Schematism and Embodiment in Kant's *Opus postumum*

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Introduction

Two intertwined themes run through Kant's last, unfinished work, known to us as the *Opus postumum:* the comprehensibility of physics as a science and of human freedom as a causal power.[1] The two themes come together in Kant's theory of self-positing. Although the *Opus postumum* has received substantial attention in recent decades, there has been an insufficient focus on human embodiment (self-positing) as the bridge between nature and freedom in Kant's final period. In this paper, I contribute to remedying this defect by showing the centrality of embodiment for Kant's motivating project of a transition from the metaphysics of natural science to the actual science of physics. Many times in the disordered manuscripts, Kant characterizes this transition in terms of a schematism conceived of as parallel to—or as an extension of—the first *Critique* schematism. I argue here that Kant's theory of self-positing places human embodiment in the role of serving as this schematism and making the needed transition.

In the first section, I describe the transition project and what is at stake in it for both natural science and for the conception of free action in the world. Next, in Section 2, I explain why the transition cannot be achieved through operations of physical construction analogous to Newton's mathematization of nature. In a third section, I clarify why the first *Critique* temporal schematism has not already provided the necessary mediation to accomplish the transition, and how Kant proposes to do so through an elaboration of the spatial aspect of schematization in the *Opus postumum*. Fourth, I defend my central claim, that the embodied human subject is the schema that is required for the completion of the transition project. Fifth, I take on two alternate interpretations, those of Tuschling and Mathieu. I show the implausibility of Tuschling's claim that Kant abandons the idea of a schema, substituting the Ether Deduction for it. I also suggest how Mathieu's claim that the Ether Deduction itself plays the role of the schema is compatible with my own position. In the sixth and final section, I show that there are beneficial implications for free moral agency in what might otherwise appear to be a purely formal exercise of Kant's architectonic ambitions.

1. The Transition Project

Although there is widespread disagreement about how—and indeed whether—Kant accomplishes the project he sets for himself in the *Opus postumum*, the consensus is that his project is to provide a transition from the metaphysical principles of natural science to physics itself as an actual science. In order to frame the problem that Kant's descriptions of a schematism in his final, unfinished work intend on my view to solve, I offer a sketch here of the transition project itself and why it matters so much to Kant that he spends the waning years of his life attempting to complete it. In order to understand what is at stake for Kant in the transition project, we must be clear that both the comprehensibility of physics as a science and of freedom as a power that stands in a causal relationship to possible lived experience are on the line. In both cases, the question is whether a priori concepts or ideas are genuinely applicable to empirical objects.

In the case of physics, what is in question is whether "the empirically given moving forces of matter" constitute merely an "aggregate" or "compilation," in which case the physics cannot attain scientific status. The very concept of a science for Kant is that of a systematically organized body of knowledge, so that physics must grasp "a system of moving forces" in order to achieve the dignity of science (OP AA 21: 363).[2] In order to achieve this systematicity of knowledge, physics must properly organize the questions it uses to investigate nature (OP AA 21: 485). Both the questions physics poses and the knowledge it acquires must be organized according to quantity,

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[2] Translations from the German, including those from secondary sources, are my own unless a passage appears in the Förster/Rosen translation (Immanuel Kant, *Opus postumum*, Cambridge Edition of the Works of Immanuel Kant, trans. Eckart Förster and Michael Rosen, Cambridge: Cambridge University Press, 1993), in which case this is noted.

quality, relation, and modality, the four "titles" of the Table of Categories (OP AA 21: 455-6 and 457). But because physics operates with reference to the material world of physical objects, there is no *prima facie* assurance that its empirical results will be structurable in this way. Kant's disagreements with Isaac Newton throughout the *Opus postumum* turn on this point. Newton wants to give *mathematical* principles of natural science, which could only yield an ideal physics, not a physics of the real material world. Physics must connect the formal (metaphysical) aspects of matter and moving forces with their empirical aspects. This connection cannot be achieved with Newton's methods but requires mediation through the transcendental method. As I will explain in the next section, this mediation cannot be achieved through the constructive processes described in the *Metaphysical Principles of Natural Science* but require the schematic process Kant offers in the *Opus postumum*.

