



The Petri Dish Only Confirms that Kant was Correct by [Douglas R McGaughey](#) is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](#).

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The Petri Dish Only Confirms that Kant was Correct:
Or Technical, Teleological, and Practical ‘Purposiveness’ in Science and Morality¹

“The most important issue is to know how one properly fulfills one’s place in creation and correctly understands what one must be in order to be a human being.” (Immanuel Kant, *Handwritten Comments to ‘Observations on the Feeling of the Beautiful and the Sublime’*), ed. by Marie Rischmüller [Hamburg, 1991] 36 [McGaughey translation])

“At many places my presentation would have had far more clarity, if it hadn’t needed to be so clear.” (Reflexion #16 von *Reflexionen Kants zur Kritik der reinen Vernunft* (Leipzig, Fues’s Verlag (R. Reisland), 1884): 7 [McGaughey translation])

Abstract

The “Call for Papers” of our conference begins: “‘There will never be a Newton for the blade of grass,’ Kant wrote in 1784, a quarter-century before the birth of Charles Darwin, and less than a half-century before the first synthesis of an organic compound in a laboratory.” Proof texting must be called-out wherever it occurs. What does Kant say? “[...] [I]t would be absurd [...] to hope that there may [...] arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no intention has ordered [...].” (AA V, 400 ; emphasis added) He also said: “We can by no means prove the impossibility of the generation of organized products of nature through the mere mechanism of nature, because [...] we have no insight into their primary internal ground, and thus we cannot reach the internal and completely sufficient principle of the possibility of nature [...].” (AA V, 388) Kant’s point in the third *Critique*: because we directly experience only effects, not causes, we must presume that a lawful order purposefully governs theoretical reason (nature) and practical reason (morality). In the first introduction to the third *Critique*, Kant writes: “The special principle of judgment is [...]: Nature specifies its general laws into empirical ones, in accordance with the form of a logical system [i.e., intentionality (McGaughey)], in behalf of judgment” (AA 20, 216). This heuristic strategy of presumed purposiveness is incapable of proof/disproof (here we have no teleological proof of God), but without its assumption nature is “a raw chaotic aggregate” (AA 20, 209), not a system, and both an understanding of nature and ourselves is impossible. The paper proposes that reflecting (not determining) judgment (i.e., a special, internal, motivating feeling) governs, but does not ground, theoretical and practical reason to make both the natural sciences and morality (as “religion” at the core of all historical religions) possible.

Introduction

There are three dramatically different ways to approach Kant:

- 1) “Blindly Benevolently:” He provides us with all the answers that we will ever require.
- 2) “Blindly Malevolently:” He’s stuck in a Newtonian/Euclidean Universe, and, after all, moral principles are relative so that we shouldn’t waste our time.

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- 3) “Reflectively:” He offers insight into what is *necessary* in order for us to understand and act responsibly *for ourselves* (in light of the fact that no one can understand and/or act *for me*) in order for us as an individual and species to assume our appropriate place *in the order of things*.

This paper seeks to approach Kant “reflectively” out of the conviction that Kant is a rich resource for understanding in both the natural sciences and religion, not because he gives us the answers for the “quiz” of life but because he gives us strategies for understanding and living our lives. He is no exhaustive articulator of the truths of life but constitutes a call to creative living.

The “Call for Papers” for our conference, unfortunately, erroneously invokes Kant as a straw man for scientific ridicule. In Kant’s epoch the Philosophy or Arts Faculty was responsible for providing instruction in all of the subjects not covered by the Theological, Medical, and Legal Faculties. Kant not only taught physics, but he also published a Nebular thesis that galaxies are “huge, spiral-formed, collections of stars” six years before Lambert and fourteen years before Laplace, who receives the credit for the thesis. Although the discipline of biology did not yet exist, his writing on biological development that includes preformation (analogous to DNA), epigenesis, adaptation to the environment, and, at least in proto form, species variation in his theory of “seeds” capable of being turned on and off is remarkable given that it is presented more than sixty years before Darwin.³ We will see below that the frequently expressed assertion that Kant was trapped in a Newtonian universe is contradicted by his *Metaphysical Foundations of Natural Science*. Furthermore, he frequently stressed that the natural sciences are “open-ended” and that even our grasp of the laws of nature are subject to revision.⁴ Even the oft-repeated claim that he was “limited” to Euclidean Geometry is misleading.⁵

The quote from Kant as the lead-in of the “Call for Papers” is both incomplete and suggests that Kant rejected the notion of a natural scientific explanation of organic phenomena. A more careful reading allows one to see that the issue for Kant is not whether a scientific explanation is possible but whether such an explanation can occur without the presupposition of “‘reasoned’ intention” or “purposiveness”⁶ in nature – even as he emphatically rejects the Physico-teleological Argument for God as a proof for the existence of God.

This paper proposes that Kant’s project not only continues to be relevant for understanding in the natural sciences, but it also aids us in an age in which we have lost all sense of a moral compass with our current tendency to view morality solely as either finger-wagging, dogmatic heteronomy or reducing morality down to the mere successful negotiating through a relative, social world.

