenomenon* as intuitive datum, (2) *sense-object* as the result of intellectual synthesis (in the case of matter, by

²⁵ On “self-affection” and “indirect phenomenon” see Pecere, Paolo: *La filosofia della natura in Kant* cit., 775-785.

²⁶ I thank an anonymous referee for suggesting the relevance of these definitions in the present context, as possible ways of reacting to Reinhold, Schulze and Maimon.

means of the systematical anticipation of moving forces), and (3) *thing in itself* as the merely negative representation of a non-sensible objectivity.²⁷

The importance of grounding the process of objective determination had an indirect, yet crucial role for perfecting Kant's original views on metaphysics. On the one hand, Kant's late writings on metaphysics and physics – from the *Metaphysical Foundations of Natural Science* to the *Opus postumum* – make clear that the realization of metaphysical concepts needs a full foundation of the empirical synthesis in natural science. On the other hand, this full path of theoretical philosophy has to be completed, in order to contrast the domain of objective knowledge with the field of the moral ideas of reason, which forms the background of Kant's exploration of the pure rational side of autonomy and reshaping of the traditional ideas of metaphysics. Indeed, given the new findings in his work on the *Transition*, Kant finally felt free, in *Konvolut I*, to sketch a new systematical exposition of the ideas of «World, Man and God». From this point of view we can credit Jachmann's account and understand why the unpublished *Transition*, focusing on the «real applicability» of his philosophy, may have appeared to Kant as a fundamental and missing piece for the full understanding of his philosophy. Unaware of this work, indeed, the followers of transcendental idealism were heading toward radically different developments.

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²⁷ For a most clear articulation of the three meanings of objectivity see for instance sheet ‘F’, OP, AA 22: 336. Similar reflections on the thing in itself are repeated in the ‘Beylage’ sheets, together with explicit references to “Aenesidemus” and “Thaetet” (see e.g. OP, AA 22: 20, 23f., 28f., 31).

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