KANT ON RELIGION AND SCIENCE: INDEPENDENCE OR INTEGRATION?

by Douglas R. McGaughey

Abstract. Immanuel Kant's theoretical knowledge and practical knowledge tempt conclusion that natural science and religion are two independent discourses of a dualistic system. To be sure, knowledge is anchored in two kinds of causality. Theoretical knowledge is governed by physical causality. Practical knowledge is concerned with the human capacity to initiate a sequence of events that nature could not accomplish on its own—although in conformity with, not independent of, natural causality. Furthermore, the two realms presuppose a common totality of order not of humanity's creation. Without these presuppositions, we could not experience the world as we do, and it would never occur to us to engage in a scientific investigation of the natural world. Hence, we should first exhaust our attempts at explanation on the basis of physical causality before turning to the aid of teleology. The anomalous becomes an occasion to seek a physical law not yet known whereas the miraculous hinders search for a natural law. However, higher than knowledge of "what is" is our capacity to discern "what should be." This is an inclusive moral capacity that establishes what it means to be human and unites all moral agents in an invisible kingdom of ends that constitutes a moral culture in the physical world uniting religion and science.

Keywords: aesthetics; artificial intelligence; autonomy; Barbour's models of religion and science; beauty as a symbol of the moral; deontological ethics; heteronomy; intelligent design; Kant's monism; Kant's practical knowledge; Kant's theoretical knowledge; process theology; self-legislation; teleology; Whitehead's aesthetics.

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On the Dichotomy of Knowing and Doing

Perhaps we owe it to Friedrich Schleiermacher's *On Religion: Speeches to Its Cultured Despisers* ([1799] 1958) that we are inclined to employ a dialectical framework for portraying the relationship between epistemology, ethics, and piety (see, for example, Livingston 1997, 95). In the famous "Second Speech" ([1799] 1958, 26–118), Schleiermacher proposes that epistemology (knowing) and ethics (doing) are a thesis and antithesis with piety or the "feeling of absolute dependence" (*das schlechthinnige Abhängigkeitsgefühl* [see Schleiermacher [1831] 1963, 3–18]) as the synthesis that is always present yet never manifest in experience. Such a framework erroneously enables us to view Immanuel Kant's discussion of epistemology and ethics as a dichotomy (dualism) and, hence, two "independent" activities. Kant does distinguish between theoretical and practical knowledge; however, this is not a distinction between science and ethics as it is taken to be by Edwin A. Burtt, a source used by Ian Barbour (1997, 47) for his reading of Kant. Because Kant clearly defines "pure" religion as ethics ("practical reason"), one can easily confuse his "theoretical reason" with science and view Kant's understanding of religion and science as two independent activities reflected in a dichotomy (dualism) between practical and theoretical reason. This is precisely what Burtt does.[1] However, as Kant fully recognized, appearances are not always reality, and such a dichotomy of religion and science not only falsely categorizes Kant's understanding of science as "theoretical reason" independent of "practical reason" but also entirely misses the real organic complementarity (the unity) between religion and science in Kant's project.

Kant's Theoretical and Practical Reason

All knowledge, according to Kant, is related to our intuition of the empirical world.[2] However, that does not mean that everything we can know is reducible to what is available through the senses. Were we to limit knowledge to what is available in the senses, we would eliminate any knowledge of our own minds, because we cannot touch, taste, smell, hear, or see our minds. Nonetheless, there is nothing more certain that we can know than our immediate self-consciousness, for to deny that we are conscious proves that we are conscious.

When we take the step beyond the sensed world into the supersensible world of the mind, however, Kant warns us to be extremely careful lest we claim to know things it is impossible for us to know or forget the material conditions upon which any and all our knowing depends. Kant's distinction between theoretical and practical reason is meant to aid us in navigating the supersensible realm without losing our bearings.

Some elements of our experience must be acknowledged and recognized as crucial if we are to keep our reflections on track. The first indispensable

insight is that we can experience only the *appearances* of the empirical world, not the things of the world themselves. We cannot put the physical world directly and immediately into our minds, and we do not have access to the objects of the physical world from their own perspective and core. The objects are experienced only as abstractions, not as they are to themselves. Any understanding that we might have of the physical world is the consequence of our mental capacity to match sensations of the physical world (appearances) with their appropriate concepts (abstractions of the things themselves).[3] When we have a match, "a light bulb goes on" and we understand; when we do not have a match we think, "I haven't the faintest idea what that is."

We are able to say more, though, than that our making sense of the sensible world is dependent upon mental sensations and concepts that are themselves imperceptible. Consciousness (or the supersensible) must possess other capacities in order for us to experience the sensations of the empirical world as we do. These other capacities include an intuition of space and time and an ability to classify the content of sensations beyond merely being able to say what objects "are" (that is, beyond being able to match a set of sensations with a concept). Among these latter abilities, Kant develops what he calls the table of categories of the understanding (Kant [1787a] 1976, B 106) structured around two capacities having to do with mathematics (Quantity and Quality), concerned with intuition, and two having to do with the dynamical (Modality and Relation), concerned with the "*Dasein*" of appearances ([1787a] 1976, B 201).

For our purposes, we need only briefly examine Modality and Relation. Modality is concerned with our capacity to judge whether something is probable, actual, or necessary. We do not experience the "probable," the "actual," or the "necessary" as we do the sensations of a physical object. We must "add" these categories to our experience of physical objects based upon our judgment that the sensations provide us with sufficient data to classify the data as probable, actual, or necessary. In addition to judgments of Modality, Kant distinguishes among the mental capacities of Relation that allow us to distinguish between "substances" and "accidents," "cause" and "effects," and the interaction between things as "agents" and as "recipients." The capacity for us to determine relations is crucial to our making sense of our world, but we do not have direct and immediate access to substances, much less to causes and agents. We must add the categories of relation to our experience of physical objects. Only then are we able to distinguish between an "accident" (a particular, chance characteristic of an object) and the object itself, just as we are able to make a judgment about the cause of an event even though we have access only to effects.

