Chapter 13
Nature as a Source of Non-Conflicting Desire

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Abstract: This chapter will explore the idea of ‘nature’—or ‘creation’ for theists—as a source (or mediator) of non-conflicting desire. I begin by looking at some major relevant religious and philosophical traditions in both the East and the West that understand nature as a source of non-conflicting desire. Next, I suggest a way of synthesizing these traditions, and then consider how the traditions and my suggested synthesis fit with current scientific understandings of nature. I conclude by considering how the ideas developed in the previous sections can be put into practice.

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By ‘nature’ I do not merely mean those parts of the physical world exterior to human civilization, such as wilderness. Rather, I mean the entire realm of beings and processes that are mutually interconnected with each other, including human beings, but excluding any reality that is considered the uncaused and distinct source of such beings, such as God. Further, I will understand ‘desire’ in a broad sense that not only includes what we ordinarily think of as desire, but also a person’s entire psycho-spiritual structure—such as their beliefs and attitudes—that is
oriented towards engagement with the world.

Throughout, my methodological presupposition will be that both science and our deepest philosophical/religious intuitions have something to tell us about the structure of nature. Since the latter assumption is the most controversial, I will offer two reasons for it. First, reliance on such intuitions lies at the basis of science itself, particularly when we judge which theory offers the best explanation of a body of data. The reason is that for any set of data, there are always indefinitely many alternative hypotheses that can consistently explain the data—a challenge to the objectivity of scientific inference known as the underdetermination of theory by data problem. (See, for instance, Stanford, 2009.) This means that when judging which theory is the best explanation of the data, scientists ultimately must rely on their own (well-trained) intuitions since there is no self-interpreting rule that says which explanation is the best. (See Polanyi, 1964). Second, some of humanity’s core intuitions have proven enormously successful, particularly the intuition dating back to the Pythagoreans that the universe has an underlying elegant mathematical order to it. This idea has served as a powerful and very successful guide in developing new theories, as Nobel Laureate in Steven Weinberg (1992, Chapter 6) and many other physicists have noted.

Nature within Religious/Philosophical Traditions

The views of nature in the philosophical and religious traditions that I will discuss are largely motivated by mystical experiences and intuitions. Although the word ‘mystical’ is commonly invoked without being defined, what I mean by a mystical experience or intuition is one that involves a direct apprehension of reality that is neither primarily gained through normal sensory channels nor through discursive or analytical reasoning. A common type of mystical
experience is that of experiencing nature as a deep, unified, integrated creative whole. As stated by Evelyn Underhill in her classic study of mysticism, “In all these [types of mystics] we find the same principle: the principle of a free and spontaneous and creative life as the essence of Reality.” (2002, 27.) For example, Heracleitus, the fifth century BCE Greek philosopher claimed that the ‘Logos’ permeated the natural world and lay at the foundation of its operation. As Underhill points out, for Heracleitus the Logos not only had the meaning of a rational, ordering principle (as is commonly noted), but also of an “Energizing Fire,” which serves as a symbol for the indwelling creative power in nature. (2002, 27-28). This mystical idea of nature as a deep, unified, creative whole not only appears throughout the traditions discussed in this section, but as argued later, is suggested by major developments in twentieth century science.

I begin my overview of these traditions by first considering Mahayana Buddhism.

**Buddhism**

Buddhism is often claimed to teach that ‘salvation’ from the human condition involves escape from the world via extinguishing desire. Arguably this is true for early Buddhism, called Theravada Buddhism and some aspects of the later Mahayana tradition. In the Mahayana tradition, however, a powerful strand of thought developed which saw nirvana, the ideal state of Buddhist Enlightenment, as identical with samsara, which roughly is this world as we ordinarily, and ultimately falsely, perceive it. In Mahayana Buddhism, and arguably implicitly in almost all branches of Buddhism, there is nothing transcending nature—for instance, there is no God who created nature. Human salvation, therefore, does not consist in escaping nature, nor connecting with its transcendent source, but rather recognizing the true, ultimate ‘structure’ of nature—a structure various Buddhists call the Buddha Nature, the Buddha Mind, or Emptiness (Sunyata).
This recognition in turn purportedly results in a new non-acquisitive orientation to the world characterized by compassion for all living beings.¹

These ideas are well-illustrated by the Madhyamika school of Mahayana Buddhism, of which Zen Buddhism is an outgrowth. Advocates of this form of Buddhism often state that all reality is ‘empty’ of self-identity, which is typically interpreted to imply that there are no distinctions in reality. This in turn is thought to follow from the idea that everything interpenetrates, and thus participates in, everything else, consequently erasing all distinctions. Thich Nhat Hanh, a leading Buddhist thinker, calls this interpenetration ‘interbeing’ (1973, 41, 93-96.). As Garma Chang (1971, 24) notes, a classic analogy to this idea of interbeing is a room lined with mirrors, in which each mirror reflects every other mirror ad infinitum. Similarly, each being is claimed to reflect the reality of every other being, even though ultimately Hahn and Chang claim inconsistently that there are no distinct beings to do the reflecting. Much of Buddhist practice is aimed at existentially coming to recognize this interbeing.

Although Thich Nhat Han, Garma Chang, and many other Buddhists take this idea of interpenetration of being to imply that that there are no distinctions in reality, and hence no distinct individuals, it need not be taken this way. For example, the Gelukba order of Tibetan Buddhism asserts such interpenetration while affirming the existence of truly distinct individuals (Hopkins 1983, 406 -410). Below I attempt to develop such an individuality-affirming idea of interbeing and use it to synthesize the various philosophical traditions that I discuss. In particular, I suggest a view of persons as distinct ‘loci of interbeing’ whose telos is to reflect, internalize, and appropriately interrelate with the reality of other beings.
Taoism and Neo-Confucianism

The Tao Te Ching is the founding text of philosophical Taoism.² It is traditionally ascribed to Lao Tzu, who lived around 500 BCE, but now is thought to be collected together by later editors between 400 BCE and 225 BCE, during and after the so-called ‘warring states’ period of Chinese history. It is widely agreed that the Taoist and Confucian philosophies were developed largely to provide a way of achieving a peaceful, harmonious society and thus overcoming violence.