The case of freedom is different insofar as the effects of freedom on the world of experience are not available for knowledge even as an aggregate, much less as a system. Nevertheless the very concept of freedom includes not merely "self-determination of the subject" (OP AA 21: 23) but further calls on the human person to be the world-inhabitant (*Weltbewohner*) who connects supersensible principles to sensible ones (OP AA 21: 31). As Tuschling so aptly notes, nature and freedom must ultimately be representable as interdependent (Tuschling 1991, 113). In order to view herself as a moral *agent* and not just as another object in the world, the autonomous person must be able to regard the world of spatiotemporal lived experience from two perspectives at once: as governed by a system of physical forces, and as a field of activity for the actualization of free choices.

2. Why Construction is Not Sufficient

Early in his work on the *Opus postumum*, Kant appears to think the transition project can be completed through constructive processes alone. This would actually make the project less important than it turns out to be, since Kant has already introduced the procedure of the construction of matter in the *Metaphysical Principles of Natural Science*. If the transition were to rely merely on construction, it would appear less necessary both in relation to Kant's earlier published work and less original vis-à-vis what Newton has already achieved in his mathematical physics. Kant writes in manuscripts he is thought to have completed before 1796 as if both motion (OP AA 21: 431) and the infinitude of matter (OP AA 21: 441) can be constructed. But construction alone only gets at bodies in motion as *mathematical entities* that precede experience, not as empirical objects. It should be noted here that, while construction itself involves schemata, they are the schemata of mathematical concepts, not of categories. As I pointed out in Section 1, Kant sees the status of physics as a science as dependent on the relating of empirical bodies in motion to the categories, i.e., to quantity, quality, relation, and modality as elements that structure both its interrogation of nature and the results of its investigations into a system of knowledge.

By late 1797 to early 1798, Kant has rejected the idea that the quantity of matter can be constructed arithmetically or geometrically, and he insists instead that it can only be represented by mechanically measuring the size of the moving force:

> The quantity of matter can thus be measured neither arithmetically, by the number of corpuscles, nor geometrically, by volume, but only mechanically, by the quantity of the moving force which a volume of matter exercises in one direction and at one velocity of motion upon a movable object (OP AA 22: 207, Förster/Rosen 28).

However, this operation only heightens the problem, since the mechanical measurement of the quantity of matter brings an a priori concept of matter up against an empirical operation that is heterogeneous with it. Here the problem works in the opposite direction from the one involving construction. Construction cannot get from the metaphysical concepts of matter all the way down to empirical objects because it is only capable of a synthesis of homogeneous elements, for example, the synthesis of different points into the mathematical object known as a circle. The mechanical measurement of matter, motions, and forces cannot get all the way up to the metaphysical concepts of them. In both cases, there is the need for an act of mediation between the heterogeneous elements of empirical physical bodies and their interactions with one another on the one hand with the metaphysical concepts that underlie them on the other.

The problem can be illustrated with the case of gravitational attraction. In order to be universal, it is not enough for the empirical reality of gravity to be connected through a constructive procedure with the concept of it. Instead, Kant claims eventually (in the period from 1799 to 1800) that universal gravitational attraction requires that the entire manifold of material nature must be connected into a thoroughgoing system of moving forces by being

understood as the expression of the transcendental unity of consciousness itself (OP AA 22: 536). Clearly, the act of mediation required for this connection would proceed by means of the categories, but as Kant makes clear in the schematism chapter of the first *Critique*, the categories are not self-applying. Making this connection requires the interposition of some *Mittelbegriff*, or mediating concept, analogous to a schema (OP AA 21: 173, 285, 311, 361 and Duque 1984, 390). The various acts of the construction of physical concepts in the *Metaphysical Principles of Natural Science* (for example, of rest at MAN AA 4: 485 and of the composition of two motions at MAN AA 4: 490), as well as in the *Berliner Physik* (for example, of how light travels at Vorl AA 29: 84) are not sufficient to carry out the needed transition project, because they lack the categorial mediation of a schematism.

Kötter points out that the nonconstructibility of forces is already present in the Metaphysical Principles:

> Kant declares categorically that one cannot make the possibility of fundamental forces conceivable, since their concepts are not derivable from others […], indeed they cannot even be exhibited in intuition as possible, and that means concepts of force are not constructible (Kötter 1991, 164).

