Spiritual Ecology: Overcoming the Onlooker Consciousness & Healing Our Alienation from the Earth

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To the mourning doves who nested on my porch this spring & summer ... 

And the robins too ...
Abstract

What is the true nature of the modern environmental crisis? This thesis posits that it is fundamentally a spiritual crisis characterized by an artificial and unhealthy alienation of humanity from the Earth. This alienation stems from the development of a one-sided “onlooker” consciousness and corresponding epistemology over the past five hundred years which fails to adequately acknowledge the scientific reality of the spiritual or supersensible. This unwarranted scientific denial of the supersensible has placed humanity in an untenable position. Because our problems have both sensible and supersensible aspects, a science that excludes the latter will result in a distorted, one-sided picture of these problems, and hence an inadequate response. The onlooker consciousness is useful for certain scientific and practical purposes, yet fails to provide a comprehensive context for our healthy existence in the world. We have allowed the methodology of subject/object separation to become an ontology, with catastrophic results. My proposed solution for healing this diseased consciousness draws primarily on the work of Rudolf Steiner, Johann Wolfgang von Goethe, and Georg Kühlewind. This solution entails an “upstream” cognitive movement that will enable us to become conscious of the supersensible aspects of the world and to thereby overcome the deceptive subject/object dichotomy which causes us to view the Earth as a collection of objects in the first place.

Keywords: spirituality, ecology, consciousness, Goethean science, anthroposophy
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Introduction

“I see no other hope of avoiding destruction than for our mentality to change.”

- Georg Kühlewind, The Gentle Will

“[I]t may now be necessary to foster a new environmentalism of the spirit.”

- Al Gore, Earth in the Balance

The world we live in is not merely a material world; it is also a spiritual world, and hence the current environmental crisis is undergirded by supersensible elements that are passed over by our essentially materialistic practice of modern science. The thesis here considered posits that the deepest roots of the ongoing ecological devastation are in fact spiritual in nature, manifesting as a diseased modern “onlooker” consciousness which treats the world as an object to be exploited rather than as the nourishing and sacred context of our existence. Further, this thesis contends that the unwarranted and ironic denial of the scientific reality of the spirit is the single most fundamental of these roots, and hence that humanity’s most pressing need is the raising of consciousness entailed by the adoption of a truly modern science which acknowledges this reality.

My intended audience for this thesis is that portion of modern humanity which already “smells a rat,” as it were, in modern materialistic worldviews. An understanding of the following criteria may be useful for the prospective reader in determining whether or not to proceed:

1. A salt crystal and a toad placed side-by-side on a table are not simply two different substances or groupings thereof, but there is an order of difference between them.

2. A man and a woman sitting down together to make a papier-mâché Christmas ornament as compared with a man and a woman lying down together to make a baby are not simply
examples of two human activities, but there is likewise a highly significant order of
difference between them.
The Scientific Reality of the Spirit, Part I

“We need to awaken to the functioning presence of spiritual realities in our lives. They are much more subtle, less sensational, more delicate, less crude, than we may expect. Consequently they are easy to overlook.”

- Gertrude Reif Hughes (Introduction to Rudolf Steiner’s Intuitive Thinking as a Spiritual Path)

“[T]he spiritual can be experienced and is thus self-evident.”

- Martyn Rawson, The Spirit in Human Evolution

As previously mentioned, the crucial axis on which all else depends, epistemologically speaking, is the denial or affirmation of the scientific reality of the supersensible. What is the true state of affairs in this regard?

The first thing to realize – and undoubtedly the hardest thing to realize in these materialistic times – is the fact that the supersensible is neither a theory nor an abstraction, but a reality that is directly experienced.

It is quite remarkable how controversial and even outrageous this simple assertion sounds to most of us today. Yet it is quite easily verified by unprejudiced reflection on the nature of thinking. At its most basic level the matter can be worded thus: Thinking presents itself to us directly as thought, not as substance.

However irrelevant this statement may seem at first blush, it is actually of critical significance for the current inquiry, for if an ignorance of this fact is allowed to pass unnoticed, a spectacularly impressive (albeit specious) edifice of materialism can be – and indeed has been – built on it.

Many of us have been taught in school that thinking is reducible to and fully explained by certain physical substances and processes in the human brain: neurons, synapses, neurotransmitters,
etc. Yet our thinking does not present itself directly to us in this manner (i.e. as processes and substances which in turn have to be interpreted as meaning), but rather as meaning or thought. Indeed the statement that thinking is reducible to physical processes and substances is itself a thought first, and this thought is demonstrably supersensible (or if you prefer, non-material) in character. It is extremely important to recognize at this early juncture that there is no bedrock scientific validity in the assumption that thinking is physical. In view of the fact that thinking is directly given to us in non-material form, it is on the contrary sound scientific practice to accept thinking as a spiritual reality. Thinking does, however, clothe itself in the physical, for example in the case of a written text which expresses itself in the form of physical marks on a page without its meaning being reducible to the physical properties thereof.

A simple thought exercise developed by Hungarian philosopher Georg Kühlewind (1994) can help to clarify this perhaps unexpectedly tricky point:

Which one is primary, the physical process or the process of consciousness? Doctor Skullskins would like to prove that my brain is responsible for my thoughts. He attaches electrodes from an encephalograph to my head and proposes to show me the different signals and graph curves that the machine writes out according to whether I am thinking, fantasizing, or dreaming. I sit down in a chair, and everything is prepared. Then Doctor Skullskins turns to me and says, “Now, Mr. Kühlewind, please think the following thought: ‘Two plus two equals four.’ Did you hear that? He asks me, I am supposed to think about two plus two. And he asks so politely! But if my brain were the cause of all thought, why should he address me, what do I have to do with it all? He should deal with my brain, if that is the cause. Or does he intend me to pass on his request to my brain? It seems that this is what he has in mind, in which case I am, after all, an important part of the process.
I can fool him at this point: instead of thinking “Two plus two equals four,” I can call to mind a cops-and-robbers film or the opera Boris Godunov. Or instead of “two plus two,” I can think simply “Now I’ll fool you.” Or I can silently recite something from A.A. Milne. But I can also comply with the doctor’s request. After all, it was so polite – it all depends on me. What I am to think depends entirely on me and furthermore, what my brain does depends on me. When I choose something, waves appear on the screen of the measuring apparatus according to what I have decided. In any event, I have to begin and then the brain follows, moment by moment. Halfway through my “two plus two” I can decide to recite Bilbo Baggins’ traveling song from the Lord of the Rings: I desire it and my brain follows suit, more or less like the bow and violin played by Mr. Szering. Is there no case in which the brain is the determinative partner? Certainly – at least when I have a headache. Also when I fall into a chain of associations. But when I am wide awake, then the brain obeys me quite completely. And because I can decide each moment how I will behave in the next moment – especially when this question of the encephalograph gets me excited – there are no grounds for claiming that my brain is responsible for my thinking. I bear the responsibility for who I am, as we have just proved experimentally. And by addressing me, as he must to begin the experiment, the doctor shows that he is also of this opinion. Only he doesn’t know it yet. (pp. 45-46)

This telling and rather humorous thought experiment is worth reflecting on at length. Perhaps the most important point for us to recognize here is the fundamentally question-begging attribute of reductive materialistic “explanations” of non-material phenomena, an aspect which is quite often unremarked and hence allowed to pass unnoticed, with catastrophic results further downstream. As Kühlewind remarks, the hypothetical Dr. Skullskins is only able to proceed with
his experiment by directly addressing the same spiritual individuality whom he is attempting to reduce to purely physical processes, thereby nullifying the validity of his experiment.
The Organizing Idea in Cognitive Perception

“We miss the dimension of mind which is active in our lives, and it is the job of philosophy to make this dimension visible to us.”

- Henri Bortoft, *The Wholeness of Nature*

How else might we begin to break out of the straitjacket of modern materialism and learn to sense – directly or indirectly – the supersensible in our daily lives? Are there other ways – besides the spiritual nature of thinking we have just noted – in which the influence of spiritual factors manifests itself to us?

In fact, not only does the spirit offer itself to us directly in cognition, but its effects can also be detected indirectly through the seldom noted participation of cognitive factors in the act of perception. This participation is what physicist and Goethean scientist Henri Bortoft (1996) termed “the organizing idea in cognitive perception” (p. 123).

When we employ our physical senses in order to perceive the world around us, nothing seems more obvious than that this world is simply “out there,” given to us “as is,” completely independent of any contribution on our part. Meanwhile, we are obviously “in here,” passive observers merely registering the world as it is given to us, as if we were spectators in the bleachers watching a basketball game. Such an understanding of human perception is known in philosophy as *naïve realism*, and upon closer scrutiny this approach fails to accord with reality.

If I go outside and stand in front of a tree, this tree appears to simply be given to me as such. What I fail to realize, however, in assuming this is that without the concept “tree” I would be utterly unable to perceive this tree discretely as a coherent unit at all. It is only by connecting the percept of this particular tree with the concept “tree” that I am enabled to see this tree as precisely
“a tree,” rather than as an unrelated jumble of sense perceptions. This underlying process of matching concept with percept has become so second-nature to us that we find it almost impossible to notice it until our attention is expressly drawn to it. As Bortoft (1996) notes with regard to a similar example,

The point here is that if we see a chair, say, then this is not the purely sense-perceptible experience it seems to be, because it also entails the concept ‘chair.’ So what we usually think of as sense perception alone is really a sensory-conceptual coalescence. (p. 400)

Perhaps the best way to reach clarity on this important point is to consider the experiences of people born blind who have subsequently undergone operations to have their sight “restored.” The easiest and most sensible thing to assume in such cases is that when the bandages are removed after the operation, the patient exclaims “Now I can see!” and immediately gets on with her life. In practice, however, this is not what happens, and the actual typical chain of post-operative events lines up very well with the description of cognitive perception given here.

Stephen L. Talbott (2005) examines this process in detail:

There have been many cases where the lifelong blind have, as adults, had their sight “restored” through surgery. The common result of such operations underscores the conceptual element in all seeing. The neurosurgeon Oliver Sacks tells the story of one blind patient, Virgil, who, after forty-five years, had the cataracts removed from his eyes. The day following the operation on his first eye, the bandage was taken off. But, as Sacks reports, “The dramatic moment stayed vacant, grew longer, sagged. No cry (‘I can see!’) burst from Virgil’s lips. He seemed to be staring blankly, bewildered, without focusing, at...
the surgeon who stood before him, still holding the bandages. Only when the surgeon spoke – saying ‘Well?’ – did a look of recognition cross Virgil’s face.”

Regarding this “deliverance” from blindness, Virgil later confided to Sacks that, in the beginning, “There was light, there was movement, there was color, all mixed up, all meaningless, a blur. Then out of the blur came a voice that said ‘Well?’ Then, and only then, he said, did he finally realize that this chaos of light and shadow was a face – and indeed, the face of his surgeon.”

Virgil’s attempts to see were long and agonizing. When, for example, trees were pointed out to him, they “didn’t look like anything on earth.” But a month later, as his wife noted in her diary, he “finally put a tree together – he now knows that the trunk and leaves go together to form a complete unit.” Of course, the image on his retina did not change; it was the unifying idea of the tree he found.

Virgil’s achievement with trees had to be repeated for countless other objects: “The first month, then, saw a systematic exploration, by sight and touch, of all the smaller things in the house: fruit, vegetables, bottles, cans, cutlery, flowers, the knick-knacks on the mantelpiece – turning them round and round, holding them close to him, then at arm’s length, trying to synthesize their varying appearances into a sense of unitary objecthood.”

Virgil’s story continues far past these early stages, and only confirms further the lesson learned from numerous operations on the congenitally blind: learning to see for the first time as an adult is a long and difficult process – so much so that some of those who have received their sight prefer to spend their days in darkness, with their eyes closed. The work
of bringing the new world of sight to manifestation through appropriate concepts –
concepts foreign to a lifetime of cultivation of the other senses – can be just too hard.