We opened this section with Kant's claim that all knowledge is related to our intuition of the empirical world. The categories of Modality and Relation indicate that we possess supersensible categories the sole purpose

of which is to classify and nuance our judgments with respect to empirical phenomena. The categories of Modality and Relation "make sense" to us only because we experience sensations of the empirical world. To be sure, we can use these categories to formulate judgments about things not experienced in the senses (unicorns and deities, for example), but such usage of these categories requires sensuous experience to establish what their fulfillment in experience actually would mean before we would even consider applying them to unicorns and deities. To the degree that unicorns and deities do or do not fulfill the same degree of certainty that sense experience (empirical intuition) provides according to the categories of Modality and Relation, we proportion our consent or doubt as to the appropriateness of our judgments with respect to unicorns and deities. The touchstone in every case is a comparison to the degree of certainty attributed to such categories in the senses (empirical intuition), and Kant can say that it never occurred to him to doubt the external world ([1783] 1998, 157).

Although all knowledge is tied to our intuition of the empirical world, there are necessary capacities that we know we possess (consciousness itself and the categories of the understanding) that are inaccessible to the senses. Nonetheless, proper use of those capacities is always grounded in the standard established by their use in the senses.

There is another sense in which all knowledge is tied to our intuition of the empirical world. Kant speaks of "pure" intuition as our experience of space and time ([1787a] 1976, B 121–22). Although we may naively assume that space and time are aspects of the empirical world that we experience in the senses, we in fact never do. We experience objects "in" space and "in" time, but we do not experience either space or time itself. Hence, we are able to experience the physical world only because of our ability to distinguish mentally a grid of spaces (that can be simultaneous) and of times (that can never be simultaneous) ([1787a] 1976, B 47), even though pure space and time are assumptions of consciousness. No one has to be convinced that we experience space and time; it would never occur to us to doubt them. Nonetheless, space and time refer to a mental capacity as much, if not more, than they refer to physical space and time.

With respect to what we can know, however, our experience of sequence (time) is the crucial capacity of pure intuition. Whatever we can experience in consciousness—not only whatever we can experience in the senses—is subject to the conditions of temporal sequence.[4] Where there is no temporal sequence, there is no consciousness. There is, to be sure, temporal sequence in thoughts as well as in our experience of physical objects. Kant calls the temporal sequence as well as the notion of space in thought "pure" intuition ([1787a] 1976, B 121–22, B 146–47, B 160, B 206, B 746). Now we are in a position to grasp what he means by "theoretical knowledge," for theoretical knowledge is all that we can know in relationship to pure intuition. In other words, theoretical knowledge consists of

the pure intuition of time and space and the table of categories of the understanding (Quantity, Quality, Relation, and Modality) that we must "bring" to empirical intuition in order for us to experience (and know) the way we in fact experience. Theoretical knowledge is more certain than even empirical knowledge because theoretical knowledge consists of those elements that are necessary in order for us to experience the appearances of things in sensation. Although we have access not to substances and causality in themselves, but only to their appearances and effects, we must have this structure to consciousness in order to experience the appearances of substances as well as the effects of causality.

According to Kant, therefore, theoretical knowledge focuses on the transcendental conditions of consciousness that are necessary for us to have any knowledge whatsoever of the empirical world. For this reason, he can say that theoretical knowledge does not extend beyond experience ([1804a] 1998, 607). It consists of synthetic judgments a priori that are the conditions of possibility for empirical knowledge. In contrast to analytic judgments, in which all the information of the judgment is contained in the subject (for example, all bachelors are unmarried men; all bodies have extension), synthetic judgments require that we add something to the subject in order to understand the judgment (this bachelor will marry; this body is five feet wide) ([1787a] 1976, B 10).[5] To speak of synthetic judgments a priori, then, is to refer to the theoretical knowledge that we must bring to experience in order for us to know anything about the empirical world. Synthetic judgments a priori are concerned with the conditions of possibility for any and all conscious experience, empirical or nonempirical (Kant [1790c] 1998, 354).

On Science in Kant

Theoretical knowledge is not to be confused with natural science. What makes for science in general (*Wissenschaft*), not merely the natural sciences, according to Kant, is that it consists of a systematic body of knowledge governed by method in conformity with an objective order (in contrast to dreams, which are not governed by an objective order of laws [Kant (1787a) 1976, B 520–21, B 785]) rather than merely an aggregation of information (Kant [1800] 1998, 571).

Kant distinguishes between the "science" of logic and the "natural sciences." On the one hand, logic is concerned with the systematic coherence of concepts independent of empirical phenomena and is concerned with how we *should* think ([1800] 1998, 435, 437). Hence, logic is concerned with analytic judgments, which are independent of sense experience, and not synthetic judgments, which require sense experience, because even synthetic judgments a priori are concerned with the necessary conditions of possibility for experience.[6] On the other hand, the natural sciences are concerned with discovering the laws of nature that govern physical

phenomena. Kant distinguishes between "pure" science (theoretical knowledge) and "*empirische Naturerkenntnis*" (the natural sciences) ([1783] 1998, 173). Natural sciences are dependent upon the strategy of reflecting judgment and are concerned with what we *must* think, although this *must* is not that of "determining" but of "reflecting" judgment (Kant [1790a] 1974, 221–23). That is, we must seek out, "add," the laws of nature; they are not written on the phenomena.

The last third of the *Critique of the Power of Judgment* (Kant [1790b] 2001) is devoted to a discussion of teleology and scientific knowledge. In light of Hume's critical investigation of the limits to the teleological argument for God in the *Dialogues concerning Natural Religion*, one finds here a startling defense of the presupposition (but not a proof!) of design as an aid to our adequately understanding nature. Kant was fully aware of Hume's analysis and states that the *Critique of Practical Reason* is in fact a response to Hume (Kant [1787b] 1974, 62). He agrees with Hume (see Hume [1739] 1955, 46–51, 115–43, 146–60), however, that we do not experience causality directly but only indirectly through effects (Kant [1787a] 1976, B 124, A 112). Nonetheless, Kant insists that, although we do not have direct access to causes, we can think them ([1787b] 1974, 63). For this reason, Kant includes causality in the table of categories of the understanding under Relation ([1787a] 1976, B 106), which we must bring to our experience as part of our synthetic judgment a priori. Hume's error, according to Kant, is that he continued to think in terms of substances—that is, Hume took the key to knowledge to be access to the thing in itself (see Kant [1787b] 1974, 62; [1783] 1998, 181), which leads to the most strenuous form of skepticism[7] since we do not have access to substances, only to appearances. Kant viewed his project as a navigation not merely past Hume's Charybdis of skepticism but also past Locke's Scylla of "enthusiasm" (Kant [1787a] 1976, B 128) since Locke's "anthropological argument for God" (see Hirsch 1954, 162, 275) takes the *tabula rasa* to be the indication that the human comes from and returns to a spiritual dimension that leads us beyond the limits of the physical world because something cannot come from nothing; the spiritual *tabula rasa* cannot (although its content can) be derived from the physical world, according to Locke.