This point becomes even clearer in 1799 in Kant's distinction between a mathematical body and a physical body: "A physical body is one which is only cognizable through experience. A mathematical body is one that is cognized a priori as limited space in three dimensions. The physical body presupposes the mathematical body" (OP AA 21: 575). The mathematical body as constructed does not achieve the conceptualization of the physical body, which must be accomplished through the schematism. Tuschling writes, "the pure forms of intuition of space and time and of objects in them are in themselves empty and must be filled, realized, and therewith made perceivable through moving forces, as reality in appearance." (Tuschling 1971, 171). The fact that the physical body presupposes the mathematical body may also be a clue as to how the categories of relation might apply here. Cause and effect are implicated because moving forces *cause* motions. The construction of motion does not address the causes of motion, namely, moving forces. It is also the case that moving forces stand in community with one another, interacting with one another through reciprocal relations (OP AA 22: 188). Mathematical-style constructions of matter and forces could perhaps account for empirical regularities and even some kinds of structure or organization, but they could not relate physical reality to categories. For that, a schematism will be required.

3. Beyond the First *Critique* Schematism

As I have shown in Section 2, Kant becomes convinced that the transition from metaphysics to physics as a science cannot be achieved along a *constructive* path but requires a *schematic* approach instead, and that schematic approach must relate the forces of empirical nature to the transcendental unity of consciousness through the Table of Categories. Otherwise, we do not have physics as a well-ordered program of investigation or a systematic body of knowledge. Instead, we have a mere aggregate of regularities of the kind an empiricist could build up from observing the material aspect of moving forces and building up these observations into a "compilation" (OP AA 21: 363). In August and September of 1798, we thus find Kant writing for the first time about "the schematism of judgment for the moving forces of matter" that functions "according to the categories" (OP AA 21: 291).

What is the relation of the schematism of the *Opus postumum* to the original schematism of the *Critique of Pure Reason*? The first *Critique* schematism spells out each of the categories as a time determination, and Kant does not make clear there the relation of the schematism to space. In order to completely explicate the relationship of the categories to outer objects, however, the schematism must apply not only to time but also to space. Eckart Förster writes,

> Since the schematism chapter dealt exclusively with time determinations and inner sense, it did not specify the 'sufficient' conditions of the application of the categories; it required supplementation by a work that laid out the forms and principles of outer intuition in their entirety, and thus related the categories to possible objects of outer intuition (Förster 2000, p. 59).

This does not, as Vittorio Mathieu suggests, require that we posit an "old" and a "new" schematism (Mathieu 1989, pp. 46-7). It is only necessary to grasp the schematism of the *Opus postumum* as an elaboration of the first *Critique* schematism that makes explicit its spatial applications. There is no reason not to regard this spatial aspect of the schematism as already implicit in the *Critique of Pure Reason*. The urgency of its exposition in the *Opus postumum*

is that there can be no schematism of matter in motion through space without a spelling out of the spatial dimension of schematization.

Beyond adding a spatial dimension to the schematism, the *Opus postumum* specifies a role for schematization in providing a logical "topic" for physics. This "topic" would present the possible logical "places" of empirical regularities in a table (doubtless derived from the Table of Categories) that prefigures and foreordains the systematicity of physics, in the first instance by organizing the questions physics will use to investigate nature (OP AA 21: 485). The schematism expresses the formal aspect of the system of moving forces, distinguishing them in such a way as to constitute "an architectonic for research into nature" (OP AA 22: 263). If natural science in general compels nature to answer the questions we put to it, then the schematism of moving forces structures our interrogation of nature.

Apart from "topic," Kant also uses the term "scaffolding" (*Fachwerk*) for this organizing principle of physics. This scaffolding represents the formal aspect of material nature and relates the moving forces of matter to the transcendental unity of apperception:

> [The] philosophical researcher into nature demands that this step be taken […] from the metaphysical principles of natural science to physics, and […] he can completely present the scaffolding of the division of the moving forces of matter in general and with it the formal aspect of all physical analysis (OP AA 21: 161-2).

To avoid constituting a mere aggregate, the moving forces and the objects they move must be connected through a synthesis carried out with a consciousness of the unity of their connections with one another. This systematic unity in nature could only be achieved by connecting instances of matter and forces through the transcendental unity of apperception. In discussing the production of this unity, Kant writes that "the synthesis precedes that which is synthesized and […] qualifies itself as the schematism of the concepts" (OP AA 21: 162). By performing this synthesis, the schematism forms a bridge between the subject-oriented territory of metaphysics to the object-oriented territory of physics (OP AA 21: 172 and 487).