As Talbott (1995) observes elsewhere, “[I]t turns out that seeing requires much more than
functioning eyes and nerves” (p. 269), in contrast to the usual materialist view. “The sum of it is
that there are no appearances without the concepts that constitute the appearances as the particular
appearances they are” (Talbott, 2005).
Organic vs. Inorganic

“Who would study and describe the living, starts
By driving the spirit out of the parts
In the palm of his hand he holds all the sections
Lacks nothing, except the spirit’s connections”

- Johann Wolfgang von Goethe, Faust

Another angle on recognizing the scientific reality of the supersensible revolves around the immense qualitative discrepancy between life and non-life. To return to the example given earlier, imagine that we place a live toad and a salt crystal side by side on a table. If we then leave the room and return half an hour later, we certainly won’t expect the toad to be in the same spot – or even on the table at all – but we will expect the crystal, by contrast, to be unmoved. Why? Because the toad, as a living being, is animated by an inner directing principle of some sort, while the crystal is inanimate matter which can only be influenced extrinsically, for example by water pouring on to the table through a hole in the roof or wind blowing over it from an open window. This point may seem trivial, yet it directs our attention to an important problem: materialistic conceptions of life fail to properly acknowledge the existence of this apparently immense qualitative order of difference between animate and inanimate. If, for example, we change the above experiment to include a dead toad and a salt crystal, we will expect the former to “behave” in the same inanimate manner as the latter. Unbiased reflection is forced to conclude from such observation that there is some sort of “life principle” involved here that distinguishes the living toad from the dead one, and that materialism fails to adequately account for. (We will examine later on materialistic attempts to do so.)
If we further modify the above experiment by removing the animalistic property of inner-directed movement and replacing it with qualities associated with plants, the qualitative order of difference shifts accordingly, yet we come to a similar conclusion. Imagine that we place a *Ficus benjamina* on the table next to the salt crystal, and furthermore that we arrange an apparatus above the salt crystal which continuously drips a salt solution onto the crystal. If we then leave the room and return several days later, we will expect to find growth on both sides. Yet this growth will of course be qualitatively different: in the salt crystal it will be a mere process of accretion imposed from without, while in the *Ficus* it will involve a differentiation of tissues once again stemming from an intrinsic “life principle” of some sort which apparently cannot be directly observed, but whose outward physical manifestations *can* be observed, rather in the manner of a curtain billowing under the influence of a cause which is itself unseen.

A further thought experiment can perhaps shed further light on what is meant here. Imagine that we stand next to a small sugar maple growing by itself in the middle of a lawn. Imagine also that we have buckets full of every element of which the living tree is composed (carbon, nitrogen, oxygen, phosphorous, etc.), a schematic blueprint of where each of these elements is located in the living tree, and a pair of tongs. If we could somehow place all of the elements together in the correct order and position in this mechanical fashion, as if they were Lego blocks, does anyone imagine that we could get a living tree out of such maneuvers? And if not, why not? Perhaps we could create a reasonable facsimile of a *dead* tree, though this too would be quite a stretch. Yet even if we could do this, the elusive “life principle” by which the organism achieves growth, nourishment, reproduction and differentiation of tissues would still be missing. As we will observe later on, failure to honestly account for these phenomena is only one of the problematic aspects of materialism.
The Roots of Modern Materialism & the Onlooker Consciousness

“Despite the popular belief that modern philosophy was ushered into existence by breaking away from the a priori methods of the medieval Aristotelians and establishing a more cautious and a more inductive method, the opposite is more nearly the truth. The most flagrant and most gratuitous assumptions ever made in the history of philosophical speculation were made in the Cartesian period ... The other striking feature of modern philosophy is the manner in which principles denied in one part of the work are surreptitiously introduced in another.”

- Thomas Berry, The Historical Theory of Giambattista Vico

At this point in our inquiry we are logically brought to the question of how modern humanity came to the materialistic worldview in the first place. When we examine the history of science we are struck by the fact that, far from necessarily proceeding in a steadily more objective and factual manner over time, science in the modern period has often been practiced in such a way that assumptions and theoretical models developed by particular thinkers (in particular socio-cultural circumstances) have been insidiously reified, i.e. have been allowed to take on an ontological significance which is not strictly justified scientifically. In effect, what were originally assumptions adopted for specific methodological purposes have often been allowed to surreptitiously shift into a position in which they are seen – quite speciously – as possessing unquestioned concrete reality. Once this key factor is understood these assumptions can be seen for what they are, and we can begin to recognize that materialism’s apparently unassailable position is in fact a mirage.

(i) The Demotion of Direct Experience

Materialism in its current form first began to take shape at the end of the Renaissance in the early 17th century. It was at this time that astronomer/mathematician Galileo Galilei made the fateful division between what later came to be called (by philosopher John Locke) “primary and secondary qualities” of perceptual phenomena, i.e. objects. In doing this, however, Galileo was not
simply ripping up an old paradigm and replacing it wholesale with his own, but rather building on an
ages-old distortion of Plato’s philosophy which had been allowed to take hold over the intervening
centuries. At the root of this misunderstanding was the assumption that Plato, rather than
distinguishing a spiritual world of ideas from a physical world which embodied them, was in fact
separating reality into two different worlds: a metaphysical world of true reality, and a sensory world
of deceptive appearance (Bortoft, 1996, p. 385). In turn this idea was further elaborated by modern
philosophers such as Rene Descartes and Immanuel Kant, and remains an extremely influential
factor in our collective modern worldview.

What precisely did Galileo’s aforementioned division of qualities entail? The primary
qualities were defined as those objectively measurable qualities most closely associated with solid
objects: e.g. weight, extension, shape, motion. The secondary qualities, by contrast, were those
defined as truly existing only in subjective experience: e.g. color, taste, smell, sound, beauty,
ugliness. Ronald Brady (in Maier et al., 2008), a philosopher who wrote extensively on epistemology
and Goethean science, elaborates on this distinction:

The primary qualities are those that, in the Galilean argument, cannot be divorced from the
concept of a body. The secondary qualities can be divorced, however, and Galileo, reasoning
that they were not necessary to bodies, saw no other source for them but the human
senses, concluding that “they reside only in consciousness.” Descartes and Locke were in
substantial agreement with this judgment, although they argued that a particular sensation –
let us say a certain color – can only appear on a surface if the surface possesses the power
of producing that color in the human sense organ, thus linking the color to the observed
body. Yet the color itself still resided only in consciousness, for it remained the effect of
powers possessed by the observed body and/or the sensing mechanism, and the effect need not resemble its cause. (p. 15)

This creates a problem, however:

It is impossible for a world possessing only primary qualities to appear sensibly, since the senses speak in terms of secondary qualities. The primary qualities are discovered through the senses as relations between secondary qualities, and must be abstracted from appearances through a mental act. (Shape, for instance, is seen only through variations in color and/or brightness.) Thus we know the world of physics only mediately, as it is deduced from the world of appearances, but the world of appearances is known more immediately, as it appears to experience. Indeed, the primary qualities are part of this experiential picture, but when they have been abstracted from it a great deal of the apparent world has been left behind, existing, it would seem, only as a mental picture in an individual consciousness. This is the demotion of direct experience [which has become such an established factor in the modern scientific worldview]. (p. 15)

This “demotion” of which Brady speaks puts modern humanity in the tenuous position of trusting theories over direct personal experience, which in turn leads to an unhealthy reliance on scientists to explain the world for us in ways that are difficult if not impossible for us (and them) to verify. It is easy to get the impression from this excerpt from Brady’s account, read in isolation, that this was a strictly modern development perpetrated by Galileo, but as I intimated earlier the roots of this approach reach into deep antiquity. As Rudolf Steiner (1973) observes,

At a certain crucial moment a mistrust in man’s organs of sense took possession of a Greek thinker. He began to think that these organs of sense do not impart the Truth to man but that they deceive him. He lost faith in the results of naïve, direct observation. He
discovered that *thought* about the true being of phenomena has not the same thing to say as *experience*. It is difficult to indicate the particular mind where this mistrust first gained a hold. We meet with it in the Eleatic School of Philosophy, of which Xenophanes, born at Kolophon, 570 B.C., is the first representative. The personality of greatest significance in this School appears in Parmenides. Parmenides has asserted more emphatically than any of his predecessors that there are two sources of human knowledge. He has declared that sense impressions are illusory and deceptive and that man can only attain to knowledge of the True through pure thinking that takes no account of experience. As a result of this conception of thought and sense experience that arose with Parmenides many later philosophies came to be inoculated with an evolutionary disease, from which scientific culture still suffers to-day. (pp. 4-5)

Among these “later philosophies” was one that came to be known as “Platonism.” Two important related points should briefly be noted here, however. First, the mere inclusion of Parmenides, or of any other philosopher or scientist, in a section dealing with materialism should in no way be taken in itself to mean that Parmenides or the others mentioned were necessarily materialists. Second, Steiner does acknowledge – later in the same passage – even deeper Eastern roots for the “mistrust” of the senses characterized above, holding these to be beyond the purview of his particular inquiry. As we are concerned here primarily with the Western scientific worldview, this is an appropriate beginning point for our inquiry as well.

(ii) One-sided Platonism

A century or so after Parmenides, Plato laid the groundwork for a conception of reality that continues to exert a massive influence on the way in which modern humanity, largely guided by
modern science, continues to see the world. At the root of this conception of reality is what Bortoft (1996) terms “the metaphysical separation”:

The basic point of the metaphysical separation is that the world which we experience through the senses is not the full reality, and that behind this world there is another, non-sensory world, which is the intelligible origin of what appears as the sensory world. This is not simply saying that the intelligibility of the world we encounter through the senses cannot be encountered by sense experience. The metaphysical attitude goes much further than this to deny that there is any intelligibility in the world we encounter through sense experience – not just that it doesn’t appear to the senses, but that it is not there at all in the sensory world. The intelligibility of whatever we encounter in the world of sense experience is in another world that is separate from this sensory world. Metaphysics is the two-world theory that separates the sensible and the intelligible into two different worlds of unequal ontological status. So the sensible world is subordinated to the higher intelligible world and is dependent on it for its being. There is one-way ontological traffic in metaphysics: the lower world of the sensory particulars could not be without the higher world of intelligible universals, but the latter could perfectly well be without the former. (p. 180)

It is extremely questionable at best whether or not Plato himself intended this “metaphysical separation.” Philosopher Hans-Georg Gadamer, who spent much of his lifetime studying Plato’s works intensively, affirmed that “Plato was no Platonist” (quoted in Bortoft, 2012, p. 82). Steiner (1973) seems to share this view, yet he implies that Plato unintentionally furthered this misunderstanding through a lack of clarity:
Plato did not only stress the knowledge that so far as human perception is concerned the sense world becomes mere appearance when the light of the world of ideas is not shed upon it, but his presentation of this fact has furthered the notion that the sense world in itself, apart altogether from man, is a world of appearance, and that true reality is to be found only in the ideas. (pp. 9-10)

“Whatever the case may be,” Bortoft (1996) concludes,

the fact is that it is one-sided Platonism, with its hierarchical two-world theory, which forms the basis of the Western metaphysical tradition according to which the sensory and the intelligible are conceived as existing separately. Aristotle’s concern may have been not to reject Plato, but to correct the imbalance between the sensory and the intelligible, the many and the one, which arose in the way in which Plato presented their relationship … But Aristotle’s attempt to correct Plato’s distortion did not succeed. One-sided Platonism was carried forward historically through an alliance with Western (Roman) Christianity. This became the vehicle which carried it into the mainstream of Western thought. (p. 385)

(iii) Galileo & the Science of Quantity

And so we are brought back to Galileo’s establishment of primary and secondary qualities, a choice which – while still arbitrary in a certain sense – at least appears here in a historical context in which its true significance can more accurately be understood. In a nutshell, “one-sided Platonism” and the metaphysical separation it entailed paved the way for Galileo and Descartes to banish the non-quantitative aspects of reality from scientific inquiry. Brady (in Maier et al., 2008) notes that