Technical Purposiveness

If our experience of the world consists only of a mere aggregate of appearances without any lawful order,⁷ then all understanding of physical phenomena is impossible. However, the laws that are necessary for us to understand

²See Volker Gerhardt, *Immanuel Kant. Vernunft und Leben* (Stuttgart: Reclam, 2007), 36.

³ See §80 and §81 of the third *Critique*.

⁴ See the first *Critique* B 508, 641, 684, 708, 720, 786, and 862, *Prolegomena to any Future Metaphysics* (AA IV, 352-353). See as well, Otfried Höffe, *Kants Kritik der reinen Vernunft. Die Grundlegung der modernen Philosophie*: 205 and 208 (on Newton), 113 (on open-endedness of natural sciences).

⁵ See Höffe, *Ibid.*, 103-106, 110-111, 113, 288 (on Non-Euclidean Geometry).

⁶ Purposiveness is a translation of “*Zweckmäßigkeit*,” which Kant defines as *forma finalis* (final form; third *Critique* AA V, 220) or as a concept that serves as the cause of a real object (*ibid.*, 369f). See Gerhardt, *Immanuel Kant. Vernunft und Leben*, 311.

⁷ “Lawful order” is here taken to be a metaphor, not the suggestion that the only way of grasping order in experience is by mathematical equations. It surely includes the latter, but it also includes statistics and algorithms. However, whereas statistics and algorithms are obviously capable of and subject to revision, as is noted in footnote 4, Kant also takes our grasp of “natural laws” to be capable of and subject to revision.

physical phenomena are not given with the appearances of perception. We must add the laws⁸ to the phenomena.⁹ To be sure, we do not create the laws,¹⁰ but each of us does have to create our own, individual understanding of them, and no less a scientist than Stephen Hawking has pointed out that events cannot generate the laws to which they must conform.¹¹

Furthermore, in light of the fact that laws are not given directly in perception, it is impossible for us to prove or disprove that our grasp of a law is correct. By definition, a law is true at all times and in all places, but we are incapable of determining either criterion. Kant anticipated the “relativity” of space and time in quantum physics by pointing out not only that we never experience laws directly but also that we never experience space and time directly, when he acknowledges that “[...] so far as hitherto observed, no space has been found which has more than three dimension” (A 24), and by his insistence that empirical phenomena are a set of relationalities (B 67), which leaves open the possibility that we might be able to think a different notion of space at some point in the future. We experience objects in space and events occur in time, but our understanding of space and time, itself, is our construction.

Whereas space has three dimension and different spaces are not sequential but simultaneous (e.g., Paris and New York), time is experienced as having one dimension and different moments in time are not simultaneous but sequential (see B 47-48). Pure space and time provide an *a priori* grid for us to perceive phenomena in space and grasp time as asymmetrical although there can be neither a proof/disproof of three-dimensional space nor a proof/disproof that time is asymmetrical. Space and time are pure perceptions (*reine Anschauung*) because they necessarily accompany all sense perception, but they are not given with perception directly. Nonetheless, as with the case of laws, we would be unable to experience physical phenomena as we do were we not to assume that they conform not only to laws but also occur in space and time. In other words, Kant anticipated, skeptically to be sure but not dismissively, the possibility of string theory¹² even if he could not have imagined it in his age. Laws, space, and time are necessary conditions for experiencing and understanding physical phenomena, but, given that they are not directly present in perception, we are capable of imagining alternative, parallel universes – to be sure, if we are capable of understanding those parallel universes, they, too, must be lawful and conform to a pure perception of space and time.

Crucial for our being able to understand the physical world is not only that it must conform to physical laws but also that the system of laws that govern nature constitute a coherent totality.¹³ Otherwise, we would not be dealing with a system of laws but, at best but no less devastating, only with capricious islands of understanding, which would be in contradiction to one another, or, at worse, chaos. The necessary assumption of a coherent system

⁸ In addition to our grasp of the law(s) involved, we must also add a “scheme” of concepts (not just an individual concept) to the phenomena that, as well, are not given with the phenomena as Kant described with his “Table of Categories” in the first *Critique* (B 106). It is clear that we only are able to make a judgment “[...] when our judgment, first, refers to something that is either one, many, or all; when thereby, second, something is affirmed, denied or its limits left open; when this something, third, has a relationship to other “things” whether it sustains them, causes them, or stands in reciprocity to them; and finally, fourth, the “something” that is expressed is either possible, actual, and/or necessary. Thereby, we have all together the twelve forms of judgment that conform to [...] [Kant’s] twelve categories.” (McGaughey translation from Volker Gerhardt, *Immanuel Kant. Vernunft und Leben* [Stuttgart: Reclam, 2007], 172)

⁹ Critical (or Transcendental) Idealism is concerned with identifying all of these elements that are not given directly in our perception of phenomena/appearances **but are necessary for us to be able to experience the phenomena/appearances as we do**. These elements must be added to the phenomena as a synthesis of *compositio* in contrast to a synthesis of *nexus*. Synthesis as *compositio* is an “enhancing” judgment (*Erweiterungsurteil*) whereas synthesis as *nexus* is an “elucidating” judgment (*Erläuterungsurteil*). See first *Critique* (B 201*) and *Metaphysik Mrongovius* in *Kant’s Vorlesungen von der Akademie der Wissenschaften zu Göttingen*, vol. VI, Ergänzungen II (Berlin: Walter de Gruyter & Co., 1983), VI, Ergänzungen II:AA XXIX, 968.