Philosophical Taoists claimed that conflict arose from desire, specifically what many today would call acquisitive desire. This point is developed, for instance, in John and Patricia Koller’s text on Asian philosophy (1998, 270). The Taoist solution was to eliminate acquisitive desire. They did not believe moral or legal rules could solve the problem, for they believed that they would just create new conflicts at a higher level. Instead they proposed following the ‘natural way’ of the universe. Among other things, this led to the key Taoist ideal of wu wei, often translated as ‘non-doing’ or ‘non-striving’, which I believe is best understood as acting out of participating in the deep inner guidance and creative energies of the Tao. Since there is no concept in Taoism of a realm transcending the natural world, commentators typically treat the Tao as just referring to nature understood as the mystical, uncategorizable source of everything in the universe. As the first chapter of the Tao Te Ching says, “The Tao that can be told is not the eternal Tao; the name that can be named is not the eternal name; the nameless is the beginning of heaven and earth.” (Feng and English 1973).

Participating in this inner guidance and creative energy of the Tao is well illustrated by the ‘Woodcarver Story’ from Chuang Tzu (369 - 286 B.C.E), the leading Taoist philosopher
after Lao Tzu. In this story, a master woodcarver is asked to make a bell stand by the Prince of Lu, and when he finishes everyone is astounded by the bell stand, saying it “must be the work of spirits.” When asked how he did it, he first says he fasted, guarding his spirit by not expending any thought on insignificant matters and forgetting all about gain and success. Instead,

When all that might distract me from the work had vanished, I was collected in the single thought of the bell stand. Then I went to the forest to see the trees in their own natural state. When the right tree appeared before my eyes, the bell stand also appeared in it, clearly, beyond doubt. All I had to do was to put forth my hand and begin. If I had not met this particular tree there would have been no bell stand at all. What happened? My own collected thought encountered the hidden potential in the wood. From this live encounter came the work which you ascribe to spirits. (Translated by Thomas Merton, 1965, 110-111).

In this story, through fasting and concentration the woodcarver is able to get in touch with the inherent creative guidance in the world, and is thereby guided to the ‘right’ tree.\(^3\)

The idea of an inbuilt guidance in nature also is central to Neo-Confucian thought, which constituted a major development in Chinese philosophy around 1000 CE that combined Taoism, Confucianism, and some elements of Buddhist thought. As the well-known sinologist Joseph Needham stated,
The Neo-Confucians arrive at essentially an organic view of the universe. Composed of matter-energy [material force] and ordered by the universal principle of organization [principle], it was a universe which, though neither created nor governed by any personal deity, was entirely real, and possessed the property of manifesting the highest human values (love, righteousness, sacrifice, etc.) when beings of an integrative level sufficiently high to allow their appearance had come into existence. (Quoted in Chan 1963, 636)

As we will explore more, later, this organic view of reality can be translated into the concept of teleologically-ordered interbeing introduced at the end of the discussion of Buddhism above. Specifically, since in an organism each part is directed toward the harmonious functioning of the whole, the idea of nature being organically structured could be thought of as the claim that teleologically-ordered interbeing exists as the central dynamic of nature. Further, the idea that it possesses the “property of manifesting the highest human values” (see quotation above) could be thought of as the idea that interbeing reaches its highest form in human beings when they act with love and righteousness. Participating in this interbeing of nature in turn results in a transformation of consciousness and desire, from an acquisitive orientation to a non-acquisitive, non-violent, and loving orientation.

Next, I will briefly look at some relevant aspects of the Eastern Orthodox and Neo-Thomistic understanding of nature.

*Eastern Orthodox and Neo-Thomism*
A central affirmation of the Eastern Orthodox version of Christianity is that nature participates in the divine nature through what they call the ‘energies’ of God. This participation, however, is presently incomplete. As Romans 8:21 states, nature is now subject to frustration. But, as promised in Romans 8:22, creation will itself one day participate in the “glorious liberty of the children of God” (NRSV). Although for the Eastern Orthodox humans and all of creation are destined fully to participate in the divine energies, to avoid pantheism they distinguish between the divine energies and the divine essence, the latter of which we cannot participate in or even know. Nonetheless, they claim that the energies are inseparable from God in the way heat is inseparable from a flame; hence God is in some sense fully present in the energies.

This idea of nature’s participating in the divine energies naturally leads to an affirmation of our ability to participate in the divine energies through nature. For example, Gregory of Nyssa states in his Homilies of the Beatitudes that “He who is invisible by nature becomes visible in His energeiai when he is contemplated in the things that are around Him.” (Quoted by Bradshaw, 2004, P. 175). Within the Eastern tradition,

The movement into the spiritual contemplation of the unity of things, their purposes and ends, can be qualified as communion with God through nature, something that is possible only because of the incarnation and through the gift of divine grace in humans. The natural contemplation of the different logoi in the one Logos thus manifests the exodus of humans from this world to God, as the truth of the whole of creation is revealed by and in the Logos of God. (Nesteruk 2003, 27).
The different *logoi* here are the various *active* forms of things, what makes each individual thing the thing it is. These *logoi* are ultimately united in Christ, the one true *Logos* who is the source of all the *logoi*. Only in a redeemed nature will the *logoi* be fully actualized.

The *logoi* should not be understood as merely static essences of things, but as involving the active *telos* of each being—in modern language, what each thing is meant to be as an *active* agent. Further, knowing these *logoi* should not be thought as simply involving intellectual apprehension. As David Bradshaw notes, for the Greek Fathers such as Gregory of Nyssa, participation was “a way of knowing another by sharing in his activity.” (2004, 177). So, it will involve a dimension of actively participating in this inner reality of nature. Interestingly, the Greek Orthodox ideas are very similar to that found in one of the two major schools of Neo-Confucian thought discussed above, in which individual things express the forms and principles underlying the world that reside in the “supreme ultimate,” and in which we can more fully participate in this supreme ultimate by the “investigation of things” (Yu-Lan, 297).