Kant proposes that natural science can adequately proceed only if it assumes (as a synthetic judgment a priori) that nature is the product of intelligent design. However, this is neither a proof of God nor a warrant to engage in flights of fancy (enthusiasm) that soar beyond the material order in search of the explanation of experience in a spiritual world separate from the material conditions of existence (Locke) or in a divine mind (physico-theological or teleological argument for God).[8] Because all supersensible (conscious) experience that we have or could ever have is dependent upon the material world (Hume [1776] 1982, 40; Kant [1790a]

1974, 341, see also 251, 282, 285, 297–98), any and all explanation of our experience must always exhaust material causal explanation (bottom-up causality) before turning to teleological causal explanations (top-down causality).[9] In fact, to take top-down causality literally would result in the destruction of both religion and science because it would eliminate human freedom and diminish our incentive to investigate nature for its laws (Kant [1790a] 1974, 245, 283–84). Furthermore, because any and all judgments concerning causality are part of the synthetic judgments a priori that the understanding must bring to experience because we do not have access to causes, the notion of God as the cause of intelligent design in nature is a "regulative" idea at most that serves no other purpose than the pursuit of the knowledge of nature (that is, science), and, as we shall see, to encourage our confidence that nature sustains our moral efforts (that is, religion).

We can investigate nature *as if* it were systematically ordered, or we cannot investigate nature at all (Kant [1790a] 1974, 239–40). However, our necessary presumption of systematic order confirms our limits and not our confidence with respect to the certain reality of the physical order or of God. Along with the transcendental ideas of the "unity of the soul," "cosmology," "God" (Kant [1787a] 1976, B 391), and freedom ([1787a] 1976, B 395*) is a heuristic "as if" ([1787a] 1976, B 699–700) of intelligent design that we require in order to make sense of all of our experience either theoretical or practical, logical or scientific. In no case, though, are these transcendental ideas of pure reason proofs for the existence of God or excuses for us to substitute or to privilege teleological explanation for mechanical or efficient causal explanations of events.[10] Theology plays a role in science, according to Kant, because theology (the teleology of "intelligent design") is a necessary assumption in order for us to seek out order in nature. The fact that we do not have access in the senses to things themselves requires our use of regulative (hypothetical) ideas for the making sense of experience. It is precisely this dependence upon regulative ideas as a consequence of intuition's dependence upon appearances that unites science and religion in a single "metaphysical system."

On Aesthetic Judgment and Morality

The "First Part" of Kant's *Critique of the Power of Judgment* is concerned with what he calls the aesthetic power of judgment. The power of judgment in general is the capacity to subsume a set of particular phenomena under a concept (Kant [1790a] 1974, 15). What distinguishes the judgment of beauty, then, from the power of judgment in general is that an aesthetic judgment makes a universal claim (unites disparate elements incapable of subsumption under one concept) of an "aesthetic should" without the aid of a concept: everyone *should* find this beautiful ([1790a] 1974, 79).

> . . . the judgment of taste (on the beautiful) . . . ascribes the satisfaction in an object *to everyone*, yet without grounding it on a concept . . . and . . . this claim to universal validity so essentially belongs to a judgment by which we declare something to be *beautiful* that without thinking this it would never occur to anyone to use this expression, rather everything that pleases without a concept would be counted as agreeable, regarding which everyone can be of his own mind, and no one expects assent to his judgment of taste of anyone else, although this is always the case in judgments of taste about beauty. I can call the first the *taste of the senses*, the second the *taste of reflection*, insofar as the first makes merely private judgments about an object, while the second makes supposedly generally valid (public) judgments, but both make aesthetic (not merely practical judgments) about an object. . . .
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> . . . [A] universality that does not rest on concepts of objects (even if only empirical ones) is not logical at all, but aesthetic. . . . (Kant [1790b] 2001, 99–100; emphases added)

Hence, in addition to the capacities of theoretical reason, among which are pure intuition and the categories of the understanding, and in addition to the capacity to formulate judgments on the basis of concepts, the aesthetic judgment involves a capacity that is "higher" than conceptuality, yet nonetheless held to be universal as if grounded in a concept.

One should have in mind here an experience of the beautiful in nature in which one was "blown away" by the staggering beauty of the scene. One does not have to be a hiker to be able to appreciate the beauty of a sunrise over a high mountain lake encircled by pine trees rising up to a ridge surrounding the lake with jagged snow-covered peaks of a mountain jutting high up over the ridge in the background. Kant distinguishes such an experience of "free" or "pure" beauty from experiences of "adherent" or "conceptual" beauty in which a concept plays a determining role in the formulation of the judgment of beauty ([1790a] 1974, 69–72). There can be disagreement about the beauty of art because the latter requires conceptualization of a "determinate object in accordance with concepts regarding its end" in order to formulate the aesthetic judgment. In the case of "free" or "pure" beauty, however, one does not have to focus on the objects of the scene in their details in order to formulate the aesthetic judgment. In our attempt to grasp the significance of the power of aesthetic judgment, it is appropriate that we keep in mind our experience of the "free" or "pure" beauty of nature as the standard of what it means to judge that something is beautiful.