¹⁰ See the first *Critique* (A 127): “Certainly, empirical laws, as such, can never derive their origin from pure understanding.”

¹¹ See Stephen Hawking, *A Brief History of Time* (Toronto: Bantam Books, 1988), 122, 174.

¹² See first *Critique* (B 283-284).

¹³ Kant writes: “[...] it may certainly be thought that, in spite of all the uniformity of things in nature in accordance with the universal laws, without which the form of an experiential cognition in general would not obtain at all, the specific diversity of the empirical laws of nature together with their effects could nevertheless be so great that it would be impossible for our understanding to discover in them an order that we can grasp ...” (AA V, 185)

of laws that govern physical events constitutes the bare minimum of a sense of “technical, reasoned purposiveness” **to our understanding but not for an ultimate explanation of nature.**¹⁴

Teleological Purposiveness

Furthermore, Kant boldly points out that there is more to intentional, technical purposiveness in nature than merely the assumption of a coherent totality of physical laws that govern physical events. The indication of what he calls teleological purposiveness involves two aspects of our experience in the world: 1) beauty in nature and 2) the organic order of nature.

To make his point, Kant distinguishes between two kinds of judgment that “subsume a set of phenomena under a universal concept:¹⁵” 1) “determining” judgment by means of a concept that we already possess and 2) “reflecting” judgment in which we have no concept but go searching for one in the confidence that it exists or that the phenomena, absent a concept, are embedded in a “higher,” reasoned purpose of nature.

Remaining true to the strategy of turning to subjective conditions that are necessary for the experience of objective phenomena (what Kant calls the “Copernican Turn¹⁶” or the strategy of “*critique*”), in the third *Critique* he undertakes his discussion of the role of feelings **at the core but not as the ground of reason** with our experience of “free” beauty in nature¹⁷ to illuminate a profound human capacity that appears to be found (in degree) in no other species. A key point of Kant’s aesthetics is to demonstrate that humanity has its extraordinary capacities only because we are in a world. Kant is by no means talking about transcendental consciousness as some kind of “brain in a vat.” Rather, we belong in and to the “order of things.”

The gazelles at Victoria Falls in Zambia don’t call one another together in astonishment over the beauty of the natural spectacle of the falls. Yet, in contradiction to the very definition of a judgment as the subsumption of a set of phenomena under a universal concept,¹⁸ we are capable of formulating a kind of judgment for which there is no concept.¹⁹ There is no concept “beauty” in common to a water falls, an orchid, a sunrise, or the vista of Three Fingered Jack up over the pine tree covered ridge above Lower Burley Lake in Oregon.

As in any judgment of physical phenomena according to technical purposiveness, generally, so too with a judgment of “free” beauty in nature, the attraction or pleasure (*Lust*) that we experience in such experiences has “[...] nothing to do with a feeling of pleasure in things but rather with the understanding in judging them” (AA V, 192). However, Kant now distinguishes between two kinds of reasoned purposiveness: “aesthetic” purposiveness of “free” beauty and “teleological” purposiveness of organic phenomena

Aesthetic purposiveness is the highest expression of the capacity of reflecting judgment²⁰ because the judgment of “free” beauty in nature occurs without a concept and it is impossible to acquire a concept of beauty. Nonetheless, the judgment is not blind (B 75) because it is an aesthetic judgment of purposiveness that is **grounded in the pure attraction to lawful order in experience**. Nature makes it possible for us to experience its beauty. Just as we are capable of awe before the unprovable, coherent totality of physical lawfulness that furthers our understanding of nature, so too, in the experience of “free” beauty in nature, we experience as a creature of nature a

¹⁴ Kant refers to this purposiveness as a “[...] subjective purposiveness of nature ... in accordance with empirical laws [that] is not a concept of the object at all, but only a principle of ... judgment for providing concepts in the face of [...] the] excessive multiplicity of nature [...]” (in the third *Critique* AA V, 193)

¹⁵ See “IV. On Judgment as an *a priori* Legislative [*Gesetzgebende*] Capacity” in the third *Critique* (AA V, 179 f).

¹⁶ Kant’s “Copernican Turn” is portrayed the first *Critique* (B 59-73). It presupposes the discussion of space and time as *a priori* synthetic judgments (B 37-58).

¹⁷ See the third *Critique* AA V, 229-230).

¹⁸ See *Ibid.*, AA 5, 179.

¹⁹ See *Ibid.*, AA 5, 192-193.