This theme is also present to some extent in the great medieval theologian/philosopher Thomas Aquinas (1225 - 1274), who conceived of God as the fullness and ground of being. Although Aquinas speaks of all created beings as participating in the being of God (*Summa Theologica*, 1.22.4), as Bradshaw notes (2004, 252), in the few places where Aquinas spells this out, he does so in terms of creatures possessing a *similitude* of God, not actually partaking of God’s being. Nonetheless, since for Aquinas God created the world to express the divine nature and goodness (*Summa Theologica*, 1.22.4), there remains a stress on knowing God through nature. The reason is that for Aquinas, it is nature as a whole that most fully expresses the divine goodness, not any individual thing: says Aquinas, “God planned to create many distinct things,
in order to share with them and reproduce in them his goodness. Because no one creature could do this, he produced many diverse creatures . . . the whole universe shares and expresses that goodness better than any individual creature” (Summa Theologica, 1.47.1).

This theme of knowing God through nature is taken up by Mark Wynn, who develops a version of Thomism in which God is conceived of as "offering a radiantly attractive synthesis of the goodness of created things." (1999, 167); that is, the goodness in the world receives its unity in God, who is its source. For Wynn, this means that we find God by encountering in an intimate, existential way, the goodness in the world. Says Wynn: "God's reality is made known most clearly at the limiting point of our encounter with the attractiveness of the world." (1999, 168). Following Holmes Rolston (1989), Wynn suggests that to know this attractiveness of the world, it is helpful to have first-hand experiences of wilderness, letting it draw ourselves into its order of being, not it into our order of being as an object. This in turn requires attentiveness and training (1999, 112 - 113). The result is a transcendence of ego—and hence of acquisitive desire—via a “morally significant redefinition of the self’s concerns.” (1999, 113).

Goethe and the Romantics

The final figure I will consider is Johann Wolfgang von Goethe (1747 – 1832), a leading figure in developing the Naturphilosophie of the Romantics. What is unique about Goethe, as compared to the other figures that we have considered, is that he tried to develop a scientific, empirical method of human transformation by participation in nature.

Although Goethe is recognized as one of the great literary figures of all time, he considered his greatest contribution as being the development of his Naturphilosophie. Goethe
objected to the hegemony of the mechanical, Newtonian view of the natural world with its ontology of microscopic particles interacting with each other via various forces. He also rejected reliance on the standard method of building abstract models of physical or biological systems, and then testing those models by their ability to explain and predict observational data. For Goethe, the problem with the dominance of this kind of science is that it alienates us from the natural world by substituting in its place an abstract human construction. Goethe was thus dedicated to developing a method of ‘science’ that would allow us to gain an empathetic and participatory relation with nature as a complement to the standard method of science. The heart of his method was careful observation of the content of one’s sensory interaction of nature (which he did not believe were separate from nature), which he claimed activated certain imaginative and sensory faculties that lay dormant. This would in turn progressively transform the human being herself and her organs of perception, allowing for a deeper and deeper participation in nature. Consequently, unlike much of current science, his scientific method was aimed toward human participation in the depths of nature and the transformation of the human being, not the control of nature. Finally, like the Eastern Orthodox and Thomistic traditions in Christianity, Goethe believed in an ‘incarnational theology’ in which the depths of nature mediated God presence.

Synthesizing the Traditions

Much of the Buddhist tradition stresses the idea of interbeing, but it lacks any sense that the nature has a purpose or telos. On the other hand, since the Abrahamic traditions (Judaism,
Christianity, and Islam) typically affirm that God created the world for a purpose, these traditions do affirm that nature has an overarching purpose or telos. Although the Chinese tradition does not explicitly affirm that there is an overarching purpose to nature, much of it does affirm that there is an inbuilt guidance in nature that we can come into tune with. The reason is their organic view of nature: just as a cell receives guidance from the body on how to differentiate, so do individual entities in nature. In this section, I will suggest a way these traditions could fruitfully be combined to provide an overarching metaphysics for nature as being a source of non-conflictual desire.

To begin, suppose we postulate that, except for whatever individuates a particular locus of interbeing, each being is constituted by its interbeing with others; or in physicist David Bohm’s terminology (see below), every being is ‘enfolded’ in every other being. Further, suppose that the good and hence telos of nature is to move towards greater and greater overall interbeing. These two postulates imply that there is a deep dynamism in nature. To see this, consider a world consisting of a thing ‘B’ distinct from a thing ‘A’. Since the reality of thing B is also partly constituted by its connection with and internalizing of A’s reality, if A changes by increasing its interbeing via more fully internalizing B’s reality, then B itself must change as a result. This requires that A itself change in order to internalize the consequent change in B, which in turn requires that B change in order to internalize the change in A, and so on ad infinitum. The result is an ongoing process in which each thing gains more and more reality as it more and more fully internalizes (or ‘reflects’) every other thing, thus resulting in a dynamic version of the room of mirrors analogy for interbeing mentioned above. Although it is
impossible for such a full internalization to ever be reached, it can function as an ideal that nature is always moving towards.

Next, suppose we connect the above ideas with an important theme in ancient and medieval philosophy, that each person is potentially a ‘microcosm’ of reality. That is, each person has an unlimited capacity to ‘mirror’ within their mind the entire cosmic order. This is based on a fundamental ability of consciousness to ‘represent’ the world. Within broadly Aristotelian philosophy (and even some broadly Platonic philosophy), this representation was not thought of as a ‘mere correspondence’, but rather as a unique kind of participation in the nature of that which is known. Specifically, for Aristotle, the mind has the capacity to take the form of another—which is what makes it the kind of thing it is—without becoming the same kind of thing as that which is known: one can know ‘cowness’ without becoming a cow. Without this hypothesis of participation, it was held, we could not truly come to know anything about the world, since its reality would always be external to the mind; its reality must somehow get into the mind to be known.

Given this account of knowing, interbeing is able to reach its preeminent form in consciousness, since only consciousness has the unlimited capacity to internalize the reality of other beings. What does this internalization involve? In the case of those aspects of nature without subjective awareness, I suggest that it involves apprehending them as in some sense containing, through interbeing, the rest of reality. Accordingly one does not treat them merely as finite, intellectually graspable aspects external to one’s self; but as in some sense potentially infinite, transcendent, and internally related to one’s self; hence one can only truly understand them via an authentic interrelationship with them. One could call this treating nature as ‘sacred’.
In the case of other sentient beings, this involves recognizing the subjectivity of the other. I suggest that this is where the attitude of the sacred moves into that of the ethical. (See, for example, the discussion of the ethical as arising from the encounter with the other in Sandor Goodhart’s chapter on Immanuel Levinas in the companion volume on reconciliation).