Aesthetic judgment is the crucial indicator for Kant that humanity is capable of formulating judgments of "free" or "pure" beauty that (1) are taken to be universal but (2) are not dependent upon a concept and (3) are independent of personal interest. These aspects of aesthetic judgment are the key to Kant's claim that "the beautiful is the symbol of the morally good" ([1790a] 1974, 211–15). Whereas aesthetic judgment indicates a capacity to formulate a universal judgment that is "higher" than the understanding (that is, the capacity to make a judgment without a concept)

and independent of personal interest,[11] moral judgment is a capacity to judge on the basis of an autonomously self-legislated moral principle not derived from sense perception but situated within a system of moral principles that one takes to be universal.

The capacities for aesthetic and moral judgment are quite extraordinary. At the least, they eliminate any comparison between humanity and computers (artificial intelligence). A computer may be able to respond to its environment and engage in actions analogous to the productive imagination, but it is limited to determining and reflecting judgment. The capacities for aesthetic and moral judgment cannot be compared with the search for a concept appropriate to mere intuition. In the case of aesthetic judgment, there is no appropriate concept involved, and, in the case of moral judgment, the authority of the principles upon which one is acting is not derived from the intuition. As we shall see, they are freely legislated by the autonomous individual.

Religion for Kant

If theoretical knowledge is knowledge of the mental conditions necessary for us to experience the world of appearances as we do (knowledge of *what is*), practical knowledge is concerned with *what should be* (Kant [1797a] 1998, 322–23; [1786b] 1998, 274) and is the capacity to determine the will independent of the empirical ([1787b] 1974, 50). Kant shows us that practical reason constitutes a reverse order of concern to that of theoretical reason. Theoretical reason is concerned with the order that moves from the transcendental aesthetic (aesthetic is derived from aisthesis: perception [Kant (1800) 1998, 461]) to logic, whereas practical reason is concerned with the order of transcendental logic to the aesthetic (world of perception) ([1787b] 1974, 105). To be sure, in the case of both logic and ethics, we are concerned with "shoulds" (distinguished from the "aesthetic should"). Whereas logic has to do with the rules that should govern proper thought independent of sense perception, practical reason is concerned with the moral maxims that should govern behavior. We are able to govern our behavior because we possess a causal capacity (freedom) independent of all other causes but, nonetheless, compatible with other causes. This causal capacity is our ability to initiate a sequence of events that nature or any other causality could not accomplish on its own. As a consequence, we must not be satisfied with "what is," but we can ask what "should be." In short, we experience "shoulds" because we are free ([1785a] 1998, 63). The universal concern for morality, according to Kant, as the exercise of this extraordinary form of causality (freedom) makes practical reason (morality) the one religion of all humanity.[12]

However, morality, unlike logic, is concerned with sense experience to the extent that its condition of possibility depends upon the world of the senses. It is precisely this dependence upon the world of the senses that

establishes the indissoluble unitary relationship between religion and science for Kant. Just as the natural sciences are dependent upon the difference between appearances and things in themselves, since science must seek out the laws that govern nature on the basis of the presupposition that there is an intelligent order (laws) to nature, so the difference between appearances and things in themselves is the fundamental condition that confirms our moral capacity of freedom (Kant [1790a] 1974, 267–69). Without this difference there would be no question but that we are determined by physical causality.

We can be moral agents only if we are free. Freedom, however, is a kind of causality. Moral maxims can govern behavior only if humanity is capable of initiating a sequence of events incapable of initiation by nature on its own and only if such human freedom is compatible with the natural order (Kant [1785a] 1998, 74, 80). According to theoretical reason, judgments concerning causality are something we must bring to experience. We do not experience causes directly in experience; experience cannot prove causality. Nonetheless, freedom is as close as we can come to a "fact" of reason, because it is so necessary for us to be what we are in the order of things (Kant [1787b] 1974, 36–37, 66–67, 152; [1790a] 1974, 342, 349). Hence, Kant is as clear about freedom as he is about attributing intellectual design in nature to a divine author: We can neither prove nor disprove either freedom[13] or God ([1787a] 1976, B 669, B 770, B 781; [1787b] 1974, 159), but both are necessary requirements of reason.

> The postulates [of practical (moral) reason] are grounded in our duty to promote the highest good. Moral conviction has to presuppose the possibility of the highest good *as well as its physical or metaphysical conditions*. The honorable person can say: I want that God, freedom, and my duration be unlimited and refuse to surrender this faith of practical reason because it is grounded in a necessary requirement of reason and not an accidental requirement of nature. (Kant [1787b] 1974, 163–64; my translation)[14]

Just as the collapse of appearances into things-in-themselves would mean physical determinism, a material proof for the existence of God would mean the end of morality (see Kant [1787b] 1974, xxxix; [1790a] 1974, 364–65) because it would mean the end of our freedom. Just as direct and immediate access to things in themselves would mean that we could do nothing other than to act in accordance with things as they are, so would direct and immediate access to God mean that we could do nothing other than to act in accordance with God. That is, our morality would necessarily be driven by self-interest, not moral law. It is only because our freedom is confirmed by our ability to take things to be other than they are since we have access only to appearances, and it is only because our freedom is confirmed by the necessity of our presupposition of (rather than possession of a proof for) an intelligent design to nature and a highest good that we can investigate nature for its laws and that we can be autonomous beings responsible for our principles of action.

On Autonomy and Historical Revelation

Without the presupposition of freedom, there is no morality, and, for Kant, there would be no religion. Yet, human autonomy is not a declaration of human sovereignty over God. Rather, autonomy is the demand of our human condition, a condition that, despite our (perhaps) personal desire otherwise, we cannot escape. Both material reductionism and divine absolutism are denials of our limitations. It is in this context that one should understand Kant's declaration that he had to destroy knowledge in order to make room for faith ([1787a] 1976, B xxx). Humanity is limited by its condition situated in the middle between dimensions it cannot absolutely know: the world and God. Kant referred to the *Critique of Pure Reason* as a "middle path" that leads to moral principles ([1783] 1998, 236). The human condition is radically a condition of faith in which we can achieve whatever knowledge we have of the physical world only if we *assume* teleology and in which we are moral beings only if we *assume* freedom. Science and religion are profoundly integrated by faith (as *Fürwahrhalten*) and by the necessary interface of their two forms of causality, according to Kant.