²⁰ For want of space, I skip the even more astonishing discussion of the mathematical and dynamical sublime that follows Kant’s analysis of “free” beauty in the third *Critique*. In the experience of the sublime, Kant points out, what is at stake is not a judgment about the “object” but a disclosure by means of the mathematical sublime of the incredible, illimitable totality of consciousness itself and the sovereignty of consciousness over even nature’s physical power that comes with our autonomous freedom, the ability to initiate a sequence of events that nature cannot accomplish on its own. This power of the dynamical sublime, Kant pointed out already in 1775, makes it possible for us to destroy nature on this planet. See *Vorlesung zur Moralphilosophie*, ed. by Werner Stark (Berlin: de Gruyter, 2004), 177.

cognitive capacity that takes us above mere understanding “as if” it was itself a goal of nature. Beauty demonstrates “[...] that humanity belongs in the world [...]”²¹ – exactly opposite to Augustine’s view in *City of God*.

Our conference Call to Papers’ criticism of Kant thus fails to understand the context of the reference to “a Newton of organic phenomena.”²² The context is Kant’s discussion of teleological, reasoned purposiveness in nature, “above” technical purposiveness. In the attempt to understand organic phenomena, we are driven by an astonishment and awe not only over our ability to have confidence in a totality of lawful order in physical phenomena, generally, or over our ability to experience “free” beauty as indicative of our purposive place in nature (not to mention astonishment and awe over the mathematical and dynamical sublime); but also in our ability to use reflecting judgment as an “hypothetical as if,” to understand organic systems as products of reasoned purposiveness..

In the *Metaphysical Foundations of Natural Science* (1786; five years after the first edition and a year before the publishing of the second edition of the first *Critique*), Kant defines “life” in contrast to “mere matter:” His definition is preceded by proposing three laws of mechanics that are not to be identified with Newton’s three laws of motion. Newton’s laws are based entirely on observation, Kant claims, because “it never occurred to Newton” to seek the “*a priori* proof” for his mechanical laws (Weischedel, V: 116). Here we can see what Volker Gerhardt means by saying that Newton provides “the mathematical half” for explaining nature (by no means exhaustively) whereas Kant provides the greater “philosophical half.”²³ Kant’s “three laws of general mechanics” are the conditions of possibility for Newton’s observations.²⁴ Kant’s laws are neither an attempt to provide a proof nor are they a blind defense of, Newton’s laws. Kant is pointing out what is *a priori* necessary if these laws are to function as they do:

²¹ Kant’s *Reflections* 1820a, AA XVI, 127. See Recki, *Ästhetik der Sitten*, 135, 147, and, elsewhere, especially 130f. Kant speaks of humanity as the “ultimate end” of nature, not because he attributes to us unbridled sovereignty over nature but because we are the sole being who possesses reason to the degree that we do and, hence, are capable of being a moral species that takes responsibility for our autonomous freedom.

²² Kant published two works in 1784, *Idea for a Universal History with a Cosmopolitan Aim*, which is concerned with the goal of his political philosophy, and *An Answer to the Question: What is Enlightenment?*, whose core thesis is *sapere aude* (think for oneself). Neither of which mentions Newton. Already in 1755 in *Universal Natural History and Theory of the Heavens, or Essay on the Constitution and Mechanical Origin of the Entire Universe, treated in accordance with Newtonian Principles*, Kant is concerned with the issue whether or not “dynamic mechanical laws” alone are sufficient for accounting for “life.” He first states: „Gebet mir Materie, ich will eine Welt daraus bauen“ (AA 1,230) to emphasize the crucial role of laws of movement that are capable of turning “chaos” into “order,” but then asks „Gebet mir Materie, ich will euch zeigen, wie eine Raupe erzeugt werden könne“ (AA, 1,230) to suggest that mechanical laws of motion alone are insufficient to account for “organized” life systems. In *Metaphysik Mrongovius* of 1783, we read: “[...] mechanisch etwas erklären, heißt etwas nach den Gesetzen der Bewegung erklären, dynamisch, aus den Kräften der Körper. Bei jeder Erklärung kommt man niemals zu Ende. Die rechte Erklärungs Art ist die physico dynamische, die beide in sich schließt [...] Newton erklärte diese Erscheinung dynamisch, so daß Gott in die Substanz Kraft gelegt hatte, die Körper an sich zu ziehen.“ (AA XXIX, 935-936)

²³ Volker Gerhardt, *Immanuel Kant. Vernunft und Leben*, 39, see as well, Gerhard’s discussion of how Kant goes beyond Newton, 303f.

²⁴ One should by no means rush to the conclusion that Kant is blindly defending Newton’s project as absolute. As was said above, Kant explicitly embraced the notion that our understanding of nature is „open-ended“ and that even our grasp of the laws of nature are subject to revision. See footnote 4 above. Kant’s “Laws of General Mechanics” are only providing an account of the physical conditions of possibility for Newton’s “Laws.” Kant is doing with Newton’s work what, apparently, he did with Moses Mendelssohn’s description of the three capacities of reason in Part I, Section VII of his *Morgenstunden* of 1785. Mendelssohn spoke of the capacity of knowledge (*Erkenntnisvermögen*) as material knowledge of true/false judgments; 2) the capacity of endorsement (*Billigungsvermögen*) as formal knowledge of attraction/repulsion (*Lust/Unlust*); and 3) the capacity for desire (*Begehrungsvermögen*). It just might be that Mendelssohn’s list of capacities is what led Kant to write the two *Critiques* that complete his trilogy of *Critiques*. The second *Critique* is Kant’s presentation of the conditions of possibility for “desire” as *autonomous freedom* whereas the third *Critique* is Kant’s presentation of the conditions of possibility for the “capacity of endorsement” as *aesthetic judgment* driven by *reflecting*, not *determining judgment*.