A person’s ability to internalize the ‘reality’ of another is not limited to consciousness, but also covers our actions and desires, as shown by the existence of mirror neurons. (See chapter ___ in this volume). Since this internalizing is not merely a duplication, but rather a deep, ‘participatory’ internalizing of aspects of others from a person’s own unique perspective, the mimesis at the heart of interbeing is by nature creative; and as we saw above, dynamic and participatory. Thus, my suggested synthesis provides a metaphysics of dynamic, creative mimesis as the underlying telos within nature; further, the particular telos of persons (whether human or non-human) is to more and more engage in this form of dynamic creative mimesis, and hence interbeing, through knowledge, awareness, empathy, and loving action (see below).

Insofar as we come to truly recognize that our own being is constituted by our interbeing with others (including nature), we will come to recognize that the more they gain in fullness of reality, the more we enrich ourselves by internalizing their reality and their interconnectedness with us. Further, we will come to recognize that this sort of reality is an unlimited resource since as explained above, it is always expanding the more we cultivate an awareness of, and act as if, the other’s good constitutes our own good. It thus becomes much more difficult to come into mimetic rivalry.

This metaphysic of interbeing provides a way of understanding love as the underlying energizing dynamic of all reality, with love being defined as valuing the subjectivity of one’s self
and other via a dynamic interconnection with them, as suggested by Rebecca Adams (2000 and chapter 1). Elsewhere I have stated that “to value the subjectivity of others is to value them as separate centers of consciousness and will, who not only are presently in relationship with oneself, but who are rich with future possibilities of growth and interrelationship.” (2000, 143.)

A central aspect of this valuing is understanding what each individual is ‘meant to be’ in accordance with their nature and particular context. To value of the subjectivity of a drug dealer, for instance, would involve seeing in faith beyond the drug dealer’s manifest actions to what they are ‘called to be’—specifically, the kind of individual locus of interbeing they are called to be that is specific to who they are and to their context. Indeed, faith could be understood as grasping particular manifestations of this telos, a telos which is constituted by ever increasing interrelationships and internalizing from each individual’s perspective the reality of others, both human and non-human. Consequently, faith is central to truly loving others, thus making faith a central virtue along with love.

What about evil? Evil involves a distortion of this goal of ever increasing interbeing, which ultimately involves a failure to recognize the true nature of other persons, ourselves, and the inanimate world. One such distortion is treating the good of others to be in competition with our own. Another is attempting to devour others, thinking that we can somehow enlarge our own being (or self) by absorbing their reality or making it an appendage to ours. This fails to recognize that it is the internalizing of others as truly others that enlarges one’s own self; if we attempt to absorb others, we negate their reality and thereby fail to enlarge our own reality. As for our relationship with nature, a pervasive distortion is to treat nature in an external way, as
something merely to be manipulated and controlled, instead of as ‘sacred’ in the way mentioned previously.

Although the deep telos of nature—especially as expressed in human beings—is this sort of interbeing, it is not always realized. This implies a ‘value duality’ in nature, particularly within the conscious aspects of nature. Even apart from the above metaphysics of interbeing, however, the postulate of such a duality is an ethical, epistemological, and religious necessity. Since we are part of nature, without a value duality there could be no distinction between ethical and unethical desires and actions; neither could there be a distinction between irrational thoughts and rational thoughts; nor enlightened and unenlightened states. This is the problem with many Buddhist philosophies—such as the version of Zen Buddhism promoted by Alan Watts (1999). These philosophies take the interpenetration and interdependence of individuals to such an extreme as to deny any distinctions, thus undercutting their entire practice, which is directed at ‘achieving’ enlightenment or at least a better psychological and spiritual state; this in turn presupposes some kind of value distinction.

If dynamic interbeing is fundamental, and if there is an overarching, global telos that coordinates each individual telos toward a fuller and fuller form of dynamic interbeing, then there is a possibility of each individual’s actions being guided by this overarching telos in such a way that a harmonious integrated whole is formed while at the same time each individual’s reality is fully affirmed. Insofar as we participate in this overarching telos, our individual, finite desires will not come into conflict. This could plausibly be thought of as the essence of the Taoist idea exemplified in the aforementioned Woodcarver Story, where the woodcarver trusts in a deeper wisdom in nature that guides him to the ‘correct’ tree. In fact, as pointed out previously,
it can be plausibly thought of as the core idea of following the Tao (i.e., the Way) in Chinese philosophy. In Christian theological terms, this coordination of each individual *telos* in nature can be thought of as one of the primary ways in which the Holy Spirit guides human beings, and creation itself, to fulfillment.

Pierre Teilhard de Chardin (1881 – 1955), the famous French Jesuit and paleontologist, developed a similar idea of nature having a *telos* toward interbeing in the context of Christianity and the evolution of the cosmos and life on earth. He believed that one of the fundamental principles of creation is what he called the principle that “union differentiates” or “creative union.” As Joseph Grau explains, applied to humans, this principle is that “whenever a genuine love in human relations exists, persons do not merge into a homogeneous collective, but, rather, each enables the others to develop their distinctive uniqueness.” (Grau 2033, 215). Further, “fulfillment of the person is found in love bonding one with others, yet in a manner so as to respect, encourage, and freely develop the particular varied potentialities of each” (p. 215).

Chardin believed that this type of unity in diversity occurred most fully among conscious beings in the form of what he called “conspiration,” in which each part consciously reflects the whole from its unique perspective. (Grau, 219). According to Chardin, the process of evolution on earth has been progressively developing toward this kind of creative union, with the fullness of this union being achieved in Christ. First preliminary forms of conspilation evolved at the inanimate level; then they became more pronounced with the evolution of organisms with greater and greater ability to form creative unions with others. Though not using theological ideas, Robert Wright (2001) develops a related view. He argues that the overall trend of the evolutionary process is not one of competition, but of cooperation (a form of unity in diversity):
he traces this from the single cell—which involve a ‘cooperation’ among a vast array of chemical compounds—to multicellular organisms, to social animals, to human tribal groups, and finally to the present global human community.