At the core of Kant's religion of morality is the question Whence moral maxims? For Kant, we can speak of "origins" in two senses: temporal and in reason ([1793a] 1998, 689). Temporal origins are as incapable of explanation as causality. Moral maxims can come from various sources: religion, a teacher, our culture, or our parents ([1790a] 1974, 132–33). However, it is not the source that determines the authority of the moral maxims. They have authority only if they are self-legislated by the individual for her/himself.

Nature as a totality is itself a system of order governed by the objective laws of physical causality. There is an objective order to moral maxims as well. As a consequence, to understand nature and ourselves, we must assume both an objective natural law and an objective moral law. Together the theoretical order of nature and the practical order of morality constitute a unified kingdom of ends (Kant [1785a] 1998, 70n). In other words, autonomy (that is, the condition of limitation) requires that moral maxims are ones that I discover and to which I conform on the basis of my free choice. Nonetheless, this freely discovered and embraced moral principle is not a capricious construction. It constitutes a set of absolute principles that I hold to be universal and demanding of my moral allegiance (Kant [1800] 1998, 498).

We can clearly distinguish a moral maxim from a doctrinal or dogmatic maxim precisely by the question of the maxim's absolute or nonabsolute status, and the criterion is not the degree of personal conviction but rather the degree to which the maxim does not (a moral maxim) or does (a moral doctrine) depend upon interests rooted in sense experience.

When confronted with any form of moral doctrine based upon revelation, then, we are by definition concerned with uncertainty rather than

absolute certainty because of the nature of all historical knowledge. Historical knowledge is contingent because it is dependent upon appearances and not the necessary truths of theoretical reason (Kant [1800] 1998, 494). Therefore, a historical proof is an illusion and can never provide the basis for morality because historical proofs are always uncertain ([1793a] 1998, 862, 824) and history cannot provide proofs for inner truths ([1798b] 1998, 313).

Kant proposes that historical experience confirms our freedom because we do not have absolute knowledge of the world. The moral principles that govern our freedom cannot be derived from historical experience, because historical experience is always uncertain and morality is concerned with absolute maxims. The absolute maxims of morality can come only from the individual's freely embracing a maxim that s/he has legislated for her/himself. These maxims are categorical imperatives and not hypothetical assertions; hence, they are not culturally relative. In fact, these maxims constitute the dimension of virtue that holds all culturally relative "civic law" accountable.

The civic law is not in itself just; it must be judged in light of a higher standard of justice than the civic law itself. To the extent that societies view themselves as governed only by the civic law, they are immoral because they forget that, as necessary as civic law is for achieving peace and harmony in social relationships by reining in human freedom, the law itself is subordinate to morality (the virtues of moral maxims).

We legislate for ourselves on the basis of the moral kingdom of ends by the application of the categorical imperative and by application of the three maxims of the understanding that lead to wisdom. The categorical imperative has three modes: (1) as a universal law (a law of reason), (2) as an imperative for the treating of others and the self, and (3) as the idea that the will of every rational being is a free legislative will (the principle of the autonomy of the will) (Kant [1785a] 1998, 51, 61, 63, 69–70). The universal law form of the categorical imperative is "Act in such a manner that the maxim governing your will at any time could count simultaneously as a principle of a universal legislation" (Kant [1787b] 1974, 36 [see also 81]; [1785a] 1998, 51, 69–70, 140; [1797a] 1998, 331, 332).

Second, as an imperative for the treating of the others as well as the self, the categorical imperative is to always treat the self and other as an end, never as a means ([1785a] 1998, 59–60, 61, 66; [1797a] 1998, 421, 518, 521, 524, 542, 586; [1786a] 1998, 91). Lest we be tempted to apply this maxim only to the other, Kant insists that it is a maxim to be applied to the self as well. In short, we should take neither the self nor the other as a mere means to an end ([1797a] 1998, 526). In our interaction with others, we should treat them in light of their and not merely our goals, and we should not allow ourselves to be treated merely as the means for someone else's goals ([1797a] 1998, 518).

Third, the will of each individual is autonomous because it can initiate a sequence of events compatible with but not reducible to the laws governing natural events. The only moral maxims compatible with autonomy are those legislated by the individual for her/himself.

Finally, the three maxims of the understanding leading to moral wisdom are (1) to think for oneself (the unprejudiced or enlightened view); (2) to think from the perspective of the other (the broad-minded view); and (3) to think in accord with oneself (the consistent view) ([1790a] 1974, 145; [1800] 1998, 485; [1798a] 1998, 511, 549), which means to remain consistent with one's freedom ([1774/5] 2004, 180).

Categorical imperatives cannot be proved, only deduced from the exercising of our moral capacity ([1797a] 1998, 526; [1785a] 1998, 80). However, they constitute a system of absolute principles that demand our allegiance and application. Nonetheless, only the individual can know whether or not s/he has acted on the basis of a freely chosen moral imperative ([1797a] 1998, 528; [1793a] 1998, 788, 867). The joy that comes from morality is not the happiness of success because we are not in control over our situations and any determination of happiness would be tied to our merely private interests driven by the uncertainties of the sensuous.[15] The joy of morality is our awareness that we acted on the basis of a moral principle (hence, have made ourselves worthy of joy) even when it is contrary to our self-interest ([1787b] 1974, 103; [1798a] 1998, 560–61. Rather than speak of happiness as the goal of morality, Kant therefore speaks of our adherence to moral principles, the performance of our moral duty, as the condition of "worthiness" for any real happiness we might enjoy ([1787a] 1976, B 834, B 841; see, as well, [1787b] 1974, 149–50; [1797a] 1998, 623; [1793a] 1998, 696n; [1794] 1998, 131n and 133n). True joy is immediate in the individual's awareness that s/he has acted on the basis of a moral principle that s/he has freely chosen and not derived from doctrine or revelation, for only a morality based on freedom is adequate to the human capacity to be moral.[16]

Religion and Science: An Integration Model

In *Religion and Science: Historical and Contemporary Issues*, Ian Barbour proposes that there are four ways of viewing the relationship between religion and science: conflict, independence, dialogue, and integration (Barbour 1997, 77–105). Kant is a classic representative of the independence model for understanding how science and religion are related because "he held that there are limitations in the methods of science that leave room for religious beliefs" (Barbour 1997, 45).