Michael Friedman attributes this structuring of our questioning into nature to reflective judgment but ultimately determines that judgment in any form is not the key to the transition project:

> Accordingly, reflective judgment yields no constitutive principles specifying the structure of the unified system of empirical laws it postulates, but only regulative principles for investigating empirical nature, so as (eventually) to discover such a unified system (Friedman 1992, 251).

Unlike Friedman, I present evidence here that indicates that the schematism found in the *Opus postumum* does provide a system of principles by relating moving forces to the categories. This entails that its function is not regulative but constitutive and that it involves not reflective but determinative judgment, since it provides not merely rules for reflection but spatiotemporal determinations. This assumption is also suggested by Kant's terminology. If the mediation required in order to accomplish the transition were merely an act of reflective judgment, it would rely on a *symbolic* relationship that proceeds by analogy. But Kant insists here on a schematic operation that yields actual spatiotemporal determinations, not merely analogies.

In the later months of 1798, Kant gives an example of how this schematism of moving forces functions. He writes of the modality of motion and moving forces as their perpetuity, i.e., as the permanence of their efficacy (OP AA 22: 155). I take it that this perpetuity of motion is the same as the conservation of moving forces across time. But how is this schema of perpetuity functioning to unify the two territories and to systematize moving forces? I take it that permanence as the schema of necessity (i.e., of the presence of an object at all times) relates moving forces—conceptualized as a priori but applied empirically—on the one hand to the metaphysical structure of the categories and, on the other hand, to the objects that the moving forces move. Without a categorial schema, the motion as constructed cannot be applied to real empirical cases of motion.

4. The Embodied Subject as Schema

The most captivating passages in the *Opus postumum*, as well as the most puzzling, are those that discuss Kant's theory, completely new there, of self-positing (*Selbstsetzung*). Paul Guyer (Guyer 2003, 204) and Matthew Rukgaber (Rukgaber 2009, 175), among others, have given excellent analyses of the theory, which encapsulates

Kant's most important thoughts about human embodiment.[3] I go beyond those analyses here by arguing that Kant's exposition of self-positing plays the role of the schematism that he seeks as the centerpiece of the transition project. I offer evidence in this section that the embodied self fulfills this role and how it does so.

An intriguing passage from late 1799 is worth quoting at some length:

> We would not even cognize in bodies the moving forces of matter through experience if we were not conscious of our activity, the act of repulsion, attraction, etc., which we ourselves exercise and through which we apprehend this appearance.—The concept of original-moving forces is not taken from experience but must lie a priori in the activity of the mind, an activity we are conscious of. Otherwise we also cannot acquire it through experience, since the synthesized as such cannot be perceived but only the synthesizing in space and time (OP AA 21: 490-491).

This passage is the first clue chronologically in the manuscripts that the self as embodied plays the decisive role in the schematism Kant has been writing about already for some time and therefore, in my view, the decisive role in the transition project. When we move our bodies through space, we are only able to apprehend the movement empirically because of a corresponding activity of a priori synthesis. As Rukgaber writes, "these considerations of the body and space-time cognition are meant to justify considering nature as […] a […] field of force relations that can only exist for beings that occupy an embodied, finite perspective such as our own" (Rukgaber 2009, 175). The human body plays a schematic role here, mediating between the two heterogeneous elements of the activity of a priori synthesis and movement through space apprehended empirically. Kant is, at this point in August or September of 1799, on the edge of formulating his doctrine of self-positing as embodied in time and space (*Selbstsetzung*). My claim is that self-positing is the schematism that mediates between the a priori construction of movement that was already present in the *Metaphysical Principles* on the one hand and movement as experienced concretely in the physical world on the other.

The schematism of motion through self-positing is different from the construction of motion because motion as constructed by physics is merely a condition of the possibility of the appearance of motion, not yet the actual experience of objects in motion. What must be added is a "consciousness of the a priori activity of synthesis of the manifold of appearance" (OP AA 22: 323-4). Through the schematism and the a priori synthesis that it structures, the experience of objects as subject to moving forces is tied to the transcendental unity of apperception. Here Kant is tracing out the implications of the *Critique of Pure Reason* for a metaphysics of natural science, for physics, and for the transition from one to the other. Spelling out the characteristics of moving forces in terms of the categories constitutes a schematism that mediates between the intellectual aspects of the intuition of moving forces and their empirical aspects (see OP AA 22: 330 and 339). It is this schematism of moving forces that allows us to move from an aggregate of cognitions of moving forces to a system of them. It connects the a priori synthetic activity of the subject to the appearance of moving objects in space and time, thereby making possible the actual experience of motion.