In the next section, we will further show how contemporary science itself provides an opening for these ideas of interbeing.

**Modern Science and the Interbeing of Nature**

Many scientists hold to a mechanistic-reductionist view of nature and human beings. In this view, the universe and human beings consist of nothing more than elementary particles and fields interacting according to the laws of physics. Insofar as things are interconnected with each other, the interconnections are via external causal interactions and spatial-temporal relations. There is no deep interconnection that penetrates into the interior of the things that are interconnected. This view typically takes the form of what could be called *mechanical reductionism*, according to which the behavior of wholes can be explained entirely by their parts and their spatiotemporal relations.

The news that has yet to be absorbed by many scientists and others is that modern physics, particularly quantum mechanics (QM), is inconsistent with mechanical reductionism.6 As Timothy Maudlin, a leading philosopher of physics, states:

…the physical state of a complex whole cannot always be reduced to those of its parts, or to those of its parts together with their spatiotemporal relations, even when the parts inhabit distinct regions of space. Modern science, and modern physics in particular, can hardly be accused of holding [mechanical] reductionism
as a central premise, given that the result of the most intensive scientific investigations in history is a theory that contains an ineliminable holism (1998, 55).

Mechanical reductionism is not only inconsistent with QM. A famous theorem proved by physicist John Bell in 1966, called Bell’s theorem, proves that mechanical reductionism is inconsistent with any physical theory that might eventually replace QM. Specifically, QM predicts a coordination of certain types of physical states, a coordination that has been widely verified since the 1970s. Bell’s theorem states that this coordination cannot be explained by appeal to local, mechanical causation—that is, causation brought about by prearrangement or causal signals moving through space. An analogy is that of two people on distant planets each flipping a coin every hour, with no signal or prearranged program to coordinate how the two coins land; yet, every time one person flips a head, the other person also does—e.g., if person A’s fiftieth flip is heads, so will person B’s fiftieth flip. Distant quantum states are correlated in an analogous way. These quantum correlations are a pervasive feature in nature, with the order of the entire cosmos depending on them. All QM does is tell us the rules by which they behave; it provides no underlying mechanism for how they could occur. Bell’s theorem, on the other hand, eliminates the possibility of a spatial signal or pre-arrangement as an explanation.

So Bell’s theorem proves the existence of a global coordination in nature that cannot be explained by mechanical causes. The existence of such global coordination, however, does not prove that nature is interconnected in a deep sort of way: for example, some philosophers claim that these globally coordinated states merely express a brute regularity in nature, and thus do not have any deeper explanation in terms of some kind of interconnectedness. Nonetheless, by
refuting mechanical reductionism, QM does provide an opening for a more, holistic interconnected view of nature. For instance, the late physicist David Bohm, a leading figure in the interpretation of QM, claimed that QM suggested a view of the universe in which “the whole universe is actively enfolded to some degree in each of its parts” (1988, 66, italics added). In fact, Bohm speculated that each entity enfolded every other entity to some degree. (1988, 66; see also his 1981 for a detailed treatment.) He held that this enfolded order, what he called the *implicate order*, was the fundamental order of reality; however, it gives rise to the seemingly ‘mechanical’ order of separate beings, what he called the *explicate order*. According to Bohm, the implicate order is analogous to a holographic image, in which each part of the hologram contains the image of the whole from one particular perspective. Since a three-dimensional image is composed of a conglomeration of two-dimensional images formed by looking at an object from a variety of perspectives, when all parts of a hologram are activated by a laser beam, the result is a three-dimensional image. Based on this analogy, Bohm calls reality’s “unbroken movement of enrolling and unfolding” (1988, 6) the *holomovement*. This is similar to the idea of interbeing developed above, except it lacks a teleological structure; it is that teleological structure that gives the idea of interbeing the needed normative dimension, both ethically and epistemologically, as discussed previously. Without it, there is little basis for anything but mere acceptance of reality as it is.

Although we know that at the microscopic level there is a non-local, global coordination of physical states that cannot be mechanistically explained, an important question is whether non-mechanistic forms of coordination occur at higher biological and sociological levels. Biologist Rupert Sheldrake (2009) thinks they do. A former research fellow in biology of the
Royal Society, Sheldrake is regarded by many as one of the most innovative biologists living today, while at the same time by many other scientists as a ‘scientific heretic’ who has attempted to fuse ‘magic’ with science based on inadequate evidence.

One kind of coordination Sheldrake considers is the ability of cells to differentiate into enormously complex patterns – such as that of the human body – during embryonic development, a process called *morphogenesis*. The standard orthodoxy in biology attempts to understand morphogenesis within a mechanical reductionist framework—namely, in terms of highly structured chemical gradients that tell cells how to differentiate, with the gradients ultimately generated by an organism’s DNA. As Sheldrake points out, it is very hard to see how chemical gradients with the requisite level of detailed structure—such as that needed to form an intricate structure as complex as an eye—could be generated and sustained.

To explain this and other cases of highly organized coordination, Sheldrake proposes a theory of morphogenic (‘pattern forming’) fields that are not reducible to chemistry and can be non-local. He speculates that these fields undergo what he calls “morphic resonance” with those morphogenic fields of past and present organisms to which an organism is closely related, resulting in a form of mimetic information transfer. He claims his hypothesis could provide a fruitful framework for explaining not only morphogenesis, but a wide range of other phenomena involving large-scale coordination and connection. For example, he cites the ability of homing pigeons, sea turtles, and the like to find their way home after being displaced over more than a thousand miles from their point of origin. As can be seen by looking at several issues of the *Journal of Experimental Biology* devoted to this phenomenon, all hypotheses not involving non-local, global coordination that scientists have proposed in the last thirty years face enormous
theoretical obstacles or are inconsistent with experiments. (See, for instance, Papi and Luschi 1996; Walcott 1996.) Although there could always be overlooked hypotheses, this failure suggests that we should take seriously the possibility of some non-local connection.