> Kant . . . offered a new way of *reconciling science and religion* by a division of labor. Each has its own realm and function, and they do not compete with each other. This is a distinctive version of what I . . . call the *Independence* thesis. Religion does not have to defend itself by pointing to the ever-diminishing gaps in

the scientific account or to purported evidences of design. In the realm of natural phenomena, science is exhaustively competent. The function of religious beliefs is not to extend scientific explanations, but to clarify and support moral life by relating it to the character of ultimate reality. (1997, 47)[17]

Here we have a portrayal of Kant's understanding of science and religion as a contrast between (scientific) knowing and (moral) doing that echoes Schleiermacher's dialectical structure of knowing, doing, and piety. However, there is far more integration of science and religion in Kant's project than this characterization allows. In fact, one can view Kant's project precisely as a "systematic synthesis" (Barbour 1997, 98)—a unitary totality—that is the criterion for Barbour's category of integration. Rather than assign science and religion to distinct realms where each is independent of the other, Kant links religion and science as two inseparable causal systems that are compatible with and mutually supportive of one another; they constitute a unitary totality. Kant is not interested in "making room" for religion in the world by pointing to what appears to be ever-diminishing empirical gaps in understanding. He does not understand *religion* to be defined by theoretical knowledge, although it must be compatible with theoretical knowledge, and he does not limit *science* to theoretical knowledge because science is as dependent upon the transcendental ideas of reason (the unity of the soul, cosmology, God, and freedom) as is religion. As a consequence of our dependence upon such ideas of reason, he emphasizes that both science and religion are dependent upon an inexplicable order (both theoretical and practical) not of our creation that constitutes one unified totality. Nonetheless, this givenness of order does not provide us with information about a heteronomous deity. Rather, the givenness of the objective orders of theoretical and practical reason is merely the necessary presupposition for us to experience, to learn about, and to hold ourselves accountable for our actions in, the world. Kant recognizes, for example, that miracles, which by definition are taken to violate the objective laws of nature, cannot be proved or disproved since they are a form of causality and, hence, not directly accessible to us. However, he points out that it makes all the difference in our approach to the physical world whether or not we assume it to be governed by an objective physical law or susceptible to miracles. On the one hand, confidence in objective physical laws empowers us in the event of the anomalous to seek an objective law as yet unknown to us to account for the event. On the other hand, the judgment of miracle discourages any search for such a law (Kant [1793a] 1998, 102).

Kant offers a metaphysics within the limits of human reason that clearly recognizes the speculative nature of all analogies between human experience and nature ([1804a] 1998, 613–14), but, more important and unlike process philosophy, turns the focus of metaphysics from aesthetics to ethics. According to Kant, aesthetics is a symbol of the moral. In contrast, there is a (perhaps apocryphal) story told by Bernard Loomer that Alfred

North Whitehead came to his insight of process philosophy about the integration of concressing actual occasions maximizing harmony and intensity by observing his wife decorating their home. This story illustrates both the attraction and the limitation of process philosophy; it provides the motivation for the pursuit of aesthetic harmony (not to be reduced to sense perception) that, in turn, enhances the very reality of God, but also suggests the elitist implications of process philosophy.[18] Only the few benefit from such harmony.[19]

Kant's project offers a systematic synthesis of all of experience that integrates science and religion in a total (unifying) framework and does not split them into dualistic independent exercises. Furthermore, aesthetics is the threshold to religion (that is, to morality). Kant's one religion of morality is a capacity and a challenge for all and not merely an enjoyment of the few.[20]

Religion and science, according to Kant, are concerned with the same world. They share the same epistemological limits with respect to the world, and both depend upon the same theoretical reason as the condition of possibility for any and all experience and understanding of the world. Religion and science are both dependent upon the assumption that there is an order to the world upon which we can depend for our knowledge and our actions. In short, the teleological order of nature is as important to morality as it is to the natural sciences, for it confirms that the natural order is receptive and sustaining of our epistemological and moral effort (Kant [1790a] 1974, 317, 331, 324–26).

> Teleology considers nature as a kingdom of ends; ethics regards a possible kingdom of goals as a kingdom of nature. In the first case, the kingdom of ends is a theoretical idea, adopted to explain what actually is [*knowledge*]. In the latter it is a practical idea, adopted to bring about that which is not yet, but which can be realized by our conduct [*doing and not doing*], namely, if it conforms to this [practical] idea. ([1785b] 1949, 53, n. 18; emphasis added)

Nonetheless, it is the same experience of nature, and both teleology (science) and morality (religion) are dependent upon a common unified "metaphysical" system that is not an absolute system but a system of regulative ideas (reflecting judgment) in cooperation with constitutive ideas (determining judgment) as the condition of possibility for any and all knowledge ([1797a] 1998, 503).

There is a dichotomy in Kant's philosophy between theoretical and practical reason, but these are neither to be sanguinely identified with the natural sciences and religion nor do they consist of two activities independent of one another. Kant's philosophy is a systematic unified totality that could benefit from the discussion of time, historicality, and hermeneutics in Martin Heidegger and Hans-Georg Gadamer but is a system that integrates religion and science in a manner that can serve as an alternative to process philosophy.

Kant and process philosophy share the goal of religion and science as the realization of the kingdom of God in history (Kant [1793a] 1998, 801). However, whereas process philosophy's kingdom benefits the elite, Kant's kingdom is a challenge to all of humanity to realize its moral capacities. In fact, the standard for determining the level of culture in a society, according to Kant, is the degree to which that culture encourages us to choose the right principles and not merely to fulfill the civic law. Hence, it is not the standard of living that determines culture; it is the level of moral sensibility ([1787b] 1974, 175; [1790a] 1974, 298–303; [1793a] 1998, 871n; [1797a] 1998, 516–17, 522; [1798a] 1998, 682–85; [1803] 1998, 706–7), and it is not mere conformity to the law that determines civilization. Higher than the physical and civic law is morality, but those moral heights are inescapably grounded in the material world of natural science.