It is important to note here that it is the *categories* that provide the structure for this synthesis. Kant understands the body as the locus or instrument of the imposition of space and time on experience. Since (per the Transcendental Deduction) this imposition carries with it the categorical structure, this means that the body itself is the locus or instrument of the imposition of the categories on experience. This helps us see how embodiment is a form of schematism. Rukgaber formulates the connection as follows: "the body itself exists originally (or formally) for us in terms of the projection of a structured field of spatio-temporal relations" (Rukgaber 2009: 174). Empirically perceived objects moving in space and time must therefore be moving in this structured projection from the human body. This movement from embodied subject to perceived object also applies to the organic forces, those that cause a body existing in space and time to be alive (OP AA 22: 373). The inclusion of the moving forces of life adds a dimension to self-positing. Lehmann writes, "the subject posits itself not merely as cogito but as object in appearance, as a psychophysical object, as an organism" (Lehmann 1963, 502). For Kant, we do not build up a concept of life and living matter empirically from its simplest form in plant life to its most complex form in human life: rather, the movement of cognition runs in the opposite direction. We begin from the experience of life forces in the embodied self and extrapolate through subtraction to the simpler forms of living matter. For example, we understand worms not by starting with single-celled organisms and building up our understanding of life. Instead,

[3] Guyer summarizes Kant's doctrine of self-positing as follows: "The key to the theory of self-positing is that the determinate order of experiences which constitutes empirical as opposed to merely formal self-consciousness can only be grounded in the perception of a determinate sequence of states of external objects in space that can be correlated with our own subjective states, where the determinate series of states in external objects can in turn be determined only through the interaction of our own bodies with them and indeed through the initiation of series of changes in those objects by motions of our own bodies" (Guyer 2003, 204).

we begin from the human experience of life and subtract characteristics such as intelligence and locomotion using limbs until we reach an understanding of the life of worms. In other words, the human experience of being an embodied intelligence is primary; the schematism is performed with respect to it, and all other cognition of life is derivative from this primary synthesis.

Just how central a role the schematism plays in the transition appears in a final passage from the period of 1799 to early 1800. It is not just relatively high-level phenomena like living things but more basic phenomena like gravitational attraction that are subject to this schematism. Here, it is the subject in space, not the object, that predetermines universal gravitational attraction. It does so through the schema of moving forces as the concept of the synthesis of the manifold: "Not the object of experience of space but the subject is formally predetermined for general attraction through the concept of synthesis of the manifold as the schema of moving forces" (OP AA 22: 536). In order to be universal, gravitational attraction cannot be drawn from the experience of objects but must appear as an expression of the transcendental unity of apperception. This synthetic unity works through a schematism of moving forces to unite the entire manifold of possible experience of material nature into a thoroughgoing categorial system of these moving forces. Förster notes,

> It took [Kant] quite some time and several attempts in other directions until he realized that only the exhibition of the subject's own bodily forces in the systematization of experience can play the role previously assigned to the construction of the concept 'matter' (Förster 2000, 74),

and this exhibition must be schematic, not constructive. Only this schematic systematization of experience can be sufficient to account for universal gravitational attraction. This is Kant's most decisive transcendental addition to Newtonian physics.

The self-determining subject constitutes itself as given in intuition and thereby makes itself through the totality of the ideas of reason (OP AA 21: 93). At the same time, however, it produces space and time, which are constituted so as to anticipate a system of moving forces (OP AA 22: 439-40 and 21: 93). We could not cognize a thoroughgoing systematicity of material nature unless we ourselves placed it there. And the schematism (which is the embodied subject) ensures that space and time carry the categorial structure priori to all spatiotemporal experience. These ideas continue to be expressed in the latest manuscript pages Kant writes: "Transcendental philosophy is the grasping of the whole which reason itself has proposed" (OP AA 21: 6).

Kant assigns a role poetically to this schematism by calling it "a moment in which metaphysics and physics touch both riverbanks *styx interfusa*" (OP AA 22: 487, sic.). In this colorful metaphor, the material world of the living represents physics, the eternal and immaterial world of the dead represents metaphysics, and the schematism appears as a bridge between the two, allowing someone to pass from one to the other. The peculiarity of the metaphor is that since the goal is to pass from metaphysics to physics, the bridge (the schematism) allows the souls of the dead to pass over again into the world of the living (cf. OP AA 22: 489), a direction of movement that runs counter to the metaphor's mythical origins. But this makes the point nicely that the world of matter and living things cannot be understood by metaphysics alone but only by metaphysical principles mediated through the schematic function of the embodied human self. Metaphysics (here symbolized by the realm of the dead) cannot get all the way across to living reality except by way of the bridge of embodied selfhood.