As another example of how his hypothesis works, Sheldrake considers experiments that purportedly show that if rats learn a to navigate a certain type of maze in the USA, rats at distant locations, such as Australia, will subsequently learn to navigate the maze much more quickly (1988, 174-177). He speculates that the first rats that learned the maze modified their collective information fields. Then, via morphic resonance, subsequent rats picked up this new information. Sheldrake also cites how once a few birds in Europe learned to open milk bottles, this ability spread far more quickly through the bird population than seems possible by recognized, local means of information transfer (1988, 177-181). Sheldrake proposes that this morphic resonance is a pervasive phenomenon in nature, occurring all the way from protein folding to human society. Since these morphic fields evolve, what could be thought of as ‘creativity’ is built into them. Consequently, his hypothesis could be understood as claiming that there is a non-mechanistic, non-local form of universal creative mimesis in nature that coordinates the behavior of large groups of individuals.

Although Sheldrake has continued to do research in this area, claiming positive results, skeptics are not persuaded. Yet what many skeptics fail to recognize is that the standard view—that all these cases of higher-level coordination will be explained by the kind of local causes typically invoked in science—is far from proven and itself requires a substantial leap of faith. Given the history of scientific revolutions, there is little reason to believe that the standard view
is correct (though that itself does not mean we have good reason to believe the standard view is mistaken).

**Additional Support and Considerations**

Despite the suggestions of modern science, some might be suspicious of these ideas of interbeing and a coordinated telos in nature that we can rely on for guidance of desire and action. Here I offer further support and elaboration for these ideas.

My ultimate metaphysical foundation for these ideas, particularly the teleological aspect of the coordination, is based on what has become known as the axiarchic thesis, which is the thesis that reality is structured so that moral (and aesthetic) value is positively, or even optimally, realized. Since theists believe that God is perfectly good, this thesis is entailed by theism: an all good God would create a reality with a positive, if not optimal, balance of good over evil; or, given that God could not predict how exactly reality would unfold—because of the choices of free creatures, for instance—an all good God would create a reality structured in such a way that it is likely that there would result a positive balance of good over evil.

Axiarchism is also found more broadly than in theism, such as in Plato’s idea that the form of the Good gives existence to all things, a view which had great influence in the ancient world through the Neo-Platonists. A similar view is also found among the Neo-Confucian philosophers discussed earlier. For example, the two leading Neo-Confucian philosophers, Ch’eng Hao and Chu Hsi, considered jen (which is the supreme virtue in Neo-Confucian philosophy and is typically translated as ‘love’ or ‘human-heartedness’) as “a source of cosmic creation and therefore as a virtue of heaven and earth, the concrete representation of the ultimate and total.” (Cheng 1991, 462). Further, Fung Yu-Lan notes that Chu Hsi developed an idea
analogous to Plato’s form of the Good—which Yu-Lan translates into English as the “Supreme Ultimate.” He conceived of it as fully immanent within each thing, providing each thing’s *telos* (Yu-Lan 1944, 297-98) in a way similar to the *logoi* of Eastern Orthodox Theology; however, unlike Plato’s form of the Good or the God of western theism, he, along with Chinese philosophy in general, the Supreme Ultimate does not transcend the universe but rather is the unifying locus of all things within the universe.

Given that the primary kind of goodness is love, axiarchism implies that nature is organized to realize love. Further, given the essence of love is the kind of dynamic interbeing discussed above, it implies that nature is ordered to realize such interbeing. Finally, given that an optimal realization of interbeing requires that there be the possibility of our participating in some global coordination of our actions, it implies that in principle we can participate in this type of coordination.

Is axiarchism a plausible thesis? If theism is plausible, then so is axiarchism, since theism implies axiarchism. Elsewhere I argue that axiarchism is plausible apart from an explicit commitment to theism. (See Collins 2009; Collins, forthcoming.) For example, I argue that especially in the area of fundamental physics, scientific methodology implicitly assumes that the underlying world is discoverable. I further argue that the claim that the underlying structure of the world is discoverable implicitly assumes that the universe is in some way structured for those agents of similar intelligence to us. Given that we can glimpse a good that is realized by its discoverability, this discoverability makes sense under axiarchism, but not under standard versions of western naturalism since they deny any form of teleology in nature. Further I argue
that axiarchism makes more sense of the enormously precise fine-tuning of the universe for the existence of embodied conscious beings such as ourselves.

If the inner *telos* exists, and we can participate in it, this suggests a ‘new’ epistemic practice involving guidance for action and desire that goes beyond developing and applying universal principles, as in the standard practice of reason. This guidance would be the result of directly participating in the dynamic *telos* toward interbeing as it manifests itself in each particular situation. The ultimate test of whether one is authentically participating in this deeper *telos* (and its corresponding ‘inner wisdom’) will be whether or not the purported participation increases interbeing. If, for instance, it negates the reality of one’s self or another’s, it is not authentic participation. Further, I postulate that we can develop skill at our actions and desires being guided in this way by building off established knowledge of the world, looking to successful past practices of this kind of guidance, and cross-checking with the guidance others purport to receive who are part of a community that seriously attempts to practice interbeing and engage in a corresponding practice of discernment. Indeed, in their book *Presence* (2008), well-known organizational theorists Peter Seng, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers attempt to work out some principles for engaging in this kind of deep discernment at both the personal level and that of business and governmental organizations.) It is also explored by Joseph Jaworski (2011), the founder of the American Leadership Forum. (Both books approach the issue without explicitly assuming theism, axiarchism, or my framework of interbeing.)

This brings up the issue of ‘reason’ as a moral and spiritual practice, which implicitly underlies the value placed on having a rational, instead of irrational, worldview. For Plato and
much of the subsequent western tradition, the practice of reason had great moral and spiritual value because it helped align the soul with the eternal, universal realm, which was considered as having far more value and reality than the changing realm of the world of particulars. (This is clear in Plato’s dialogue of the *Timaeus*). In contrast, from within the metaphysics of interbeing that I am proposing, the standard practice of appealing to universal principles has value both by helping us navigate in the world and by constituting an important step toward advancing interbeing. Such a practice attempts to account for the views and intuitions of others via the development of agreed upon universal principles, thereby bringing us out of our own egocentric perspective and connecting us with others and the surrounding world. Thus it promotes interbeing.

The practice of reason, however, has often been considered problematic because it tends to put more value on the eternal and universal than the changing and particular. To correct this problem, I suggest an epistemic practice that goes further towards promoting interbeing via participation in a larger coordinated telos that builds off of the standard practice of reason while at the same time going beyond merely relying on universal principles. Such a practice would involve participating in a contextualized knowledge that more fully takes into account the particular situation.