The effort to distinguish elements of experience in this manner, picking out and relating only those that belong to Galileo’s concept of bodies, must be recognized as a great feat of
abstraction – one that represents, historically, an advance in human thinking. This is the very act that produced an object for mathematical physics. After all, the primary qualities are numerically measurable, while the others are not. But to venture further and treat the resulting division as a distinction between what exists “externally” – independently of the observer – and what does not is another matter entirely. Here something has been added to the original distinction between primary and secondary that is not derivable from the distinction itself. We have no a priori knowledge that only the measurable is real (“out there”) and the rest merely subjective (“in here”). During the Renaissance, however, for reasons that pertain to the times, Galileo’s distinction was given just this significance. (pp. 15-16)

At this stage of our inquiry it is useful to note one of the key concepts we covered earlier, namely that of the organizing idea in cognitive perception. It is important for us to clearly and consciously recognize that this concept is operative in all human sense perception, very much including that which takes place under the rubric of scientific investigation. What this specifically means in the present context is that Galileo was not simply discovering something objective about the world and then passing it on to the rest of us, but was actively (albeit unconsciously) “seeing” a particular reality into existence. In the same way that the formerly blind Virgil had to grasp the concept “tree” and link it with his sensory perceptions in order to “see” a tree, Galileo needed to adopt a particular idea (in this case the distinction between two orders of qualities) in order to “see” the world in this particular way. Yet there is a critical difference between the two: In Galileo’s case, as Brady recognizes, an act of abstraction has taken place, in which certain aspects of phenomena are separated from others. There is nothing inherently wrong with doing this, but forgetting one has done so entails consequences that need to be recognized:
Galileo was a pioneer in the quantitative science of motion. This does not mean that he simply applied mathematics to the world. The world is not just sitting there in mathematical form already, waiting to have mathematics applied to it – which is the image that “applying mathematics” conveys. The world has to be mathematized. It has to be worked over mathematically first, and then it appears as if mathematics were applied to the world because the world has already been mathematized … [T]he confusion here comes from the failure to distinguish between the way of seeing and what is seen, which is itself a consequence of starting from the finished product instead of following through the process of its coming-to-be. If we do not follow through the process of mathematization by which the world comes to be mathematical, then we make the mistake of believing that mathematics is just applied because the world is mathematical. Once again, the way of seeing is eclipsed, being falsely objectified so as to appear as a feature of the world which is given directly to sense experience. (Bortoft, 1996, p. 172)

This “false objectification” has been allowed to become codified into the practice of modern science, where it continues to lurk, directing this practice away from anything to do with spiritual realities, which by their very nature cannot be measured.

Up to this point in our review of the roots of materialism, we haven’t yet discovered anything that might be characterized as materialism per se (though we will consider the ancient Greek philosophy of atomism shortly); rather, we have seen the ground being prepared, the stage being set, for what currently is designated by this term. If there is a “place” where modern materialism begins to more clearly come into view, it is in this matter of quantification that we have been examining. As Bortoft (1996) observes,
The science of quantity is measurement science … [W]herever science is concerned with measurement, the particular aspect of nature involved has first to be prepared quantitatively. This entails dividing it into a set of homogenous parts that are intellectually superimposed on nature like a grid or scaffolding. Nature is then seen in the perspective of a framework, which is not part of nature at all, but is really an intellectual rearrangement of nature that reduces it to the purely quantitative – i.e. to parts which are external to one another. The system of measurement is in no way intrinsic to nature, but the reduction of nature that it effects enables us to manipulate it for our own ends. (p. 173-74)

In the wake of this arbitrary but useful quantification, nature (and everything else, for that matter) becomes an object, with purely utilitarian value.

Such calculative thinking … certainly gives us power over nature, but it has the effect of separating us from nature in such a way that we cease to experience nature directly. We can control and organize nature according to our will, but the price for this is that we withdraw from nature. We begin to experience ourselves as being separate and essentially different from nature, while nature in turn begins to seem lifeless and empty. (p. 174)

We can begin to see here more clearly how Galileo’s attempt to rationalize science by reducing it to its quantitative aspects was perfectly justified from a methodological point of view, yet when this method was allowed to take on unwarranted ontological status, this paved the way – however unintentionally – to the Pandora’s box of modern materialism. In essence what happens here, according to Bortoft (1996), is that “Nature … appears in a conceptual framework, which is falsely identified with nature itself when the activity of mind ceases to be visible to itself.” (p. 174). Here too the power of the organizing idea in cognitive perception demands to be recognized.

And when it isn’t recognized,
When quantity is taken to be the fundamental category, then nature is reduced to matter and the general viewpoint that is formed corresponding to this is materialism. This is what has happened in the development of physics in the modern period, when physics became mathematical physics and “experiment” came to mean “measurement.” In other words, the viewpoint of materialism is a distortion that results from a one-sided emphasis on the category of quantity … Although scientists often refer to “nature,” this only hides the fact that nature has been reduced to matter by modern science, so that now we think they are the same thing. But whereas there can be an atomic theory of matter, there cannot be an atomic theory of nature. This is borne out by the fact that according to modern science, most of what we attribute to nature, color for instance, is really not in nature but in human beings. It is reclassified as only a subjective experience. When that which seems to belong to nature is relocated in human beings, what is left is matter and not nature at all. There is little wonder that the development of modern science has led to the crisis of nature! (p. 175)

Brady (in Maier et al., 2008) emphasizes that this abstracted, decontextualized “nature” is indeed real, but the whole from which it has been abstracted is also real, though this critical fact tends to be forgotten:

Of course … the lawful mathematical relations revealed through measures testify to an underlying reality. This conclusion derives from equating the independently real with the lawful, a fundamental premise of Western thought. The equation of real with lawful, however, says nothing about what qualifies as lawful. Thus it does not follow that what is not numerically measurable is also not lawful … and [thus] the West after the Renaissance adopted a worldview that fosters a deep split between theoretical knowledge and
experience. This view assigns external, lawful, and independent existence only to the world measured in terms of primary qualities. It demotes to a contingent existence, dependent upon the individual observer, everything left over after the primary information has been abstracted. (p. 16)

And, Brady adds, this worldview continues to direct the pursuit of science in the 21st Century:

The assumption that “lawful” is identical with “measurable” is often entertained today and it still, for many thinkers, serves to distinguish individual subjectivity from independent reality. In general, scientific methodology still depends upon measurement of primary qualities, and, since those qualities are assumed to be independent of the observer, it uses methods of measurement that either omit the observer entirely (by substituting mechanical devices) or attempt to escape subjective variation by generalizing on the reports of multiple observers. Immediate experience is individual – not a good candidate for what is normally termed “scientific observation” – and far richer than its measured relations. So “scientific observation” represents but a small part of the original content. (p. 16)

Bortoft (2012) concludes that

The upshot of what Galileo did is that the “illusion of the senses” is now compounded. Not only is reality different from the sensory appearances because it is mathematical, but also the sensory appearances themselves seem to be even more untrustworthy, because much of what they are telling us about the world turns out not to be in the world but only in our subjective experience … We can see a bifurcation beginning to emerge here, according to which the real world is outside of humanity, so that ipso facto humanity is now outside of the real world. (p. 40)
Along with Galileo, the other key figure in the early 17th century scientific/philosophical shift toward mathematization was Rene Descartes. With Descartes we can begin to see more clearly how a methodology was allowed to become an ontology (Bortoft, 2012, p. 212), i.e. how what were originally assumptions were eventually reified into reality, in ways that – despite a series of critiques spanning the past 250 years – continue to exert a strong influence on the practice of modern science. In artificially separating mind from matter (res cogitans from res extensa), Descartes – perhaps unwittingly – blazed the trail for the subject/object, “onlooker” consciousness we still live with today.

As Bortoft (1996) emphasizes, “This ‘onlooker’ consciousness is a consequence of emphasizing the thinking activity of the intellectual mind” (p. 111), rather than a concrete fact about the external world which Descartes simply discovered. In fact, the method that he employed in order to arrive at his famous conclusions can be seen in retrospect to have played a major role in influencing what those conclusions were:

He liked to spend his mornings in bed “meditating” in a thinking kind of way. In this situation his attention was withdrawn from the world, as well as from his own body, and directed into the activity of thinking. Thus, whereas his body was inactive, his thinking activity was by comparison hyperactive. The psychological effect of doing this was to produce an awareness of the world and his body as being outside himself, together with the feeling that he himself existed in this intensified activity of his mind. Hence he experienced a strong sense of being separate from the world and even his body, which therefore seemed unreal compared with his mental activity. Through directing his
attention into the thinking activity of his intellectual mind he became an onlooker consciousness. (p. 112)

We can understand better from this examination of Descartes’s methodology the contextual aspects of his philosophy which have often been ignored in historical critiques of his work (Toulmin, 1990). In conclusion, Bortoft (1996) finds that

the Cartesian dualism and the onlooker consciousness are psychological [rather than ontological] consequences of emphasizing the verbal-intellectual activity of his mind. Descartes’ philosophy is therefore a projection of the psychological state which he produced in himself. In other words, he made himself into a psychological apparatus for producing the Cartesian philosophy. (p. 112)

In not recognizing the methodological character of Descartes’s assumptions, Western culture has reified them to the point that modern materialists such as Daniel Dennett (e.g. in his book *Consciousness Explained*) continue to base their theories to a considerable degree on refutations of straw-man arguments stemming from this one-sided position. We will examine this angle on our topic more closely later on.

The traditional and rather curious habit of decontextualizing Descartes has managed to obscure the fact that – like any other productive human being – he didn’t create his work in a vacuum. This entrenched tendency – which itself reflects an unquestioning acceptance of Descartes’s own context-free approach – is what has perpetuated the illusion that he had no agenda (organizing idea) of his own. In fact, Bortoft (2012) remarks,

His aim is to give a foundation to mathematical physics which is consistent with the doctrine of the Church … he hopes to show that the new mathematical philosophy of
nature is in harmony with mainstream Christianity, and hence that it could replace the Aristotelian philosophy in the synthesis with Christianity that Aquinas had produced, and which had become the official philosophy of the Church. (p. 42)

Where did this agenda come from? In his book *Cosmopolis*, Stephen Toulmin presents a compelling case for the premise that the “Quest for Certainty” inaugurated by Descartes et al. stemmed primarily from a desire to overcome the social, political, and religious upheavals of the early 17th century, particularly the Thirty Years War. A conception of truth was created at this time that placed a premium on abstract, pure, idealized knowledge untainted by its myriad spatio-temporal manifestations in life and the world. Somewhere beyond or underneath all this lay a realm of concrete mathematical certainty (the “metaphysical separation”) which – once we came to know it – would ground all of our decisions and actions. Steiner (1956) asks,

What is the aim of all Descartes’ philosophical endeavour? With him, philosophy is no longer directed towards an understanding of life or the discovery of some secret of the universe for human consciousness. It is turned towards something entirely concerned with the intellect and with thought. It is directed to the question: How can I gain certainty? How can I free myself from doubt? How can I make sure that things really exist, that I myself really exist? It is no longer a question that is concerned with objective phenomena, or that directs itself to the content of fact which is the result of man’s observation of the world. *It is entirely concerned with the certainty of knowledge.* (pp. 90-91)

Once this key contextual fact is recognized and understood, we can begin to view Descartes’s oeuvre in its proper light, rather than allowing it to continue insidiously directing our scientific inquiries in increasingly unproductive ways. It needs to be emphasized, however, that
Descartes did not create the subject/object, onlooker consciousness; rather it is more accurate to say that he assumed that this was the only viable mode of scientific consciousness:

If Descartes had been a fishmonger instead of a mathematician and philosopher, there would still be the subject-object dichotomy. More importantly, if the historical circumstances had been otherwise than they were, there would have been no occasion for such an extreme form of dualism to be put forward by Descartes or anyone else. But there would still be the subject-object dichotomy because subject and object precipitate out together from the cognitive experience. (Bortoft, 2012, p. 188)

So our task here is not so much a matter of replacing one mode of consciousness with another, higher one; it is instead concerned with overcoming our stuckness in this former mode via a recognition of its limitations.