5. The Schematism and the Ether Deduction

Kant's doctrine of self-positing deserves, in my view, far more attention today than the so-called Ether Deduction. Self-positing is relevant to many philosophical discussions today about human embodiment and how we should understand it philosophically. It is not clear that the Ether Deduction has strong relevance beyond intellectual history for contemporary physics or philosophy of science. Nevertheless, I must contend with two major alternate interpretations of the *Opus postumum*, one that casts the whole notion of schematism aside, a second that reduces the Ether Deduction and the schematism to one another. Burkhard Tuschling claims that Kant's references to schematism belong to an attempt at a solution to the transition problem that he later abandons (Tuschling 1971, 75n. and 125). He holds that Kant intends for the Ether Deduction to replace the theory of self-positing and thereby replace the schematism. Mathieu's interpretation of the role of the Ether Deduction is a variation on Tuschling's: Mathieu holds that the Ether Deduction is equivalent to the schematism rather than an alternative to it. My goal here is not to give a refutation of Tuschling or Mathieu on the Ether Deduction, which I do not attempt to exposit in this

paper. Rather, I focus my efforts on showing the implausibility of Tuschling's claim about Kant's abandonment of the notion of a schematism, as well as on suggesting how Mathieu's position and my own may be seen as compatible with one another.

The order in which Kant composed the drafts now known as the *Opus postumum* was established by Erich Adickes around 1920 and published as a flyleaf in the back of Volume 22 of the *Akademie-Ausgabe* of Kant's works. While Adickes's dating is speculative, of course, it has not sustained any major revisions since he put it forward. Tuschling proposes a few emendations to Adickes's chronology, but his proposed revisions do not touch on any of the texts I rely on here. In addition, Tuschling advocates for interpreting passages according to their place in Adickes's ordering rather than the fairly random order (unfortunately preserved in the Academy Edition) in which the manuscripts were found. If Tuschling's thesis is correct that Kant abandoned any notion of schematism at a certain point in order to replace it with the Ether Deduction, we should find that references to schematism cease at a certain point in the manuscripts. Although *direct* references are indeed not present in Kant's latest manuscript pages (Konvolut I), there is good reason to read a number of *indirect* references to the schematism there.

The passage I cited as Kant's first reference in these manuscript pages to a schematism (OP AA 21: 291) stems from Autumn 1798. The first references to self-positing occur in the Autumn of 1799 (OP AA 21: 490-91). In the First Konvolut (OP AA 21: 1-158), thought to be the latest pages Kant composed, he does not mention the schematism explicitly, but he writes extensively about self-positing (OP AA 21: 23-4, 26, 31, and 93). If I am correct in Section 4 in connecting the schematism to self-positing (and I will offer additional evidence in Section 6), then Kant has not abandoned schematization in favor of the Ether Deduction but continues to consider it a viable and necessary path of transition right up to the end of his career.

Mathieu's position allows for a more nuanced treatment. Mathieu claims, "The task that was undertaken by the concept of time in the first *Critique* schematism is now taken on by ether in the new schematism" (Mathieu 1989, 140). Mathieu's claim that ether functions as the schematism for the *Opus postumum* is not necessary opposed to my thesis that the embodied subject is the schema. Mathieu refers to a passage that implies a connection between ether and the embodied subject:

> Theorem. All matter contains a complex of moving forces; and the subject which is affected by them (and his experience of this complex) itself determines these forces which provide the material for experience […] Caloric [i.e., ether] is postulated, insofar as it is universally distributed (OP AA 22: 474-5, Förster/Rosen 134, and Mathieu 1989, 136).

This passage could be seen as giving the embodied subject the role of schematizing the consciousness of moving forces, while the ether is the medium through which those moving forces affect the subject. The relation could be that between a schematizing subject and a schematized spatiotemporal field, both of which could be conditions of the possibility of moving forces as existing and as acting on the embodied subject. Thus the two theses—that the embodied subject is the schematism, and that the ether plays the role of of the schematism—are not necessarily opposed but represent roughly a subjective and an objective side of the same schematism. The plausibility of this interpretation is enhanced by the fact that Kant adds the second sentence of the quoted passage later, but without striking the mention of the embodied subject in the first sentence. Kant could be intimating that the schematizing functions of the embodied subject and of the ether are not mutually exclusive but are instead complementary.