In fact, although often not acknowledged, in applying the universal principles to new situations, the standard practice of reason must rely on some kind of contextualized knowledge that is not given by the universal principles. Although we can develop some meta-guidelines on how to apply the universal principles in new situations—as happens in the development of the legal system, as new precedents get established—without contextualized knowledge, one would
require meta-meta-rules that told one how to apply the meta-rules to new situations, and so forth. This would quickly lead one into a viscous infinite regress. Universal principles, therefore, can never substitute for particular, context-dependent judgments that exceed those principles; the universal principles merely help guide the contextualized judgments without replacing them. Hence, my suggestion involves acknowledging and extending what we are already doing.

Is there any empirical evidence of a contextualized sort of guidance that goes beyond the common type of contextualized judgment just mentioned? I believe that there is some indirect, or at least suggestive, evidence. To begin, throughout history highly creative people in both the arts and sciences have successfully relied on a sort of intelligence or wisdom that went beyond merely applying universal principles to particular situations. For example, Henri Poincaré (1854-1912) and Albert Einstein relied heavily on it, calling it ‘intuition’. Poincaré was a French polymath who made major contributions to mathematics, theoretical physics, philosophy of science, and engineering. His creative process was extensively studied in 1897 by the French psychologist Edouard Toulouse, Chief of Medicine and director of the Laboratory of Psychology at l’Ecole des Hautes Etudes. According to Toulouse, “[Poincaré] does not make a grand plan when he writes a paper. Ordinarily he starts without knowing where he will conclude . . . During intervals he assumes . . . that his unconscious continues the work of reflection.” (Quoted by Miller, 346.) Thus, as stated by historian of science Arthur Miller, “Poincaré had a complete confidence in the power of unconscious work.” (346). Along the same lines, Einstein often emphasized the importance of intuition in his work—for example, famously saying that “There is no logical path leading to these laws [of nature], but only intuition, supported by a sympathetic understanding of experiences.” (Quoted by Miller, 369). This method of relying on a form of
intelligence beyond the conscious apprehension and application of universal principles has been confirmed by careful studies in which a group of people are given a difficult problem to solve for an hour, with a control group asked to continue to work on the problem for another hour. Those who go away and engage in some unrelated activity (such as golf) and return to the problem, or sleep on it, often almost immediately see the solution—in fact at a much higher rate than the control group who had continued to work on it. (See Stickgold and Ellenbogen, 2008).

This access to extra information/intelligence reaches its most astounding forms for savants—which are people that have specific artistic, mathematical, or linguistic skills vastly above even that of most professionals. For example, Wolfgang Amadeus Mozart was a musical savant. According Darold Treffert, a leading researcher in the field, some savants, called prodigious savants, have “a startling, innate access to the ‘rules’ of music, art, or mathematics, for example. These astonishing skills, abilities, knowledge and expertise, most often unexpectedly explode on the scene at an early age, in areas which the savants have neither studied nor have had any formal training.” (Treffert, 2011).

The evidence above shows that there is some sort of ‘intelligence’ or ‘wisdom’ beyond what we have direct cognitive access to. Where it is acknowledged, it is often relegated to some unconscious aspect of our minds, as though calling it a part of our unconscious somehow renders it less mysterious. It would still involve a hypothesis of an inner guidance in nature beyond our own conscious awareness; and since this type of guidance specifically manifests itself in creative endeavors—which fall outside of any sort of mechanical calculation based on universal rules—it is an example of the sort of dynamic, context dependent guidance that I have been hypothesizing. The real issue is thus how extensive this kind of intelligence is—whether it is only located in
what we might consider an aspect of minds (both conscious and unconscious). I suggest that the least arbitrary view is to consider it a pervasive feature of nature that is manifested in a particularly intense way in human consciousness.

Despite the arguments offered above, for much of western academia the idea of a global teleological guidance in nature is unacceptably mystical. Moreover, they would claim that it is based on a faulty projection of our own psychic categories onto the external world. Thus it should not be taken seriously even though a belief in something like this was practically universal before the mechanical view of nature gained dominance in the west.

Besides responding with the arguments and evidence offered above, an advocate of a more organic view of nature could counter with two points. First, it is not contrary to a scientific view of the world to hold that there is something much deeper about nature than allowed by the mechanical view: for example, as documented by Ken Wilber (1983), this belief was held by Albert Einstein and almost all of founders of the quantum theory (the central pillar of physics). Second, the mechanical way of looking at the world is a result of an overemphasis on the kind of thinking more characteristic of the left, analytical hemisphere of the brain with its attendant need to control nature. For example, as noted above, creative people and savants seem to be able to access information via non-analytical channels. In fact, there is empirical evidence that as a general rule the right hemisphere experiences the world in a much more holistic, interconnected way than the left hemisphere. One of the most striking confirmations of this is the experiences of neuroanatomist Jill Bolte Taylor, who had a massive stroke in the left hemisphere resulting in her experiencing reality mostly through her right hemisphere. As she recounts: "without the traditional sense of physical boundaries, I felt that I was at one with the vastness of the universe."
(2006, 65); "Everything in my visual world blended together, and with every pixel radiating energy we all flowed en masse, together as one. It was impossible for me to distinguish the physical boundaries between objects because everything radiated with similar energy." (2006, 70); and finally, "My stroke of insight is that at the core of my right hemisphere consciousness is a character that is directly connected to my feeling of deep inner peace. It is completely committed to the expression of peace, love, joy, and compassion in the world." (2006, 133). In sum, her experiences suggest that the appeal of the modern, fragmented view is partly a result of a neglect of stereotypically right-brain styles of thinking, which a priori have equal legitimacy as stereotypically left-brain styles.

Yet, as Taylor admits, merely living in the right hemisphere was problematic—it left her particularly vulnerable to negative states. Says Taylor: "It was hard to shield myself from the negative vibrations in the environment." (2006, 104). This touches upon the negative side of the pre-modern, more interconnected and holistic view: arguably, it led to superstition and its accompanying violence and scapegoating, along with a continual dread of being invaded by evil (or negative) forces. (See, for instance, Charles Taylor, 2007, 37-47, and Sagan and Druyan, 1997.) Hence, I am not suggesting that we neglect left-brain styles of thinking—which have led to great accomplishments—but rather that we complement them with more interconnected right-brain styles.8

Finally, I come to the issue of putting this all into practice.