A key influence on Descartes that should be mentioned in connection with his work is the philosophy of atomism. Developed during the peak of ancient Greek culture in the 5th century B.C.E. by Leucippus and Democritus, this philosophy held that

The world was composed exclusively of uncaused and immutable material atoms … These invisibly minute and indivisible particles perpetually moved about in a boundless void and by their random collisions and varying combinations produced the phenomena of the visible world. The atoms were qualitatively identical, different only in shape and size – i.e., in quantitative and hence measurable terms … All human knowledge was derived simply from the impact of the material atoms on the senses … Qualities were subjective human perceptions, for the atoms possessed only quantitative differences. What was real was matter in space, atoms moving randomly in the void. (Tarnas, 1991, pp. 21-22)
Descartes, building on Galileo’s introduction of atomism into physics during the Renaissance (Bortoft, 1996, p. 167), came to the conclusion that “The world we can be certain exists is not the world we see, but the mathematical world of corpuscular matter in motion” (Bortoft, 1996, p. 186). At this point the stage was set for the further development of science on a materialistic basis.

In Bortoft’s (2012) estimation, “Descartes took [Galileo’s] anti-sensory mathematical ontology to an extreme” (p. 40), separating mind from matter, humanity from nature. “It is astonishing how such a back to front philosophy came to dominate the modern western mind. Although the difficulties it engenders soon became apparent, it nevertheless prevailed” (p. 48).

(v) **Newton & the Split Between Theory & Observation**

Legendary English physicist Isaac Newton was the next major figure in the evolution of modern materialism. In the late 17th and early 18th centuries he brought science to a level of mathematical sophistication which – despite the upheavals of the past hundred years – continues to form its backbone. In Tarnas’ (1991) view, “it was Newton’s astounding achievement to synthesize Descartes’s mechanistic philosophy, Kepler’s laws of planetary motion, and Galileo’s laws of terrestrial motion in one comprehensive theory” (p. 269).

This grand synthesis brought the mathematical ideal of Galileo and Descartes to its apparent fruition: “Newton had struggled to discover the grand design of the universe, and had patently succeeded. Descartes’s vision of nature as a perfectly ordered machine governed by mathematical laws and comprehensible by human science was fulfilled” (Tarnas, 1991, p. 270).

Yet lurking behind this triumph is a shadowy aspect that has seldom been overtly acknowledged in the presentation of Newton’s worldview: namely, a profound split between theory
and observation which amounts to a further reification of the metaphysical separation. Bortoft (2012) throws light on this shadow in relation to Newton’s conception of gravity:

[T]he remarkable thing is that [the] failure to understand what gravity is makes no difference whatsoever to Newton’s ability to consider gravity mathematically. He can discover the mathematical law of gravitational force between two bodies without having to know anything at all about the nature of gravity. This is really Newton’s major discovery: that it is possible to do what we now call “physics” … without having to know the nature of what it is we are dealing with. If it were otherwise, physics as we know it would not have been possible. Newton’s way … is to proceed by disciplined imagination to propose mathematical models of physical situations, solve problems in the mathematical model, and translate the solutions back into the original physical situation. (p. 51)

Employing this methodology in the ensuing centuries has brought us to an unprecedented level of control over nature, but has been found wanting with respect to an understanding of the same.

(ni) Kant & the “Thing-in-Itself”

Perhaps the most influential assumptions underlying the practice of modern science were largely brought into something approaching their present form by Immanuel Kant, who according to Brady (1998),

pushed the Cartesian principles to their logical end rather than passing beyond them. He made phenomenal appearances so dependent on the human constitution that there was no possibility of knowing “the thing in itself” – the reality that was before we looked upon it. Since independent reality could not be known, Kant made science into a study of appearances aimed at bringing them under rational law, that is, if we could understand and
predict appearances our inability to understand their ultimate source would not be a serious debility. (p. 90)

Essentially the principle thread which we can observe connecting Galileo, Descartes and Kant is the further and further subjectivization of one-sided Platonism, which reaches its most exaggerated development in Kant’s doctrine of the “thing-in-itself.” With this concept philosophy reaches the point at which reality cannot be known directly, but only inferred through its appearances. There is an objective reality, asserts Kant, but our ideas about it are merely subjective creations which we attach to this reality in a nominalistic fashion. In Steiner’s (1956) view,

Kantianism brings Nominalism to its fullest development, its final conclusions. It is also the lowest ebb of Western philosophy, the complete bankruptcy of man in his search for the truth, a despair that man can in any way find truth in external objects. The dictate is issued that truth can exist only if we ourselves introduce it into objects. Kant has destroyed all objective truth, all possibility of man penetrating to the reality in objects. Indeed, he has destroyed all possibility of knowledge, all possibility of searching for the truth, for truth cannot exist if it can only be created subjectively. (pp. 99-100)

Another aspect that needs to be considered when Galileo, Descartes and Kant are examined in their relationship to one another is their common reliance on quantitative/mathematical approaches to the practice of science. Indeed, Kant emphatically stated that “any particular natural theory contains only so much true science as it contains mathematics” (quoted in Seamon & Zajonc, 1998, p. 58). With Kant a decisive stamp is (again) placed on the modern pursuit of science: henceforth all true science is *quantitative* rather than *qualitative*, and thus any “science” that claims to deal with the latter is extremely questionable at best, and at worst downright fraudulent.
Our Current Situation

"We live in times of extreme confusion about spiritual matters."

- Jorge Ferrer, Revisioning Transpersonal Theory

“It is as if there were a kind of taboo preventing anyone with a scientific standing from even considering the philosophical implications of recognizing the spirit as something intrinsic to life.”

- Martyn Rawson, The Spirit in Human Evolution

The preceding section examining the roots of materialism is of course not meant to be an exhaustive or comprehensive review of the topic, but rather a preliminary distinguishing of a few key aspects bearing on the modern practice of science.

While this modern practice certainly cannot be characterized as any sort of monolithic unity, certain commonalities can nonetheless be discerned. Writing a decade before the 21st century about the 17th century doctrines created by Galileo, Descartes and Newton, Toulmin (1990) asserts that the position of both the scientific elite and the general public has so changed that not one of these doctrines is still a part of educated common sense, in any but an attenuated form.

Today we need no longer assume either that nature is generally stable, or that matter is purely inert, or that mental activities must be entirely conscious and rational. Nor do we any longer equate the “objectivity” of scientific work with “non-involvement” in the processes being studied. Least of all, do we see the distinction between “reasons” and “causes” as necessitating the separation of Humanity from Nature. (p. 143)

This is all true as far as it goes, yet even nearly twenty-five years after these words were written, the “attenuated forms” that Toulmin mentions continue as powerfully as ever (albeit less noticeably) to direct the practice of modern science. The fundamental point we need to
acknowledge is this: Even though Galileo, Descartes, Newton and Kant all believed in the reality of the supersensible, their unwarranted banishment of the non-quantitative aspects of reality to the realm of subjectivity effectively removed these qualities from direct scientific consideration. And this is where we stand right now. However much the scientific ground has shifted over the past three or four hundred years, nowhere in mainstream modern science are spiritual or supersensible realities outwardly accepted as scientific realities that can be directly apprehended as such. And this despite the fact that—as we discovered earlier—non-material reality is given to us directly in the activity of thinking.

Perhaps the best clarification of what is meant here is provided by the example of psychology, since this is a science which is inherently—whether this is consciously realized or not by its practitioners—concerned with the scientific reality of the supersensible. If we examine C.G. Jung’s writings, more specifically, and their elucidation of concepts such as archetype, animus/anima, shadow, collective unconscious, etc., we come to the realization that these are treated in the manner of scientific hypotheses rather than supersensible facts which are observed directly via spiritual organs of perception. Tarnas (1991) notes that “the nature of Jung’s field and concepts seemed to require an exclusively psychological interpretation of his findings. They were indeed empirical, but they were only psychologically empirical” (p. 387). The distinction here is one between hypothesizing about what is “behind the curtain” (or veil) that separates the supersensible from the material in the process of human cognition, and actually seeing (or directly perceiving) this reality. It is precisely this matter of direct apprehension which constitutes the key distinction between the mode of practice of modern psychology and that of Rudolf Steiner’s “spiritual science” and Johann Wolfgang von Goethe’s scientific work (neither of which are accepted, much less practiced, in mainstream science).
It is certainly true that modern forms of psychology frequently treat the spiritual or non-material as a reality from the very outset, yet (as Jorge Ferrer has convincingly shown in his book *Revisioning Transpersonal Theory*), the largely unacknowledged “Cartesian-Kantian” assumptions underlying their practice have effectively hamstrung them from developing properly. Modern modes of scientific inquiry, even though they *have* been modified in the sense which Toulmin indicates, are only able to lead up to the very gates of the supersensible without actually passing beyond them. One of the principle contentions of this thesis is that only an epistemological reevaluation can actually open these gates for us. This reevaluation has not only been indicated but actually achieved by both Steiner and Goethe, among others. In other words, the means by which we might both open these gates and pass beyond them – scientifically – are available to us, and have been for some time. We will return to this aspect of our topic later on.

In the early 21\textsuperscript{st} century we find ourselves in a situation in which we might be more inclined to take supersensible realities seriously than we did in say, the 19\textsuperscript{th} century, but nonetheless are still suffering from a sort of Cartesian hangover which stubbornly refuses to be cured. The legacy of one-sided Platonism has left us in a position in which our scientific practice can largely be boiled down to two primary approaches: either quantitative measurement of empirical phenomena, on the one hand, or theoretical speculation about what lies behind these phenomena, on the other. We are very adept at running off into the ditch on either side of the road, yet we apparently have great difficulty in staying on the road itself. Physical phenomena prove their existence through their measurability, yet supersensible phenomena are seemingly forever banished to a sort of never-never realm of abstract speculation. We saw how specious this conception is earlier when we examined the reality of thinking, yet if we fail to undertake this reexamination the end result is: Materialism.
Does Materialism Make Sense?

An apple is the same as an orange … as long as we ignore the differences.

Anyone who doubts the continued vitality of materialism in these times has only to consider the immense and continuing popularity of such purveyors of its doctrines as Richard Dawkins and Daniel Dennett. A book written by either one of these authors is virtually certain to reach the upper echelons of the *New York Times* bestseller list – in stark contrast to reissues of Rudolf Steiner’s work – so with all due respect to Stephen Toulmin we still have a problem here.

(i) Having It Both Ways

“The prevailing wisdom,” writes Dennett (1991), an American philosopher who teaches at Tufts University,

variously expressed and argued for, is *materialism*: there is only one sort of stuff, namely *matter* – the physical stuff of physics, chemistry, and physiology – and the mind is somehow nothing but a physical phenomenon. In short, the mind is the brain. According to the materialists, we can (in principle!) account for every mental phenomenon using the same physical principles, laws, and raw materials that suffice to explain radioactivity, continental drift, photosynthesis, reproduction, nutrition, and growth. It is one of the main burdens of this book to explain consciousness without ever giving in to the siren song of dualism. (p. 33)

This simple statement appears sensible enough on the face of it, and may for many of us even seem to go without saying. Yet in the context of this thesis it is precisely these matters that are commonly taken to “go without saying” that require reexamination. Two basic observations can be made regarding Dennett’s assertion: First, we notice that Dennett lumps inorganic processes like
radioactivity and continental drift together with organic processes such as growth and reproduction. We saw earlier that there is a qualitative distinction between an organism such as a toad, on the one hand, and inert matter such as a salt crystal, on the other. It is perfectly justifiable for certain methodological purposes to ignore this distinction, but we need to remember that we have done so. It does not follow from the setting aside of a demonstrable distinction that this distinction does not in fact exist, yet this is all too often what happens in the course of inquiries such as Dennett’s. This example serves well as another symptom of our modern consciousness disease: we ignore real distinctions and then pretend these distinctions don’t exist.

Second – and perhaps more important – we can notice a curious double standard here in Dennett’s pronouncement of the fundamentally material nature of reality. If his statement to this effect is in fact true, then a comprehensive physical/chemical analysis of the ink with which this statement is printed should give us its meaning. Likewise, if we imagine Dennett speaking this assertion rather than writing it, an acoustic analysis of the sound waves by which it is conveyed should provide us with the meaning.