In the next and final section, I consider the implications of connecting self-positing and schematization as the central elements of Kant's transition project for the actualization of freedom in lived experience.

6. Consequences for Freedom

In mid to late 1800, Kant returns to the pre-critical problem of a physicotheology and its ethical implications. He begins to introduce the idea of God into his considerations of the transition project and to consider using the title *God and the World* for his final work. Kant acknowledges that the relationship between God and the world is that of two heterogeneous objects to one another. Since it is the heterogeneity problem that the schematism is intended to solve, we can assume that it must be operating in Kant's representation of this relationship between God and the world. In this context the moral-practical subject steps in to play the role of the schematism. Not only is the embodied self (as self-positing) the locus of the imposition of the laws of nature on the world, it also plays this role for the actualization of the laws of freedom in the same world (OP AA 21: 23, cf. 22: 416). Kant goes so far in

another place as to assert, "*Moral-practical reason is one of the moving forces of nature* and of all sense-objects. These form a particular field: for *ideas.*" (OP AA 22: 105, Förster/Rosen 199, Kant's emphases).

Kant addresses this point very directly when he writes of

> God, the world, and the consciousness of my existence in space and time. The first is noumenon, the second phenomenon, the third, the causality of self-determination of the subject to the consciousness of his personality, that is, of freedom in relation to the whole of being (OP AA 21: 24).

The human being appears in this connection as the world-inhabitant (*Weltbewohner*) who connects supersensible principles to sensible ones (OP AA 21: 31). By inhabiting the world, the human person renders the material world of the system of physical forces at the same time a field of activity for the morally self-determining agent. The role that God plays here is not as a cause of the world but as the voice of reason announcing the moral law (see OP AA 21: 26, cf. 21: 152).

Kant refers by implication here back to the second *Critique* "Typic of Pure Practical Judgment" (KpV AA 5: 67-71) when he writes about the laws of Newtonian attraction and the laws of freedom as "concepts analogous to one another" (OP AA 21: 35). The role God plays here is that of "life-spirit (*Lebensgeist*) of the human being in the world" (OP AA 21: 41). God represents the laws of freedom that enliven and determine the human person as inhabitant of the world. The connection here between the human person as world-inhabitant and God is critical: Tuschling writes, "The culmination of the doctrine of self-positing is the constitution of the interdependence of nature and freedom, theoretical and practical reason […], of transcendental philosophy and transcendental theology" (Tuschling 1991, 113).

Much more can and should be made of these points of relationship between physics and practical reason. Although Kant makes the allusion back to the Typic, it seems from many of his remarks that he intends a more intimate link than a merely "analogous" one. The human body becomes the privileged locus both of the imposition of the laws of nature on lived experience and the instrument of the actualization of free choices within the same lived experience. The self-determining moral agent is to *inhabit* the very same world upon which the transcendental unity of apperception imposes the categorial structural of the laws of nature. Human moral agency depends not just on noumenal self-determination but on the actualization of the moral law in lived experience, requiring that freedom exercise genuine causal power over the phenomenal world. Kant seems to be gesturing in the *Opus postumum* toward a possible solution to the problem of the causal power required by the notion of efficacious free agency. At the same time, he appears to be striving for a unification of theoretical and practical reason that evaded him from early in his career through his final years.

Conclusion

In this paper, I have shown how practical self-positing, Kant's nascent theory of embodiment, functions as a schema in the *Opus postumum* and plays a central role in Kant's final project, the making of a transition between the metaphysics of natural science and physics as an actual science. In so doing, human embodiment according to Kant's account assures both the systematicity physics requires in order to gain the status of a science and the actualization of freedom in experience. In order to accomplish these goals, I have given a brief description of the transition project and explain why Kant's previous constructions of physical concepts do not accomplish this purpose. Further, I outline what functions a schematism must perform in the *Opus postumum* and clarify why the first *Critique* schematism does not already provide for these functions. I argue against the plausibility of Burkhard Tuschling's claim that Kant abandons the schematism in favor of the Ether Deduction and suggest how Vittorio Mathieu's position that the Ether Deduction is equivalent to the schematism may be compatible with my own. Finally, I lay out several beneficial implications of human embodiment as schematism for the actualization of freedom in the world of experience.

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