NOTES

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1. The first of two major problems with Burtt's (dependent upon Abbott 1923) reading of Kant to which Ian Barbour appeals is that Burtt equates "theoretical knowledge" in Kant with natural science (see Burtt 1951, 263, 264) and assumes that natural science gives us "demonstrable knowledge" and "proofs" of objective knowledge (1951, 256, 263, 264). The second major problem is that Burtt fails to recognize that the limits that lead to the theoretical knowledge of synthetic judgments a priori apply equally to science as well as to religion/morality. Burtt, quoting Thomas K. Abbott, writes: "[Morality's] convictions are rational corollaries of unqualified moral commitment, moving thus in a quite different sphere from that of scientific knowledge and incapable of conflict with it. It is an affair of intelligent conscience or will. 'The conception of God is one that belongs originally not to physics but to morals'" (1951, 266). We shall see that teleology and the assumption of God is as necessary for science as it is for religion, according to Kant.

2. In the *Prolegomena*, Kant defines experience as the subsumption under a concept of appearances in intuition ([1783] 1998, 166–67). This allows him to distinguish between the "matter" of experience (appearances) and the "form" of experience (the table of categories of the understanding) ([1783] 1998, 176). This distinction is not dualistic but constitutes a unified totality: ". . . the extent of pure reason's theoretical knowledge reaches only to the objects of the senses" ([1804b] 1983, 79). Kant's point is that transcendental (that is, conscious) elements are included in our experience of objects of sense: "For a representation to be a cognition (here I always mean theoretical cognition), a concept must be combined in the same representation with an intuition of an object so that the former is represented as containing the latter. . . . However, if the concept is a category, a pure concept of the understanding, it is independent of all intuition; yet a concept must be given an intuition if it is to be employed in cognition. And if this cognition is to be a priori, it must be given a pure intuition, and, of course, this must conform to the synthetic unity of apperception of the manifold of intuition that is thought through the categories" ([1804b] 1983, 79–81). However, Kant adds: "Accordingly, our theoretical cognition never transcends the field of experience. Now since all theoretical cognition must agree with experience, and since this agreement is possible only in one or another way, that is, either experience is the foundation of our cognition, or cognition is the foundation of experience, then, if there is synthetic cognition a priori, there is no alternative but that it must contain the a priori conditions of the possibility of experience in general. But then it also contains the conditions of the possibility of objects of experience in general, for only through experience can objects of experience be cognizable objects for us. The a priori principles in accordance with which any experience is possible are the forms of objects—space, time, and the categories, which contain a priori the synthetic unity of consciousness, insofar as empirical representations can be subsumed under it" (pp. 81–83).

3. There are two ways that the "appropriate concepts" function. One way is by means of a determining judgment; the other is by means of a reflecting judgment. A determining judgment subsumes phenomena in the intuition under a specific concept; a reflecting judgment must employ a (provisional) principle for the sake of a concept as it searches for (and may never adequately find) an appropriate concept for a set of phenomena. Reflecting judgments "consider" by means of comparison with a provisionally held principle and make possible the emergence of a concept. Determining judgments evoke immediately a concept. See the "First Introduction to the Critique of the Power of Judgment" in Kant [1790b] 2001, 15; [1790a] 1974, 248–49.

4. Temporal sequence, of course, does not exhaust the meaning of time. One would want to include Heidegger's description of the concealed nature of time as past, future, present (that is, Being as time) in *Sein und Zeit* ([1927] 1979, 372–87, 392–97) for a more comprehensive understanding of time. See also the chapter "The Aporiai of Temporality" in McGaughey 1997, 379–411.

5. For the distinction between analytic and synthetic judgments, see in addition Kant [1790c] 1998, 346–47; [1804a] 1998, 596. For example, the heliocentric model of the solar system is an empirical synthetic judgment. Nowhere is the heliocentric model something given in sense experience. It requires adding to our unequivocal sense experience of ourselves as standing still the counterintuitive notion that we are rotating around Earth's axis at some 1,000 miles per hour and that Earth travels around the Sun at some 67,000 miles per hour.

6. Gottlob Benjamin Jäsche comments: "The highest task of authentic philosophy is by no means concerned . . . with the subjective, but the objective—not identical, but synthetic knowledge. —In this respect logic remains . . . as such entirely out of the game; and it never would have occurred to critical thought, nor to the doctrine of science . . . to seek the final ground of real, philosophical knowledge within the area of mere logic and out of a maxim of logic, taken merely as logic, to want to seek out a real object" (in Kant [1800] 1998, 429–30; my translation).

7. See Kant [1787a] 1976, B 788; [1787b] 1974, 61. Clearly, Kant did not grasp the significance of Hume's distinction between "vulgar" and "refined" skepticism in the *Dialogues concerning Natural Religion*. What Kant refers to as the "most strenuous form of skepticism" Hume calls "vulgar skepticism" (Hume [1776] 1982, 5, 8), whereas "refined skeptics" "are obliged . . . [to] proportion their assent to the precise degree of evidence which occurs" ([1776] 1982, 9). Hume's refined skepticism is entirely compatible with Kant's notions of reflecting judgment and regulative ideas.

8. There is neither a proof nor a disproof for God, according to Kant ([1790a] 1974, 264–66). The idea of God is a matter of reflecting (open-ended) judgment and not determining judgment ([1790a] 1974, 222–23, 242). Kant is explicit that there can be no absolute teleological judgments ([1790a] 1974, 231).

9. Here we have the only appropriate response to what is today called intelligent design, which has gained popularity among religious conservatives as a "scientific theory." However, the judgment that nature is governed by intelligent design offers no proof for the existence of God, and, as Kant insists, we should always commence and exhaust our explanation of physical phenomena from the perspective of mechanical causality before turning to the speculations of teleological causality because any speculative causality (such as intelligent design) is itself dependent upon the material conditions that allow for it as a possibility ([1790a] 1974, 251–52, 282, 285, 297–98). Hence, although speculation about causality is possible, a speculative cause that contradicts material cause would undermine the coherence upon which all experience and anything we could know (including the speculated cause) depends. Furthermore, attributing to God the capacity of either understanding or will, Kant insists, is inappropriate, for these capacities are by definition dependent upon limitations. Any notion of God that involves limitation must be inadequate ([1769] 1998, 389n). Hence, all anthropological projections of finite capacities onto God are suspect, although allowable if they are properly understood to further morality ([1787a] 1976, B 724–25, B 728; [1793a] 1998, 718n, 734, 809, 829, 856).