That such physico-chemical analyses do not in fact convey to us this meaning is perhaps made more obvious if we imagine someone who doesn’t know English attempting to discern it via such methods. It should be clear that no amount of strictly physical/material inquiry could possibly lead such a person to the meaning of this statement, or any other. There is no substitute for knowing the language, and since we recognized earlier that thinking presents itself to us directly in non-material form, it follows from this that knowing and meaning are of a supersensible character.

So Dennett is trying to have it both ways here. He is emphatically stating that everything in the world is of a material nature, yet if we take him at his word and apply this assertion to his own statements, we find that we can come to no understanding of them: the statements are reduced to a
series of patterned ink stains on a piece of paper. Essentially Dennett is here utilizing – in a completely unconscious manner – spiritual faculties in order to deny the reality of the spirit, and in doing so he is bearing false witness against himself.

If properly understood, this single criticism is devastating for materialism’s acceptance as a viable worldview, because by definition any presentation whatsoever of such a worldview depends on the very supersensible qualities it claims to refute. Indeed, anyone who ventures to make a meaningful statement of any kind, whether in speech or in writing, believes (albeit unconsciously) in the reality of the supersensible. This is as true of the most intractable atheist as it is of the mystic. As irksome and inconvenient as this truth is to the materialist, it is fundamentally unanswerable.

Of course, materialists do attempt to answer it, yet once again their answers unconsciously depend – to the extent that they presuppose meaning, as they must – on the same spiritual or non-material qualities they claim to deny. There is a sort of “wind-up toy” character to these arguments, as the materialist continues to permeate his utterances with supersensible meaning in an unconscious way. As we noted earlier, the statement that “thinking is physical” is itself a non-material thought, so it makes no scientific sense to artificially grant ontological primacy to that which is asserted over that which is directly given. A simpler way of putting this might be to say: If you ever have a thought which presents itself directly to you as substance, please give me a call.

The remarkable thing today is that not only is this quite basic truth not a matter of common knowledge, but only a tiny proportion of humanity appears to even be aware that there is a problem, much less understand it. In fact, even though I myself have spent much of the past four years trying to reach an adequate understanding of this seemingly simple idea, it is only with considerable difficulty that I have fought my way through to a comprehension of it. What on Earth is going on here?
We will address this matter more deeply later on, but suffice it to say for present purposes that we are currently living in a sort of materialist amnesia or fog (the “Cartesian hangover” I mentioned earlier) which is proving extremely difficult to dispel. The proper solution to this difficulty lies in the “epistemological reevaluation” noted previously, which – in a nutshell – entails a movement “upstream” (Bortoft, 2012, p. 18ff) from what has been thought to the very act of thinking itself. This is what overcomes the subject/object separation which (among other things) makes materialism appear so speciously convincing, and it is a shift of consciousness which is available to all of us today.

The materialist propensity to unconsciously “have it both ways” which we just witnessed in Dennett’s work presents itself in a variety of guises. Dennett’s British colleague Richard Dawkins (2006) demonstrates a striking example of this in his book *The God Delusion*:

Many people believe in God because they believe they have seen a vision of him – or of an angel or a virgin in blue – with their own eyes. Or he speaks to them inside their heads. This argument from personal experience is the one that is most convincing to those who claim to have had one. But it is the least convincing to anyone else, and anyone knowledgeable about psychology. (pp. 87-88)

Further on Dawkins adds that “The brain runs first-class simulation software. Our eyes don’t present to our brains a faithful photograph of what is out there, or an accurate movie of what is going on through time” (p. 88). This unreliability of the eyes and brain is then extended to hearing and presumably – by inference – to the other senses as well.

There is certainly more than a glimmer of truth to what Dawkins asserts here: there are indeed experiences – including some which claim to be of a divine or spiritual nature – which are merely subjective (relatively speaking). In fact, all of us have had such experiences of being “fooled”
by illusions of various sorts. Yet the interesting thing about Dawkins’ statements is that they collectively pull the rug out from underneath any reliable human knowing at all. If the mind and senses are really as intrinsically untrustworthy as Dawkins here claims, then it is logically impossible to make any scientific assertion based on this mind or these senses. This statement is itself, after all, based on nothing other than perception (via the senses) on the one hand, and thinking (via the mind) on the other. So once again, just as we saw with Dennett, when we turn Dawkins’ argument back on his own assertion the assertion itself is annulled. In other words, this assertion refutes not only those who believe in spiritual realities, but also Dawkins himself. The fact that Dawkins makes a confident statement presupposes a reliable epistemological foundation for making it, yet the content of the statement itself fatally undermines any possibility for establishing such a foundation.

Reading between the lines of what Dawkins says here, there seems to perhaps be a subtext having to do with the distinction between “objective” experiences of the outer sense world that we can all in principle collectively agree on and “subjective” experiences that take place – at least apparently – inside an individual’s head. Yet, as we discovered earlier, there is no coherent objective experience in which a subjective element (the organizing idea in cognitive perception) does not take part. Likewise, even something as deeply subjective as a hallucination or illusion has an objective component to it. A woman, for example, who believes she is seeing the Loch Ness monster may really be seeing a dead tree churned up by the tide, yet even though she is not seeing what she thinks she is, she is still having an experience with a reality of its own.

Dawkins here proffers nothing approaching a satisfactory solution of this problem. We will take a fresh look at this dilemma later through an anthroposophical/Goethean lens. In the meantime we might take note of the pronounced Kantian flavor of Dawkins’ argument. It seems that we can’t ever be certain, on the one hand, that what we are perceiving or thinking is real or true,
yet somehow, on the other hand, we can confidently make the assertion that this is in fact the case. On precisely what basis are we enabled to make this assertion? Kant claimed that we could never know the “thing-in-itself,” yet the very assertion of this presupposes such knowledge. If it were really true that there was an unknowable “thing-in-itself,” then we could never reliably establish its existence. In light of such deep cognitive contradictions and dysfunctions, it is no wonder that our modern practice of science seems to be coming up so consistently short in terms of its practical solutions to our problems. We have no real or true ground on which to stand!

Yet another facet of materialism’s unconsciously two-faced quality displays itself in the conventional doctrine of natural selection. Dawkins and Dennett have consistently championed a reductionist reading of this doctrine which claims that it offers an explanation of the organic in terms of the inorganic. For example, Dennett (1991) repeatedly uses terms such as “memes” and “word demons” and “homunculi” in the course of his elaborate attempt to establish a materialist foundation for human consciousness. Likewise Dawkins (1995) remarks that

when the ricochets of atomic billiards chance to put together an object that has a certain, seemingly innocent property, something momentous happens in the universe. That property is an ability to self-replicate, that is, the object is able to use the surrounding materials to make exact copies of itself, including replicas of such minor flaws in copying as may occasionally arise. What will follow from this singular occurrence, anywhere in the universe, is Darwinian selection and hence the baroque extravaganza that, on this planet, we call life. Never were so many facts explained by so few assumptions. (p. xi)

Unfortunately for the establishment of their worldview, however, what matters in the Dawkins/Dennett “explanation” isn’t the paucity of such assumptions, but rather their validity. We have already seen that inorganic matter is characterized largely by the lack of an inner directing
principle, the very principle which organisms demonstrably possess. Somehow, in a manner which is not entirely clear, anthropomorphic/organic qualities have been surreptitiously imported into inorganic matter with no scientific justification. Dawkins apparently forgets, in his employment of the billiards analogy, that the only self-directed activity which can be observed in the playing of this game is that of the human being who wields the cue! The movements of the cue and the billiard balls are brought about extrinsically as a result of this activity.

As for Dennett, there is an identical discrepancy between his use of the terms “memes,” “demons” and “homunculi,” on the one hand, with what we know of inorganic matter, on the other. If we observe salt crystals, iron filings, rocks, liquids or gases, we can justifiably compare them with billiard balls, while the memes/demons/homunculi of Dennett’s theory have almost magically assumed comparable ontological status with cue-wielders.

If this rather crucial sleight-of-hand is missed, as it usually is, then the Dawkins/Dennett rendering of natural selection can appear quite convincing. There may be a process of natural selection operating in the natural world, but we have no scientific basis for characterizing it as a self-regulating inorganic process (a self-contradictory notion if ever there was one). A number of thinkers have highlighted this inconsistency over the years. For example, the philosopher Ernst Cassirer (1950), writing in the first half of the 20th century, clearly recognized the same illegitimacy which is so often allowed to pass unremarked today:

It is manifest that [evolutionist Ernst] Haeckel’s philosophy of nature had not renounced anthropomorphism or anthropocentrism at all but rather advocated and proclaimed it most decidedly. For everywhere he was trying to grasp and understand the “meaning” of natural events by tracing them back to their ultimate “physical” causes. Herewith the mechanical explanation of the phenomena of life, which Haeckel regarded as the chief merit and real
triumph of the theory of selection, collapses of its own accord. For the explanation is only accomplished by inserting into matter the living phenomenon ready made, rather than by deriving it from matter. (p. 163)

Talbott, in a recent essay, comes to the same conclusion: “Natural selection assumes the goal-directed activities of organisms, including their drives to sustain their own lives and reproduce. The theory does not explain these activities; it is founded upon them” (Talbott, 2012b).

Steiner (1995a) noted a closely related example of such unconscious trickery in the early 20th century. Although over a hundred years old, this example is worth recounting here because the attitude which it indicates remains very much with us in the present age. At that time, according to Steiner, a pedagogical scientific demonstration was commonly employed which purported to show the development of solar systems out of inorganic matter. In this demonstration, a drop of oil was dripped into a round container filled with either water or a viscous liquid. The drop was then pricked with a needle and the container rotated until smaller drops separated out from the original one. These drops were supposed to represent planets, which was fair enough, but there was a fatal assumption lurking in the interpretation of the demonstration: a process that required a demonstrator in the classroom was somehow held to occur all by itself “out there” in the universe (pp. 5-6). In other words, the parts of the demonstration which readily lent themselves to a materialistic interpretation were included in the analogy, while those which didn’t were mysteriously omitted. It has to be admitted, after all, that a truly scientific interpretation would have to include all aspects of the analogy, rather than merely those deemed convenient or amenable to the interpretation desired. Here again we notice a peculiar sort of amnesia in the purportedly scientific promotion of materialism.

(ii) Reductionism
Nowhere does this amnesia announce its presence more clearly than in the elaborate process of abstraction which conventional science commonly employs in the study of organic life. We will question the overall scientific legitimacy of this practice later on, but for now we will focus on its utilization in the science of genetics.

Generally speaking, the position of prominence in introductory genetics as it is taught in secondary schools in the United States is occupied by Gregor Mendel’s mid-19th century experiments with pea plants. The work of Mendel, a Silesian monk, was only rediscovered decades after his death, as the 20th century began, at which time it was elevated to the level of recognition which it continues to enjoy today.

In modern times we have heard a great deal about the Human Genome Project, an endeavor which set out to “map” human DNA in a comprehensive fashion. Scottish Waldorf teacher Martyn Rawson (2003) summarizes the expectations for such projects:

Given time and money for research, so the argument goes, all forms of life and behavior will be explainable and therefore predictable. This is the Holy Grail of sociobiology and reductionist microbiology. [Once this has been accomplished] the step to intervention and manipulation is a short one. (p. 48)

Why does Rawson employ the term “reductionist” in this context? A closer examination of the methodology of Mendel’s original experiments can clarify this usage. This methodology was noteworthy for emphasizing certain specific traits such as flower color, flower size, seed color, etc.: “Mendel’s approach,” notes Goethean scientist Craig Holdrege (1996),

is similar to watching a basketball game while attending only to the score – that is, noting only whether or not the ball passes through the hoop. For such a frame of mind, certain
features of the game recede into the background … All these facets of the game, however, are still there to be viewed even when they are not attended to.

Likewise, Mendelian genetics rigorously ignores essential aspects of the organism’s life. This is not “good” or “bad.” It is a fact – a fact that tends to be overlooked. Presentations of Mendelian genetics usually do not clearly delineate the reduced field of phenomena he worked with. But this restriction is critical, because all subsequent explanations will pertain only to the reduced field.