**Putting it into Practice.**

To put the above ideas into practice, we first must recognize that a major barrier to nature being a source of non-conflictual desire is that nature has often been considered a rival for our
self. Nature has been perceived as threatening our physical bodies with disease, death, starvation, and the like; and with threatening our psychological and spiritual lives with ‘irrational’ impulses through our biological drives and appetites. Since we are part of nature, viewing nature as a rival results in our falsely treating aspects of ourselves as rivals for possession of our self, thus resulting in alienation from our own self. This even occurs among those who claim that the physical world is all that exists. Richard Dawkins, for instance, claims that we are merely ‘genetic meme machines’, but then contradicts himself by saying that our hope lies in resisting our genes (which he labels ‘selfish’); this is impossible, however, if all of our behavior is determined by our genes.

Another consequence of viewing nature as a rival is that nature becomes an object of acquisitive desire. For instance, as Jean-Pierre Dupuy and Paul Dumouchel note, nature gets “absorbed within our conflicts as a means to victory and as objects of desire and of mimetic appropriation” (2004, 9)—particularly military and economic rivalries (2004, 3). With the development of genetic engineering, neurological engineering, and the like, even the human person is objectified as a means of mimetic appropriation and rivalry with others: “The transformation of our body into an artifact is not a thing that is desired for itself but for what it brings in relation to others, success, victory in mimetic rivalry. What disappears in this process is our self, our body, our nature. It disappears as something that is independent of or outside of our mimetic conflicts.” (2004, 10). This is a scary future, but perhaps inevitable apart from the type of deeper view of nature that I am suggesting.

To undercut this view of nature as a rival, I suggest that we cultivate awareness that we are part of nature and that the central dynamic of nature is teleologically coordinated interbeing,
as elaborated above. This will not merely be cognitive, but involve engaging in corresponding actions. The alternative is to try to conform our desires to our ethical ideals. This approach, however, often sets up our own biological drives and appetites as rivals, thus resulting in internal alienation—with its attendant consequences—discussed above. Instead, I suggest, we should recognize that the actions ensuing from our drives and appetites depend on their context. Then instead of resisting our desires and appetites (which implicitly treats them as rivals), we should place them in the context of awareness of interbeing—thereby changing the ensuing actions. Consequently, as our awareness increases, we will tend to automatically engage in the kind of interbeing discussed above.

Such awareness also serves to undercut the kind of acquisitive desires that we mimmically pick up from others and that are counter to interbeing. A central part of such desires involves placing an inordinate value on certain ‘objects’—such as fame or glory—that are far removed from any basic human needs. Merely becoming aware of the vastness and marvelous order of the cosmic process often undercuts this. For example, Albert Einstein claimed that this awareness, which he called the “cosmic religious feeling,” was a distinguishing mark of both religious and scientific geniuses of all ages (1984, 102-103); it gave them the passion for their work while causing them to feel “the futility of human desires and aims and the sublimity and marvelous order which reveal themselves both in nature and in the world of thought.” (1984, 102). Other scientists, such as biologist Ursula Goodenough, experience this as “The Sacred Depths of Nature,” the title of Goodenough’s book on the topic (2000).

For both scientists and non-scientists, the ‘wild places’ in the natural world often serve as powerful ‘access points’ for this awareness, but it can occur anywhere since even steel beams
and blacktop are as much a part of nature as plants and animals. Everything about our existence, including our ability to do anything, depends on a deep, complex, and vast interconnection of natural processes; thus it is an illusion that we ‘control’ nature; rather all of our actions depend on nature. We do not have to strive for our heart to pump blood, our stomach to digest food, or the sun to shine. Put in theological terms, these are all a matter of grace flowing through the natural order: arguably, treating nature as a rival, and something merely to be controlled and appropriated, is to deny this grace.

Seeing ourselves as part of this vast network of interbeing, I believe, can go a long way towards instilling the sort of awareness we need. It is crucial, however, that this awareness involves recognition of the inner telos of nature toward greater interbeing. Otherwise, it is too easy merely to see all human endeavors as trivial and not ultimately important, and instead adopt an attitude of mere acceptance of nature and our role in it. I suggest that this practice of awareness of interbeing could free up new creative powers that will result in one accomplishing more than ever before, while at the same time not being acquisitively attached to the results.10

References


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1 A recent author who has taken up this idea is Mark Epstein, 2005.

2 Philosophical Taoism should be distinguished from religious Taoism. Unlike philosophical Taoism, the latter involved various methods of gaining physical immortality, belief in a pantheon of deities, and the like.

3 According to psychologist Robert Wolff (2001), a similar, purportedly successful, practice of being guided by nature is found in the Sng’oi tribe of Malaysia.

4 Bradshaw (2004, pp. 250-262) argues that it is Aquinas's, and almost all other Western Medieval theologian’s, adherence to the doctrine of absolute divine simplicity that did not allow them to affirm real participation of creation in God, even though they had deep inclinations in that direction.


6 Indeed, this sort of reductionism is even inconsistent with the other fundamental pillar of modern physics, General Relativity, at least according to one of its leading experts, Cambridge University mathematical physicist Roger Penrose (1989, 220-1).

7 In Christian theological terms, I am suggesting that we need to complement an appeal to the Logos with guidance by the Holy Spirit acting in nature.

8 For a book that attempts to do this, see David Ray Griffin, 1988.

9 Evolutionary biologist Stuart Kaufmann has also attempted to develop an idea of the sacredness of nature by postulating and new properties that continually arise in nature. Kaufman claims that this ‘emergent creativity’ of nature provides much of what we have sought—such as meaning—via a supernatural God (2008, 282).

10 Christians might worry that this view undercuts the need for the Atonement of Christ. At least
under the view of Atonement I develop elsewhere (Collins, 2000), this is not the case. Under that theory, through his life, death, and resurrection, Christ developed a set of fully human and fully divine desires. Combining this theory with ideas in this essay, one could then postulate that these new desires are now available through nature, constituting a new “information field” of which we can partake and thereby be transformed.