Newton's Laws of Motion

The three basic laws describing the motion of material bodies under the action of forces applied to them.

First law: If no forces act on a material point (or if the forces applied to it are in equilibrium), then relative to an inertial reference system the material point is in a state of rest or uniform rectilinear motion.

Second law: If a force F acts on a material point, then relative to an inertial reference system the point undergoes an acceleration a such that its product with the mass m of the point is equal to F :

$$ma=F.$$

Third law: Two material points act on each other with forces that are equal in absolute value but opposite in direction along the line joining the two points.

From (09. June 2017):

https://www.encyclopediaofmath.org/index.php/Newton_laws_of_mechanics

Kant's Laws of General Mechanics

The three basic laws that are the condition of possibility for the motion of material bodies under the action of forces applied to them.

First law of mechanics (the law of persistence/independence [*Selbstständigkeit, lex subsistentiae*]): Through all changes of corporeal Nature, the over-all amount of matter remains the same—neither increased nor decreased.

Second law of mechanics (the law of inertia/passivity [*Trägheit, lex inertiae*]): Every change in matter has an external cause. (Every motionless body remains at rest, and every moving body continues to move in the same direction at the same speed, unless an external cause compels it to change.)

Third mechanical law (the law of reaction/interaction [*Gegenwirkung der Materien, lex antagonism*]): In all communication of motion, action and reaction are always equal to one another.

From (09. June 2017):

<http://www.earlymoderntexts.com/assets/pdfs/kant1786.pdf>

In contrast to organic phenomena, mere material change is the consequence of “relationships” in space as a result of an interaction on the part of causes that are “external” to the matter itself “because matter has no absolute internal determination or determining ground(s)” (AA IV, 543). Kant prepares his conclusion: “Matter fills a space not by its mere existence but by a special, inducing force” (AA IV, 497). “The movement of a thing is the change in its external relationships to a given space” (AA IV, 482). However, Kant proposes that, although incapable of proof/disproof, matter is mathematically, “infinitely” divisible (AA IV, 504). In other words, “matter” according to Kant is a system of external relationships that consists of a mathematically infinite divisibility, with all change in matter grounded in a cause external [to the matter affected by the cause]” (AA IV, 543) Kant’s second “Law of Mechanics” is “All Change in Matter has an External Cause” (AA IV, 543) He prefers this formulation of the law, he says, over that of his third “Law of Interaction (of forces)” because the third, Law of Interaction only says “what matter does;” it does not express “what matter doesn’t do” as is articulated by his more appropriate second “Law of Inertia (lex inertiae)” – “every change in matter has an external cause.” He then proceeds with his definition of the organic:

The inertia of matter consists of and means nothing other than that matter in itself is lifeless. Life is that capacity of a finite substance to act by determining on its own in itself (including the capacity to change itself) on the basis of an internal principle whether to move itself or to remain at rest with respect to changing its status. ***We know of no other internal principle that is capable of changing matter's status than desire on the part of a substance, and we know of no other inner activity than thought along with what it is dependent upon, the feeling of attraction and repulsion and desire or will.*** However, these determining grounds and actions have nothing to do with the representations of external perceptions and do not belong to the determination of matter as matter. Therefore, all matter is as such lifeless. This is what the law of inertia says, nothing more. ***When we search for the cause of some change of living matter, we have to immediately search for a substance elsewhere, different from matter, although connected [with matter] because, when it comes to the knowledge of nature, it is necessary in advance to know the laws of matter as such***

and to clarify them without interference of any other causes before one connects them together in order to clearly distinguish between them. The possibility of an actual natural science rests entirely and completely on the law of inertia (along with the duration of substance). The opposite of the first [the law of inertia], and thereby the death of all philosophy of nature, would be hylozoism [living matter]. (AA IV, 544)

Volker Gerhardt summarizes Kant's later account of life in the third *Critique* (V: 371 f) as a "self-organizing essence" (V: 374) that fulfills the following criteria:

- 1) Capable of Reproduction
- 2) An Individual whose growth and development is dependent upon itself
- 3) Capable of Regeneration that is concerned with the development or repair/improvement of the "individual"²⁵

Although it may sound bizarre to the modern biologist to invoke language of purposiveness and feelings of attraction and repulsion for understanding organic phenomena, we should remember that Kant is consciously employing metaphors because causal explanations can only occur in response to effects, and cannot be accessed in perception as causes or substances themselves. All causal explanations involve an "as if." Furthermore, we must remember that his discussion of organic purposiveness and desire is **not a statement about organic phenomena themselves** but only a reference to human understanding of them. Our understanding of the physical phenomena themselves is limited to what we can explain by physical laws, and Kant would applaud the advances in all of the sciences that have occurred throughout the last two centuries. He explicitly acknowledged that such advances were going to occur given the limits to human reason.