Mendelian genetics explains what is visible to object thinking [i.e. the onlooker consciousness] when the organism is treated as a composite of clearly defined, unchanging traits. It does not penetrate to the more open, developmental potential of the organism, which lets it interact with its environment and change according to changing circumstances. Plastic tendencies do not fit into traditional genetic categories. (p. 55)

It should be stressed here that Holdrege does not condemn this process of abstraction, but only its unconsciousness. As long as we remain aware of what we are doing there is no problem. Unfortunately, as Holdrege also notes, this awareness is too often missing in our practice of science. This is the meaning of the term “reduction” in its negative sense: we abstract certain aspects from the living whole, forget we have done so, and are left with a caricature or – more accurately – a corpse.

This corpse or caricature leaves us high and dry in terms of a true understanding of the organism being observed:

[Let us assume … that the entire functioning of the body of a human or a porcupine could be “explained” in terms of elementary chemical interactions. Such a reduction would still
do nothing to help us understand the living reality of a porcupine. A porcupine is a *life* …

The reality of a living being is a life which, though subsuming within itself the … inorganic dimension, is not reducible to it. (Kohák, 1984, p. 199)

The absurdity to which reductionism tends to lead was highlighted by the hue and cry raised in certain quarters by the discovery that chimpanzees share almost all of their DNA with human beings. Precisely because of the reduction of both organisms to the level of DNA, the very real and obvious differences between them were obscured. As Talbott (2012a) remarks,

I’m not aware of any pundit who, brought back to reality from the realm of code-fixated cerebration, would have been so confused about the genetic comparison as to invite a chimp home for dinner to discuss world politics. If we had been looking to ground our levitated theory in scientific observation, we would have known that the proper response to the code similarity in humans and chimps was: “Well, so much for the central, determining role we’ve been assigning to our genes.”
Our Modern Consciousness Disease

“There is no finality. We construct from tautology and arrive at nothing.”

- Marcel Duchamp, quoted in *The Spiritual Journey of Alejandro Jodorowsky*

“Nothing is true, everything is permitted.”

- Hassan-i Sabbah

The amnesia which we’ve been examining in the context of materialism is by no means confined to this realm alone. On the contrary it permeates our entire culture, affecting not only our practice of science but also the underlying and usually unconscious foundation upon which each of us as an individual establishes what is real or true. What this means, among other things, is that not only are distorted conclusions drawn from the practice of modern science, but that these conclusions all too often find fertile ground within us in which to take root on an unconscious level. Our ability to pursue fulfillment and take constructive action in the world is thereby insidiously interfered with. It is for this reason that I propose now to shed much needed light on this murky and relatively unexamined aspect of the modern psyche.

(i) Ideas That Defeat Themselves

The first thing we notice about the two epigraphs quoted at the head of this section is their confidently pessimistic tone. Precisely this tone, however, and what it apparently points to, can easily throw us off from where it is pointing from. For in much the same fashion as we witnessed in the case of the materialist tactics examined in the previous section, both of these statements demonstrate a profound amnesia which conceals the fact that they defeat themselves. They confidently assert the absence of finality and truth, respectively, yet they have to presuppose this finality and truth in order to be made in the first place. Another way of saying this is that each
statement makes a claim which must be taken to apply to everything but the statement itself, yet which in so doing destroys any foundation upon which the statement could be made. Nevertheless such utterances have often been taken to be rational, and continue to be today.

We can, if we cultivate our attention, notice many modern examples of this self-defeating amnesia in everyday human discourse. The statement “Nothing matters,” for instance, is familiar to most of us. “There is no meaning” is another. We might even go so far as to say that the ubiquitous modern rejoinder “Whatever!” is a sort of shorthand distillation of statements of this stripe. Once again, such utterances seek unconsciously to undermine the basis for human knowing by presupposing this very basis.

Where do these self-defeating and irrational attitudes come from? I have come to the conclusion that they stem from the long established root of one-sided Platonism we noted earlier, which has so permeated our culture that even someone who has never read Plato or any other philosopher can hardly be said to be free from it. The metaphysical separation recognized by Bortoefl, characterized by Steiner (1973) as “an unsound separation of idea and sense-perception” (p. 192), has here reached its inevitable and illogical conclusion: the only thing humans can truly know is that we can’t know anything; the only meaningful statement we can make is that there is no meaning.

This impasse of consciousness has certainly been noted before by many different thinkers from a rich variety of perspectives, yet it must be said that this awareness is very far from reaching the “critical mass” necessary to make it a significant force in refashioning the presence of humanity on the Earth. Kühlwind’s work is particularly notable for its concentrated and sustained emphasis on the overcoming of the diseased aspects of modern human consciousness. Thomas Berry’s (1992) diagnosis of “a profound cultural pathology” on the part of humanity (p. 98) provides another angle.
on this fundamental issue, as does Al Gore’s (1992) recognition of the Cartesian “cleavage between mind and body, intellect and nature” (p. 219).

(ii) Spengler & the Artificial Banishment of the Will

Yet despite these examples, and many more besides, it still needs to be emphasized that we are very far from being “out of the woods” in this regard. One seminal influence on modern attitudes which – despite fading significantly in terms of its overt contemporary impact – remains quite indicative of persistent modern attitudes, is historical philosopher Oswald Spengler’s early 20th century magnum opus *The Decline of the West*. Much of Spengler’s continuing influence and relevance has been mediated through the popularity of writers such as the Beats (e.g. Jack Kerouac and William S. Burroughs) and Henry Miller, who cited him as a key inspiration (Brassai, 1995, pp. 41-43).

Brassai offers a useful characterization of Spengler as “the first historian of the twentieth century to conceive of history not as a mere chronology of facts, but as a vast territory in which thousand-year-old organisms called ‘cultures’ are hatched and die” (p. 42). The method that Spengler drew upon for his grand vision was adapted from Goethe’s scientific work, which furnished him with a basis for treating human culture in an organismic rather than a mechanistic fashion.

The curious thing, however, is that – despite his overt adoption of Goethe’s scientific method – Spengler proceeds to leave a critical factor out of his considerations: the human will (Steiner, 1949). Once again we bear witness to the blurring of organic and inorganic which we have already noted. If we conduct a scientific experiment that observes inorganic processes we expect to find these processes proceeding in an extrinsically directed manner; if we conduct such an experiment on plants or animals we expect to find an inner directing principle; if we conduct such
an experiment on human beings we expect to find inner directing principle animated by conscious willing.

In effect what Spengler achieves here (in an ironically un-Goethean fashion) is a reduction of humanity to the level of billiard balls. Yes, we are involved or immersed in an organic process, he essentially says, but we are completely subject to this process and can do nothing to avoid being swept away by it. In short, our civilization is going to decay and decline regardless of what we might try to do about it. As Steiner (1949) observes,

We have today not only signs of decay, we have theories which describe this decay as necessary in a demonstrable scientific way. In other words, we have not only decay but a theory of decay, and a very formidable theory too. One may very well ask where we shall find the forces, the inner will-forces, to spur men to work upward again, if our best people, after surveying ten or fifteen sciences, have reached the point of saying that this decay is not only present but can be proved like a phenomenon in physics. (pp. 3-4)

In this context it is not hard to understand why Steiner (1949) warns of the potentially damaging effects on young people of such distorted ideas:

They are the ones whose wills can be broken by such theories as those of Spengler’s book. Therefore in Stuttgart I called this book of Oswald Spengler’s a clever but fearful book, which contains the most fearful dangers, for it is so clever that it actually conjures up a sort of fog in front of people, especially young people. (p. 13)

We will more closely consider the outward manifestations of such ideas in the next section, but what I want to emphasize here is yet another facet of the amnesiac/myopic quality of modern everyday consciousness, and how it creates fertile soil for the adoption of irrational and self-
defeating worldviews. An apple is the same as an orange ... as long as we ignore the differences; a human being is the same as a billiard ball ... as long as we ignore the differences. And once we have bought – however unconsciously – into identifying ourselves with billiard balls, everything can proceed to follow its predestined course, regardless of our actions or intentions.

This highlights another persistent undercurrent in contemporary worldviews: determinism. Here again we see the characteristically self-defeating quality of such ideas, a quality that can only be noticed if we take into account not only what such an idea asserts, but the relationship between this and the implicit foundation of the assertion itself. In other words, if these two aspects are brought into relationship with each other, the result is absurdity, as we saw with the statement “Nothing is true.” In discussing the doctrine of predestination, Kühlewind (1985) elaborates on this point:

One could ask those who think thus: Is your statement that man is predestined itself pre-determined? If the statement is to have any truth at all, the answer can only be “no”; thereby the asserted statement is annulled, at least with regard to the process of cognition; and from that point on its validity is altogether dissolved. All determinists of course ought to be asked this question. (p. 174)

(iii) New Age Cognitive Distortions

The modern spiritual movement loosely yet collectively known as the New Age offers numerous examples of the modern consciousness disease, proving conclusively that modern science by no means has a monopoly on the phenomenon. A prevalent and deeply rooted characteristic of such circles is an aversion to thinking. Gertrude Reif Hughes (in Steiner, 1995b) notes that “Thinking has a bad reputation with many people, perhaps especially with those who incline toward a spiritual path” (p. xv).
If indeed there is thought that is unreliable – and certainly there is – then there must be a higher level of thought and consciousness by which such an evaluation can be made in the first place. Kühlwind (1994), in critiquing Kant’s views on the matter, remarks that the latter’s attempt to show by his “antinomies” (mutually exclusive thought processes) that thinking is unreliable, actually proves just the opposite. Kant introduces certain arguments, for example, in favor of both the finitude and infinitude of the universe. He wants to prove that thinking can represent both viewpoints, so that a decision between the two based on thinking is impossible. Whether or not he is right we will not debate. But if he were correct, then this story would only prove that Kant has the use of a thinking process that can discover the insufficiency of the thinking by which the two lines of argument were made. This thinking he characteristically “forgets,” and his attempts only express his deep but not conscious trust in thinking. (p. 24)

Kühlwind concludes by observing that “Someone who says, ‘Thinking is worthless,’ is like a man sawing off the branch on which he is seated” (p. 24).

Another extremely common New Age catchphrase is the statement “There’s no such thing as a mistake.” As usual with such pronouncements there is a modicum of truth to this assertion, yet the end result is a distortion of this truth which arguably does more harm than good. In my view it would be far more accurate to say that there is no mistake which doesn’t or can’t have good effects in some direction or another, but the simplistic formulation examined here is quite another matter. For one thing, it’s hard to imagine how humanity might be enabled to learn from the effects of its behavior over time and gradually improve this behavior both within humanity itself and with respect to the natural world if these effects can’t be honestly and openly acknowledged in both their positive and negative aspects. If there really is no such thing as a mistake, then the Fukushima meltdowns,
the Connecticut school shooting, terrorist attacks in general, the Holocaust, mass poisoning and extinctions in the biosphere, and indeed every other human-caused result of a negative character are simply events which call for neither correction nor response. The great danger in this particular cognitive distortion is that it paints a specious veneer of positivity over what is essentially a negative attitude, precisely because it blocks the possibility for constructive or corrective action.

Several years ago I experienced an instructive example of such attitudes at a meeting of local dowsers. In the course of speaking with several attendees I mentioned the fact that much of the local water supply in the North Carolina mountains had been contaminated with mercury from extensive burning of coal at power plants upwind in Tennessee. One of the women remarked that she didn’t believe in indulging in such negativity (i.e. my acknowledgement of the contamination), and quickly changed the subject.

Spiritual activist Joanna Macy (1991) offers another instance of this perspective:

One sunny morning on a street corner in Berkeley, I ran into a woman I had met at a meditation retreat. We stopped to talk, calling each other’s attention to the beauty of the day. When she asked, “How are you doing?” I lifted the newspaper in my hand, with its headlines about increasing body counts in the Middle East. “I’m worried sick that we are creating an endless war.”