10. See Kant [1788] 1998, 141, 146. Particularly this writing indicates Kant's commitment to science and the priority of the mechanical over the teleological explanation. However, in any case, Kant insists upon recognizing the limits to reason involved in the understanding of both mechanical and teleological causality ([1788] 1998, 143, 165). One finds here, as well, a remarkable articulation of all the ingredients of Darwinian natural selection *with the exception*

of a description of the emergence of new species. Kant describes species variation on the basis of "genes" (*Keime*) without taking the step to conclude that such variation could lead eventually to new species. Interestingly, just as he anticipates the notion of genes with his theory of *Keime* ([1788] 1998, 149, 156, 162n, 163–64), he defends a "uniformitarian" position, which maintains that the causal forces at work today have been the same throughout all time ([1788] 1998, 142), not found in England until the nineteenth century (see Gillispie 1959) that had to be combined with an unlimited time frame in order to make evolution a defensible theory over against special creation.

11. Interest, according to Kant, is always dependent upon our deriving advantage from something existing in the sensuous world ([1790a] 1974, 43–44, 147–49).

12. On the "one" religion of all humanity, see Kant [1793a] 1998, 649n, 761, 764, 768, 778, 797; [1797a] 1998, 301, 315; [1803] 1998, 758. Kant proposes that there are only two kinds of religion, and proper religion is concerned with morality: "Difference of external form here count equally for nothing but everything depends . . . upon the acceptance or the forsaking of the one single principle of becoming well-pleasing to God—[upon] whether [we do it] through moral disposition alone . . . or through pious play-acting and nothing-doing (*Nichtstuerei*)" ([1793b] 2004, 168). Religion, Kant insists, is nothing other than laws discovered in pure reason ([1793a] 1998, 838). However, Kant makes it clear that distractions from pure morality are introduced as soon as one attempts to maintain elements of historical accounts and revelation along with the term *religion* and that we, then, are no longer concerned with "pure" religion, for he writes: "To be sure, there can be a *Religion within the Limits of Reason Alone*, but this is not derived from reason alone but is also based on truths of history and revelation, and contains only the agreement of pure practical reason with history and revelation (that they do not conflict with reason). Consequently, it is not pure religion but one applied to pre-existing history; and there is no place for such applied religion in ethics, insofar as ethics is pure practical philosophy" ([1797b] 1964, 158). And later: "One sees . . . that in ethics, taken as the pure practical philosophy of internal legislation, only the moral relations of man to man are conceivable for us. But whatever passes for a relation between God and man completely transcends the bounds of ethics and is for us utterly inconceivable. And so . . . ethics cannot extend itself beyond the limits of the duties of man to himself and to other men" ([1797b] 1964, 161).

13. See Kant [1793a] 1998, 805, 812, 812n; [1787b] 1974, 109, 163–64. Nonetheless, human freedom is entirely compatible with nature's determinism so long as we remember that "mechanical nature" is a conclusion drawn by us on the basis of appearances, not a claim about things themselves, and that human freedom as its own cause must be a thing in itself ([1783] 1998, 217–18). Kant speaks of freedom as a *causa noumenon*, which we cannot know because knowledge requires intuition, but our actions confirm the necessity of our believing in it ([1787b] 1974, 66–67).

14. Although Kant says that the elimination of the anthropomorphism of teleological design would mean the end of religion and morality ([1783] 1998, 232), we must avoid "dogmatic" and embrace "symbolic" anthropomorphism ([1783] 1998, 232). Teleological design in nature and in the moral kingdom of ends is a necessary regulative "as if" that makes any knowledge of nature and truly moral action possible.

15. Happiness as an interest cannot be the aim of morality (Kant [1793a] 1998, 830); happiness is derived from and dependent upon nature ([1794] 1998, 137n); happiness is an empirical principle in contrast to a rational principle ([1785a] 1998, 76); because a subjective response to objects, happiness is not the goal of morality ([1787b] 1974, 29) and is ambiguous ([1787b] 1974, 44); happiness, then, is the least valuable principle ([1785a] 1998, 77). At best happiness is a means, not an end of duty ([1787b] 1974, 108).

16. Kant rejects the notion of grace, the hope that our efforts will be aided by some external power, since it is contradictory to moral autonomy. However, he does speak of grace as necessary for morality. Grace consists in the givenness of the conditions of possibility of the moral condition itself ([1798b] 1998, 309; [1793a] 1998, 730), although Kant suggests that it would be best to avoid the notion of grace, because it tends to be destructive of the individual's taking the initiative in performing her/his duty ([1793a] 1998, 867).

17. The notion "science is exhaustively competent" ignores the "necessary" presupposition of teleological design that fuels science's confidence that we can discover the "order" of nature.

18. For a succinct account of Whitehead's project and the insistence that process philosophy is not reducible to sense perception, see Loomer 1969, 67–82.

19. See the discussion of process philosophy in Hick 1990, 48–55. Hick suggests, as well, that the aesthetic is valued above the ethical, for the issue is "harmony and intensity" with the lack of the same resulting in evil as discord (p. 50), not error or violation of a moral principle. Hick concludes: "The God of process theodicy is the God of the elite, of the great and successful among mankind" (p. 54).

20. Kant maintains that the Transcendental Ideas that are the concern of pure reason are, in fact, the necessary conditions for humans to be moral agents, and he insists that this is not an insight just for philosophers but also for common humanity ([1787a] 1976, B 859). He suggests that humanity does not possess virtues, but virtues possess humanity ([1797a] 1998, 859). Finally, he frequently underscores the universality of moral sensibility ([1793a] 1998, 785, 821, 832, 834, 849, 855).

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