The various judgments that Kant identifies as reasoned (*zweckmäßig*) purposiveness in inorganic and organic nature, as well as in aesthetic judgment with respect to beauty and the sublime, **are not anthropomorphic projections onto nature. They are subjective, heuristic strategies to further our commitment to physical lawfulness in our understanding of nature.** Nonetheless, in order to understand the life cycle of the liver fluke, for example, we have to assume an "organic system" that is more than the mere sum of its parts – today we would say is more than "bottom up." The life cycle of the liver fluke involves two external hosts beyond the primary host, and there is no connection between them other than an aggregation among the elements necessary for the life cycle to be complete (cow/sheep, defecation of larvae, a snail species that eats the larvae and generates a slime that is attractive to an ant species in which the liver fluke's attack on the ant's nervous system causes the ant to climb to the highest point in its environment (e.g., grass), where it is consumed by the cow/sheep, and so on again). The "organic system" is more than the sum of its parts, and our understanding of it is best served when we approach it as a "designed" system.

This is the context in which Kant writes: "[...] [I]t would be absurd [...] to hope that there may [...] arise a Newton who could make comprehensible even the generation of a blade of grass according to natural laws that no **intention** has ordered [...]" (AA V, 400; emphasis added)

Practical Purposiveness

In addition to the domain of nature with its physical laws,²⁶ Kant identifies a second domain of autonomous freedom with a set of laws of its own, complementary to nature. These laws must be complementary to physical laws²⁷

²⁵ See Gerhardt, *Immanuel Kant. Vernunft und Leben* (Stuttgart: Reclam, 2007), 312-314.

²⁶ In section "II. On the Domain of Philosophy in General" of the published "Introduction" of the third *Critique*, Kant distinguishes experience among "fields" (where we experience no lawfulness, for example, in nocturnal dreams), "territories" (where we anticipate lawfulness but have not yet identified it), and "domains" (where lawfulness is necessary for us to experience and understand as we do). He proceeds to propose that we are aware of only two domains: nature and freedom (AA V, 174/175). On the important lesson with respect to nocturnal dreams, see B 520/521, *Prolegomena to any future metaphysics* (AA IV, 290-291), and *Metaphysik Mrongovius* (AA XXIX, 885, 927).

²⁷ The "Third Antinomy" of the "Transcendental Dialectic" in the first *Critique* is devoted to the conflict between reductionist physical causality and freedom (B 472f). Kant's resolution is as valid today as ever: In light of the fact

because we experience them only under the conditions of the physical world.²⁸ Freedom here is not to be confused with “liberty” (self/determination over against social institutions) or the capriciousness of “free will” (*Willkür* or choice only on the basis of physical or other external options²⁹). Rather, freedom means the ability to intentionally initiate a sequence of events that nature cannot achieve on its own (first *Critique* [B 477-478, 560 f, 581-582]).³⁰ Hence, freedom is both a **negative**, “**freedom from**” nature (because it is **autonomous from nature** although never experienced independent of nature) and a **positive**, “**freedom for**” (because it consists of **creative processes complementary to nature but unachievable by nature itself**).

No more than nature is a mere aggregate of appearances, so too our freedom is not blind spontaneity. Our actions are not only goal oriented, but they also are pursued by means of a coherent, efficient causality. Causal systems are rule-governed systems.³¹ As a consequence, our ability intentionally to initiate a sequence of events that nature cannot accomplish on its own is the condition that makes it possible for us to hold ourselves responsible³² for what we do.³³ We only need the possibility of a single moral principle³⁴ in order to confirm the possibility of our freedom because freedom is the condition of possibility for moral maxims.³⁵

These two domains of nature and freedom are frequently taken even by some Kantians to represent an unbridgeable dualism in Kant’s project, but this is to succumb to subreption.³⁶ Kant, to be sure, does speak of a gap (*Kluft*) between freedom and nature, but a more careful reading (e.g., see Birgit Recki’s *Ästhetik der Sitten. Die Affinität von ästhetischem Gefühl und praktischer Vernunft bei Kant*) demonstrates that the gap is not an ontological

that causes are never experienced directly but only indirectly through their effects, there can never be a proof or disproof of a causal account that is coherent with the phenomena and with a unified system of causality. As in a juridical process, *in dubio pro reo* (“[when] in doubt, for the accused”), Kant opts for freedom because without our ability to intentionally initiate a sequence of events that nature cannot initiate on its own, we cannot be the individual or species that we take ourselves to be (B 468).

²⁸ Kant insists that all explanation/understanding commence with an as exhaustive account of the phenomena according to the conditions of physical laws before one turns to alternative explanations/understanding such as teleological freedom. See third *Critique* (AA V, 383-4, 387-8, and 418).

²⁹ Immanuel Kant, *Einleitung in die Kritik der Urteilskraft. 1. Fassung (Introduction to the Critique of Judgment. First Version)* (AA XX, 197-198). See as well, Gerhardt, *Immanuel Kant. Vernunft und Leben*, 228.

³⁰ See “Section III” of Kant’s *Groundwork of the Metaphysics of Morals* (AA IV, 446/463) as well as McGaughey, “Freedom on This and the Other Side of Kant,” forthcoming (Berlin: de Gruyter, 2017) in the Proceedings of the International Kant Society Meeting at the University of Vienna, Austria (September 21-25, 2015). For an unabridged version of the paper, see <https://criticalidealism.org> under “Categories” - “Reflection Posts.”