Ella listened for a moment, then shook her head in sweet concern and smiled. “Those are just passing events,” she said. “If you focus on them like that you just add to the suffering. From a higher perspective, it is all in our minds.” She went on to tell me how we “create our own reality” and how I should see through the material world to the realm of pure spirit.
I started to protest that the events troubling me were as real as the sun on the sidewalk. I wanted to say, “Tell that to the Iraqi children we’re bombing!” I didn’t want my anguish over my country’s war-making trivialized. Later, when I stopped seething, I realized that we had been taking part in a very ancient conversation. What is real? Is reality out there, in the world I behold, or is it inside, just in my mind? (p. 34)

An additional observation from my own experience, although – like Macy’s – not from the environmental arena, sheds further light on the issue here considered: A former friend of mine who didn’t own a car needed a ride to a doctor’s appointment. I had previously given her many such rides, and had become increasingly annoyed at her tacking additional errands on the end of these excursions which caused my expenditure of time to go far beyond what had originally been requested and agreed to. On this particular occasion I remarked that the additional errands were a considerable inconvenience to me, and that I didn’t appreciate being taken advantage of in this fashion. She replied, “It wouldn’t bother me!”
Environmental Effects of the Modern Consciousness Disease

"[O]ur victory over nature is at the same time our own defeat, because we are ourselves a part of nature, and thus as victors are also the vanquished."

- Klaus Michael Meyer-Abich, “Self-Knowledge, Freedom, and Irony"

With the preceding observation we make the transition from the conceptual underpinnings of the modern consciousness disease into the realm of its practical consequences in the world. Lurking beneath the many and varied manifestations of this disease is a stuckness at a subject/object level of consciousness which derives largely from the deeply entrenched and long established one-sided distortion of Platonism that has been handed down in the Western tradition.

It seems to me that my friend’s response strikes to the very heart of our predicament. Here, in the midst of a very real, concrete life situation, what might have happened or what could be happening was being artificially elevated above what actually was happening. And essentially the end result was this: I was being treated as an instrument, an object.

When we compare the mindset exemplified in this private, almost trivial incident to that which we habitually demonstrate in our interactions with the natural world, we find a quite striking similarity: First of all, it doesn’t matter what the “object” has to say; what matters is completely up to the “subject,” and whatever is deemed inconvenient is simply discarded or shunted aside. Extinctions, climatic changes, habitat loss, poisoning of the biosphere, etc. can simply be ignored. In very much the same way that I was stating the irrefutable fact that I didn’t appreciate the way I was being treated, the Earth is telling us – quite articulately – how she feels about our actions. Yet the reply in both cases amounts to “It wouldn’t bother me!” We might pause to reflect here on how much easier it is to say “It wouldn’t bother me!” than it is to mean it.
The second point is this: The attitude we are examining here evinces a rather marked kinship with other aspects of one-sided Platonism – and reactions against it – we have previously examined. Foremost among these is our habit of granting or assigning ontological primacy to theory over that which is given to us through the senses. Generally speaking, New Age or mystical modes of thought focus on the subject (idealism), while our misuse of science focuses on the object (empiricism). Yet, for science, the situation is more nuanced than this. In the case of science’s emphasis on matter (very much including energy, which is treated in modern science in the manner of an extremely rarefied physical substance), it tends toward the object, while in its emphasis on theory it tends (like the mystical camp) toward the subject.

What is clearly missing here (returning to our earlier metaphor) is a way of staying on the road rather than running off into the ditch on either side of it. Before passing on to a detailed and comprehensive consideration of how this might be accomplished, however, I would like to emphasize how the subject/object split has managed over time to produce the illusion that we are separate from the consequences of what we do to (or, more accurately, “within”) nature. Indeed, if we honestly examine our poisoning of the biosphere, destruction of ecosystems, and frankly reckless “disposal” of nuclear waste, we can only reach the conclusion that – on some level at least – we believe that these consequences are merely occurring “out there” somewhere, in a realm that does not and cannot affect us. The concept of “fouling one’s own nest” fails to register with us, because we simply do not see this nest as ours in the first place. We have what might be characterized as a “toilet-flushing” mentality: whatever we flush doesn’t merely go elsewhere in the world, but leaves the world entirely. Another way of saying this might be that, in our usual mode of consciousness, our minds are accustomed to writing checks that our bodies (and the larger body that is the Earth) cannot cash.
Scientists vs. Fundamentalists

“All disputes of antiquity and modern times, up to the most recent time, are caused by the division of that which in its nature God has produced as one whole.”

- Goethe, “Analysis & Synthesis”

One of our most intractable and disturbing modern dilemmas sheds further light on the difficulties of remaining in the middle of the road: the ongoing dispute between religious fundamentalists and the scientific establishment in the United States. This disagreement has tended all too often – despite many fruitful dialogues between the two sides – to result in each camp dismissing the other as ignorant, misguided, or worse.

If we approach this problem from the standpoint of the balanced consciousness described and advocated in this thesis, however, we can see that each side has a valid claim to truth, and also a noticeable “distortion quotient.” Effectively the situation is this: The fundamentalists are correct in affirming the reality of the supersensible, yet they lack understanding of how this reality might be scientifically established. The scientists, on the other hand, are correct in insisting on rational scientific rigor, yet their own version of epistemological naïveté prevents them from understanding how this rigor properly relates to the supersensible.

The result of this mutual misunderstanding is that an artificial wall is built between the two camps, over which they more or less lob grenades at each other. As philosopher and scientist Michael Polanyi (1964) observes,

The less two propositions have fundamentally in common the more the argument between them will lose its discursive character and become an attempt of mutually converting each other from one set of grounds to another, in which the contestants will have to rely largely
on the general impression of rationality and spiritual worth which they can make on one
another. (pp. 66-67)

The irony is that the apparent lack of common ground between scientists and
fundamentalists consists of nothing other than epistemological one-sidedness on both sides. If the
fundamentalists succeed in overcoming their idealist bias, and the scientists do likewise with their
empiricist bias, the “wall” collapses and the way is cleared for mutual understanding and
transformation. The same basic problem examined briefly here underlies a great many of the
seemingly insoluble disputes of our day, which unfortunately seem to be multiplying.
Steps Toward Healing the Subject/Object Split

“If we want to reach a living perception of nature, we must become as living and flexible as nature herself.”

- Goethe

In our initial attempts to remedy this profoundly diseased state of affairs, we can make at least one important observation: our habitual understanding of the relations between subject and object has a built-in bias. If – to reprise an earlier example – I stand (as subject) as an observer of a tree (as object), there is in fact a connection between the two of us, and indeed there has to be. The fact that this connection is non-material in character doesn’t make it any less real. This connection is manifested by the fact that I have to consciously think about the tree in order for it to register as an object of scientific inquiry at all. It is only our ingrained prejudice against regarding the supersensible as real (after all, we can’t isolate this connection in a test tube and poke it with a stick) that gives us the illusion that there is complete separation between subject and object in the first place.

With this preliminary insight established, we can now move on to a more in-depth and comprehensive assessment of the prospects for healing the subject/object split, and a consideration of the methods through which this might be accomplished. In this endeavor we will rely largely on the work of two seminal scientific thinkers: Johann Wolfgang von Goethe and Rudolf Steiner.

The characterization of these two men as “scientific” tends to raise eyebrows in our times. Goethe, the famous German poet/novelist/playwright, remains almost exclusively a literary figure for our culture, while Steiner’s controversial explorations of the supersensible seem too fantastic for his work to even be taken seriously, much less considered valid science. Goethe himself felt that his scientific work would demonstrate far more value for posterity than his literary work (Seamon &
Zajonc, 1998, p. 1). So far we’ve managed to prove him wrong, though a significant minority of scientists has preserved interest in his science over the past two centuries, and this interest does seem to be increasing.

(i) The Practice of Goethean Science

What is it that makes Goethean science different than conventional science? Perhaps the most fundamental distinction is that Goethe’s approach, rather than imposing an *a priori* framework over phenomena, instead allows these phenomena to “speak” for themselves. As Goethe himself commented, “Natural objects should be sought and investigated as they are and not to suit observers, but respectfully as if they were divine beings” (quoted in Seamon & Zajonc, 1998, p. 2). This is in marked contrast to established scientific practice, which assumes (overtly or covertly) an underlying “objective” ground (usually mathematical physics) to which all phenomena can and should be reduced, regardless of their nature.

Steiner (1968), who studied Goethe’s science intensively, emphasizes that the latter’s “view … takes its manner of observation, not from the mind of the observer, but from the nature of the thing observed” (p. 7). In modern times this attitude has tended to be characterized as inherently subjective and hence unscientific. We will examine this accusation more closely when we explore Steiner’s own work, but for now we need to consider from Goethe’s viewpoint the illogicality of employing an inorganic method in order to understand organic phenomena. In other words, is there any *scientific* justification for treating life as if it were reducible to non-life? Goethe thought not, and for this reason Steiner (n.d.) dubbed him “the Galileo of the organic.” Kant had earlier recognized the need for a new method and approach for studying the organic (while denying the possibility of achieving it), but Goethe was the first to actually develop this method.
The modern scientific tendency to reduce all phenomena to the inorganic, regardless of their nature, might be compared to a marathon runner trying to run a race with a ball and chain attached to his leg. Either the runner can unquestioningly run the race with the ball and chain impeding his every stride, or he can honestly evaluate whether or not the encumbrance is in fact necessary beforehand, and discard it if it proves not to be. In Steiner’s (1968) view,

a great error has been committed in this matter. It has been supposed that the methods of inorganic science should simply be transferred to the organic. The methods applied in the former field have simply been considered as the only scientific methods possible, and it has been thought that, if a science of “organics” is possible, it must be so in the same sense as physics. But the possibility has been ignored that the concept of the nature of science might be far broader than the definition “interpretation of the universe according to the laws of the physical world.” Even today men have not come to recognize this truth. Instead of seeking to learn what constitutes the scientific character of the inorganic sciences, and then seeking for a method which might be applied to the living world without sacrificing the requirements resulting from this inquiry, the laws discovered at those lower stages of existence are simply postulated as universal. (pp. 84-85, emphasis mine)

Once this key concept has been understood and accepted, the way is opened to an understanding of the organic world on its own terms, rather than its reduction to those of the inorganic. And while Goethe’s method is also potentially revolutionary for inorganic science (i.e. his theory of colors), for our purposes it is best to focus on his organic studies, for this is the arena within which the extraordinary nature of his method can most clearly be seen. Also, since we are here concerned with the endangerment of life on Earth, such emphasis is especially necessary.
An essential aspect of Goethe’s organics is his conception of the “spiritual eye.” Not only do the physical senses perceive physical properties when a living organism is observed, but a spiritual or supersensible sense we are not generally aware of also perceives something which goes beyond these material aspects. (We might recall here our earlier comparison of the toad and the salt crystal.)

Goethe’s basic conviction was that something can be perceived in the plant and animal which is not accessible to mere sense observation. What the bodily eye can observe in the organism appears to Goethe to be merely the result of a living whole of formative laws working through one another, laws which are perceptible only to the “spiritual eye”.

(Steiner, 1973, p. 87)

This higher sense is precisely what constitutes the “livingness” which Goethe claims – in the epigraph preceding this section – we must achieve in order to properly study living nature. And, as Steiner emphasizes, the development of this sense must be consciously achieved:

In the organism we have something wholly different from the inorganic constituents out of which it can be formed. The sensible contents of perception change into sensible-supersensible when the living being arises. And those who have not the power to form sensible-supersensible conceptions can as little know anything of the nature of an organism as they could experience water if the sensible perception of it were inaccessible to them.

(Steiner, 1973, p. 109)

Contemporary Goethean scientist Craig Holdrege (2005), director of The Nature Institute in upstate New York, makes the following observation about the practice of Goethean science:
I have found the metaphor of conversation increasingly helpful in illuminating the nature of a Goethean approach to science. The metaphor brings to consciousness that doing science is a back-and-forth between partners in an ongoing process. It accentuates a kind of inner attitude that lies at the heart of doing Goethean science, one very different from the frame of mind one normally associates with science (although it informs, but often not explicitly, the work of many good scientists). (p. 31)

Since he is the preeminent American Goethean scientist of our day, we will follow Holdrege in his description of its practice and methods.