³¹ Otherwise, we would only have the lawlessness of nocturnal dreaming. See first *Critique*, “II. On the Antithesis” in “Observation of the Third Antinomy” (B 479) and footnote 14 above.

³² Note: The key to moral responsibility here is humanity’s creative freedom. Contrary to Nietzsche’s charge that Kant is a promoter of *bourgeois conformity* (See the Section 5 in the „Preface“ to *Beyond Good and Evil* and Sections 10 and 11 of *The Antichrist*), Kant is a promoter of *life- and world-transforming creativity*.

³³ It is not a speciesism claim that we appear to be the only species that possesses this freedom and moral responsibility.

³⁴ In the second *Critique* Kant gives the example of a person bribed and even threatened by his prince with death if the individual does not bear false witness against a defendant whom he does not know (AA V, 155-156). Regardless how the individual decides, it is clear to all that bearing false witness is morally wrong.

³⁵ Kant writes in the second *Critique*: “To avoid having anyone imagine that there is an inconsistency when I say that freedom is the condition of the moral law and later assert that the moral law is the only condition under which freedom can be known [but not proved!, see first *Critique* (B 570-586, especially the discussion of the absence of proof B 586; it’s not as if Kant changed his mind in the second *Critique* (AA V, 93-94, 133-134, 142)], I will only remind the reader that, though freedom is certainly the *ratio essendi* of the moral law, the latter is *the ratio cognoscendi* of freedom. For had not the moral law already been distinctly thought in our reason, we would never have been justified in assuming anything like freedom, even though it is not self-contradictory. But if there were no freedom, the moral law would never have been encountered in us.” (AA V, 4*)

³⁶ Kant defines “subreption” as the “[...] substitution of a respect for the object instead of for the idea of humanity in our subject), which [...] makes clear [*anschaulich*] the superiority of the rational vocation of our cognitive faculty over the greatest capacity for sense perception” (the third *Critique*, AA 5, 257; see also the first *Critique* [B 53]). However, note what Kant says in the *Prolegomena* (AA IV, 293): “My idealism concerns not the existence of things (the doubting of which, however, constitutes idealism in the ordinary sense) because it never occurred to me to doubt the existence of things, only the mere perceptible representation of things [...]” (McGaughey translation)

subject-object dualism.³⁷ Rather it is the mere appearance of a division within the totality that is the “intelligible” (or subjective) realm of experience between a system of physical laws and a system of moral laws that are irreducible to one another.

Note carefully Kant’s formulation – his concern is with a **conceptual contradiction that threatens the unity of the intelligible realm, not an ontological gap between mind and matter**:

[...] although there is an unmistakable **gap between the domain of the concept of nature**, as the sensible, and **the domain of the concept of freedom**, as the supersensible, so that from the former to the latter [...] no transition is possible, just **as if** there were so many different worlds, the first of which can have no influence on the second: yet the latter should have an influence on the former, namely the concept of freedom should make the end that is imposed by its laws reality; and **nature must [...] so be able to be conceived** in such a way that the lawfulness of its form is at least in agreement with the possibility of the ends that are to be realized in it in accordance with the laws of freedom [**that is, the laws of morality**]. – Thus there must still be a ground of the unity of the supersensible that grounds nature with that which the concept of freedom contains practically, the concept of which, **even if it does not suffice for cognition of it either theoretically or practically, and has no proper domain of its own** [i.e., it is a “ground” in reflecting judgment, not determining judgment], nevertheless makes **possible the transition from the manner of thinking in accordance with the principles of the one to that in accordance with the principles of the other**. (The third *Critique* [AA V, 175-176]; emphasis added, McGaughey translation)

A brief word on moral laws: They are not to be confused for heteronomous civic laws and social conventions.³⁸ The latter presuppose the moral law if there is to be just, responsible behavior. Furthermore, moral responsibility does not, nor can it, involve perfection given our limits as a finite species. What moral responsibility asks is that we make our best effort to live up to the highest of which we are capable.

Conclusion

Kant anchors reasoned purposiveness in the capacity of reflecting judgment that, in the absence of concepts, is able to motivate humanity’s respect for lawful understanding and creative efforts along with the *desire* to do so in a morally responsible fashion. **Respect (*Achtung*) for both the physical law that governs nature and the moral law that governs freedom is what unites otherwise two independent, subjective lawful systems into an intelligible totality.**

As far as we know, we are the only species that possesses this possibility so that our feeling of respect, while it doesn’t ground reason, is, nonetheless, a crucial indicator of what “finding our place in the world” involves. Just what are the indicators of reasoned (*zweckmäßig*) purposiveness in experience?

- 1) A system of physical laws that constitute a universal, coherent totality as a necessary assumption for us to understand physical phenomena.

³⁷ See the third Critique AA 5, 195. Not only does Kant explicitly reject the notion of a “brain in a vat”, but also his formulation is a rejection of any ontological subject-object split (see AA V, 467-468): “[...] to have the opinion that there are pure, bodiless, thinking spirits in the material universe [...] is fiction, not a matter of opinion at all, but a mere idea left over if one takes everything material away from a thinking being but still leaves it the power of thought. But whether in that case thought remains (something we are acquainted with only in human beings, i.e., only in connection with a body), we cannot determine. Such a thing is a sophisticated entity [*ein vernünftiges Wesen*] (*ens rationis ratiocinantis*), not an entity of reason [*Vernunftwesen*] (*ens rationis ratiocinatae*) we cannot determine.”

³⁸ If moral principles are “social constructions” designed for successful negotiation of a social world, then, along with the nomadic and sedentary social orders of Exodus 20 and 34, every Mafia clan and Drug Cartel is moral. Furthermore, rather than oxytocin and a healthy amygdala determining morality by their facilitating “successful” social negotiation (see Patricia Churchland, *Braintrust: What Neuroscience Tells Us about Morality* [Princeton: Princeton University Press, 2011]), moral principles rise above social constructions and allow us to identify injustices in the “civic law.”

- 2) A system of moral laws that constitute a universal, coherent totality along with autonomous freedom as a necessary assumption for us to be the creative species that we are as well as for us to be capable of holding ourselves responsible for what we do.
- 3) A capacity of reflecting judgment that unites our experience of both the physical and the moral law as a necessary assumption of awe and respect for the laws of nature and freedom, which, in turn, illuminates the coherent totality of human experience that confirms our place *in the world*.

Our experience of and respect for reasoned purposiveness in experience is anchored in our capacity of autonomous freedom that makes it possible for us to initiate sequences of events that nature on its own can never accomplish. This capacity takes us high above the determining judgments of theoretical reason and its mathematics to illuminate human capacities that can never be duplicated any binary code that is the basis of all computer software.

Freedom and its correlative capacities are the key to human dignity, which sees beyond gender, race, national origin, class, and religious convictions to stress the creative possibilities and responsibilities of each and every individual. Kant wrote of respect for the moral law in a “Remark” in the *Metaphysics of Morals* (AA VI 467-468):

Given the title to what has just been discussed [“On Vices that Violate the Duty of Respect Owed to Other Persons”], it is clear that what has been said here does not so much extol virtues as, more importantly, condemns their contrary. However, this lies in the concept of respect [*Achtung*] that we are obliged to demonstrate toward others, which is only a negative duty. – I am not [!] obliged to venerate others, positively [!], by demonstrating my esteem for them (merely observable as people). The only respect to which I am obligated by nature is that which comes from the law as absolute (*reverere legem*) [i.e., the moral law because it alone is “absolute” and “unconditional”], and this, not to esteem others generally (*reverentia adversus hominem*) or to render some particular obligation to them, is the universal and unconditional duty owed to other persons, which can be expected from everyone as the original respect [*Achtung*] owed to all. “Other forms of respect, which need demonstration, that is, with respect to human nature [*Beschaffenheit der Menschen*] or the individual’s particular circumstances, namely, age, sex, genealogy [*Abstammung*], strengths or weaknesses, or even the individual’s status and prestige [*Standes und (...) Würde* here mean “status and prestige” because “*Würde*” in the sense of human dignity from Section II of the *Groundwork of the Metaphysics of Morals* is absolute, not capricious], which in part are due to capricious dispositions, have no place and require no classification in the presentation of the first principles of the doctrine of virtue because here one is concerned only with the pure principles of reason.³⁹ (McGaughey translation)

The conditions of possibility for both our understanding and our moral responsibility, Kant points out in the *Groundwork of the Metaphysics of Morals*, place us in a precarious position whose successful negotiation does not call for threats or finger-wagging but mutual support and encouragement to properly “fill one’s place” in the world to which we belong:

Here ... we see philosophy put in fact in a precarious position, which is to be firm even though there is nothing in heaven or on earth from which it depends, or on which it is based. Here philosophy is to manifest its purity as sustainer of its own laws, not as herald of laws that an implanted sense or who knows what tutelary nature whispers to it, all of which — though they may always be better than nothing at all — can still never yield basic principles that reason dictates and that must have their source entirely and completely a priori and, at the same time,

³⁹ This position is clearly present already nine years before the *Metaphysics of Morals* in the discussion of “respect” (*Achtung*) in Part I, Book 1, Chapter III (“The Incentives of Pure Practical Reason”) of the *Critique of Practical Reason*: “[...] this law [...] is in itself positive, being the form of an intellectual causality, i.e., the form of freedom, it is at the same time an object of respect, since, in conflict with its subjective antagonists (our inclinations), it weakens self-conceit. And as striking down, i.e., humiliating, self-conceit, it is an object of the greatest respect and thus the ground of a positive feeling which is not of empirical origin. This feeling, then, is one which can be known a priori. Respect for the moral law, therefore, is a feeling produced by an intellectual cause, and this feeling is the only one which we can know completely a priori and the necessity of which we can discern.”

must have their commanding authority from this: that they expect nothing from the inclination of human beings but everything from the supremacy of the law and the respect owed to it or, failing this, condemn the human being to contempt for himself and inner abhorrence.⁴⁰

⁴⁰ *Groundwork of the Metaphysics of Morals*, AA 04: 425-426