Holdrege highlights the term which Goethe himself used to characterize his method: “delicate empiricism” (p. 29). It is important to recognize at the outset that in both Goethe’s method and that of traditional science the organizing idea in cognitive perception plays its role; indeed it has to in any process of human understanding. The crucial difference is that in Goethean science this organizing idea is allowed to emerge from the living dialogical encounter between scientist and natural phenomenon rather than imposed from without according to the scientist’s preconceptions. In David Seamon’s words, “How would the thing studied describe itself if it had the ability to speak?” (Seamon & Zajonc, 1998, p. 2). In Goethe’s method the phenomenon is allowed to speak for itself; this is the “delicacy” in his empiricism.

We know that in conceiving thoughts we can both illuminate and color our experience. The more we are aware of the thoughts we bring, the more transparent and illuminating they can be. We must become delicate in the way we work with our concepts in our efforts to let the depths of the phenomena disclose themselves. (Holdrege, 2005, p. 30)

This is the “upstream” cognitive movement noted earlier, in which the mind moves from an exclusive focus on what is cognized to an awareness of the cognitive process itself.
This cognitive movement draws our attention to another essential tenet of the Goethean approach: “Doing Goethean science means treading a path of conscious development” (Holdrege, 2005, p. 30), or in Goethe’s own words, “Insofar as he makes use of his healthy senses, the human being is the greatest and most precise scientific instrument that can exist” (quoted in Seamon & Zajonc, 1998, p. 37). I would amplify these two comments by emphasizing that it is precisely our spiritual faculties which allow us to achieve this development, the very same faculties that have largely been denigrated as “subjective” in modern times. In Goethe’s science the scientist consciously fashions herself into a spiritual/physical instrument.

The very first step in the practice of this science entails becoming aware that one’s attention has been caught, that something in nature has presented itself as a riddle which asks to be understood. Holdrege offers the example of skunk cabbage, a common swamp plant of the eastern U.S., as an illustration of his method. Even in this early phase of simply observing the plant in its natural habitat, his experience cautioned him to beware of cornering the phenomena prematurely:

Since I had been practicing the Goethean approach for many years, it wasn’t very hard to avoid the trap and narrowing effect of wanting to explain. But when I’d go out with other people, I’d often be asked questions such as: Why does it flower so early? Why does it heat up? Why do its leaves grow so large? I could tell them what some scientists thought and perhaps point out alternative explanations. But I’d also say, and that is more important, that before we can see whether it’s even meaningful to ask such questions, we have to get to know the plant much more intimately. And just those “why” questions can hinder us from doing so. (p. 34)

With this attitude consciously in place, Holdrege embarked on a series of detailed observations of the skunk cabbage, analyzing not only the parts of the plant and their relationships
to each other, but the development of the plant through the course of the year and its interactions with its environment. Not only *analysis* but *synthesis* was allowed and encouraged to play its proper role: “So I have to continually try to place all the knowledge I gain through engaging in the parts (analysis) back into the context of the plant as a whole (synthesis)” (p. 34). In other words, each detail of the plant and its life has to be continually related back to the living whole from which it springs.

    The next step in the Goethean method is the process he termed “exact sensorial imagination.” Holdrege characterizes this as

    a process of conscious picture building in which [in the present example] the mind’s eye … inwardly recreate[s] the form of the leaves … inwardly sense[s] the colors and the smells, and so on … It entails using the faculty of imagination to experience more vividly what [one has] observed. (p. 35)

This is where the subject/object split begins to more noticeably be overcome, as the scientist “lives” his way into the phenomenon. Holdrege’s expression for this is “learning to think like the plant lives” (quoted in Bortoft, 2012, p. 57). The two primary results of this exercise are that “you grow more and more connected to what you’re observing” and “The [organism] begins to reveal itself as a process” (Holdrege, 2005, p. 35, emphasis mine). The essential point here is that our spiritual faculties are consciously developed in order to conceptually connect that which is given to us perceptually: “We need to utilize our faculty of imagination to connect within ourselves what is already connected within the plant” (p. 35). In this way the sensible-supersensible wholeness of the organism we noted earlier is given free rein to express itself scientifically: the sensible via what is given perceptually, the supersensible via what is achieved conceptually.
Although only a rather limited sense of the character and results of Goethean scientific practice can be given in this relatively brief description, I would like to emphasize how this practice highlights the relational and qualitative aspects of organisms, i.e. those which express their supersensible reality and which cannot be measured. Holdrege stresses that “When I see such relations, I sense that I’m finally beginning to actually meet and understand the [organism], seeing through all the details to its unity and coherence” (p. 44). In comparing the two steps of initial observation and exact sensorial imagination, he remarks that

Where before I had seemingly solid objects – the different parts of the [organism] in their shape, size, consistency, etc. – now I’m dealing with the qualities that are expressed through these parts. And qualities aren’t things. It’s a real struggle to express these qualities so that someone else can see what you’re talking about. (p. 44)

Perhaps this struggle has to do with the fact that this “someone else” has to develop his or her capacities in the same active way as the scientist, and this requires effort. Goethe (n.d.) himself admitted that “this enhancement of our mental powers belongs to a highly evolved age.”

Holdrege’s “conversation” with the skunk cabbage culminates in an extended characterization which I briefly quote from here in order to give the reader an indication of its flavor:

Skunk cabbage expresses in many of its features a bud-like quality … We can go further and view these bud-like qualities in connection with skunk cabbage’s dependence on a wet environment … Skunk cabbage is not only dependent upon water, but also brings qualities of water – such as fluidity, movement, continuity, and the tendency to form surfaces – to expression. Early in spring, when stasis reigns in the wetland, skunk cabbage brings movement and life … (p. 44)
What should be noted here is that Holdrege doesn’t simply present a detailed schematic of the parts of the plant (as if it were an automobile or a toaster oven) and a dry collection of facts which he has gathered together. Such facts are presented in a Goethean characterization, yet in such a way that they are encompassed within a living reality rather than presented as comprising a whole reality unto themselves.

The goal of Goethe’s method is to directly cognize the wholeness of a phenomenon, whether organic or inorganic. In order to do this, Holdrege emphasizes, “You really have to get to know the phenomena you’re dealing with from as many sides as possible” (p. 48). And when this apprehension of wholeness occurs,

it fills you with the greatest joy and you realize: “now I am knowing.” We can use the word intuition here as long as we don’t think of something vague, but rather a nondiscursive form of seeing connections that is comparable to the experience one can have most purely in mathematical insight. (p. 50)

Bortoft (1996) clarifies this understanding of intuition:

There is a lot of confusion and misunderstanding about intuition, as if it were something intangible and mysterious. But in fact it is a very clear and precise notion. [Robert] Ornstein defines intuition as “knowledge without recourse to inference.” He links it with a simultaneous perception of the whole, whereas the logical or rational mode of knowledge “involves an analysis into discrete elements sequentially (inferentially) linked.” He connects the intuitive mind with the holistic mode of consciousness – as the intellectual mind is linked with the analytical mode. Thus, intuition is connected with a change of consciousness, and moreover in a way which can be made quite precise and not just left vague … Goethe’s procedures are practical exercises for educating the mind to function
intuitively instead of intellectually, leading to a science which is intuitive instead of
organized intellectually. (p. 67)

Central to this direct intuition of wholeness is Goethe’s notion of the *Urphänomen*, or “primal
phenomenon,” a concept which he developed in a different direction in his botanical work to
become the *Urpflanze*, or “archetypal plant.” These concepts are best understood as referring to
living spiritual realities that are cognized by spiritual organs of perception consciously developed by
the scientist.

Goethe’s method was to extend and deepen his experience of the phenomenon until he
reached that element of the phenomenon which is not given externally to sense experience.
This is the connection or relationship in the phenomenon which he called the *law (Gesetz)*,
and which he found by going more deeply into the phenomenon instead of standing back
from it or trying to go beyond it intellectually to something which could not be
experienced. In other words, Goethe believed that the organization or unity of the
phenomenon is real and can be *experienced*, but that it is not evident to sensory experience.
(Bortoft, 1996, p. 21)

This is the “supersensible” element referred to earlier by Steiner in his phrase “sensible-
supersensible conceptions.” And this is where the straitjacket of one-sided Platonism and its
culmination in the cul-de-sac of the subject/object split can be seen to be overcome:

The experience is one of entering into a dimension which is *in* the phenomenon, not
behind or beyond it, but which is not visible at first. It is perceived through the mind, *when*
the mind functions as an organ of perception instead of *as* the medium of logical thought. Whereas
mathematical science begins by transforming the contents of sensory perception into
quantitative values and establishing a relationship between them, Goethe looked for a
relationship between the perceptible elements which left the contents of perception unchanged. He tried to see these elements themselves holistically instead of replacing them by a mathematical relationship. As Cassirer said, “The mathematical formula strives to make the phenomena calculable, that of Goethe to make them visible.” (Bortoft, 1996, p. 21, emphasis mine)

Bortoft (1996) stresses that

The primal phenomenon is not to be thought of as a generalization from observations, produced by abstracting from different instances something that is common to them. If this were the case, one would arrive at an abstracted unity with the dead quality of a lowest common denominator … In a moment of intuitive perception, the universal is seen within the particular, so that the particular instance is seen as a living manifestation of the universal. (p. 22, emphasis mine)

We realize here that we are not forced to choose between the particular and the universal (i.e. run off into the ditch on either side of the road); rather the universal “presences” as the particular in a living way (i.e. we can stay in the middle of the road).

In closing this section detailing Goethe’s scientific method, I would like to emphasize several key insights which should be borne in mind when distinguishing this method from conventional practice. First, with regard to the latter, Holdrege (2005) warns that

Often, because we can know our own thoughts in such a transparent way, we become more interested in the theory than in the things the theory is supposed to explain. The tendency to reify concepts – which Whitehead called the fallacy of misplaced concreteness – is widespread in contemporary science. [We have witnessed this especially in regard to
Descartes. Theories tend to take on a life of their own and we may begin to see only the theory in the things. In this way a theory can become, in Goethe’s words, “lethal generality.” Concrete picture building [exact sensorial imagination] has the cathartic effect of re-orienting our attention to the phenomena, while dissolving hard-and-fast ideas through mental molding and re-molding. (pp. 49-50)

Here we “return to our senses,” literally and figuratively, after our extended sojourn in the land of abstraction.

Second, Holdrege emphasizes that “The realization that the phenomena we confront are always richer than the abstractions we use to explain them is central to a Goethean approach” (p. 29).

Finally, the focus of the Goethean method is on developing capacities rather than merely harvesting information:

At the heart of the Goethean approach is the realization that as a scientist I must develop new capacities in order to do nature justice in my work. It’s not just a matter of developing new instruments or refining the intellect, but developing new ways of knowing that can illuminate the phenomena in ways that science has largely neglected (or even deemed unscientific). (pp. 46-47)

These capacities which are so central to the Goethean method are doubtless what leads David Seamon and Arthur Zajone to conclude, “Goethe’s way of science is highly unusual because it seeks to draw together the intuitive awareness of art with the rigorous observation and thinking of science” (Seamon & Zajone, 1998, p. xi).

(ii) World as Text
Potentially helpful in developing a proper understanding of Goethe’s worldview is the notion of the world itself being a text which can be read if its language is understood. In our examination of materialism’s propensity for “having it both ways” we observed that the meaning of a text, whether written or spoken, is of a supersensible nature, and as such is dependent on material properties for its physical manifestation while not being reducible thereto.

Bortoft (1996) elaborates on this idea:

When reading a sentence … we see the meaning and yet we know perfectly well that what we are seeing with our physical sense of sight is not the meaning but the physical marks on the page in front of us. We certainly know that the physical marks which we see with the sense of sight do not disappear when we read the meaning. Although the focus of our attention shifts from the marks to the meaning, the marks on the page are still there for us – otherwise we simply could not read. Yet when we read, we are seeing something which is very different in kind from the marks on the page. Nevertheless, we can only come to this, i.e., the meaning, by means of the physical manifestation (marks) through which it is expressed. So, in reading, we see the meaning at the same time that we see the physical marks, but differently. Yet it would never occur to us to suppose that the meaning was behind the letters of a word or the words of a sentence, as if the letters needed to be explained by reference to something behind the sentence. It is quite clear to us that both letters and meaning belong to the word at the same time, but that each is experienced in a different way. This is the twofold of physical manifestation and meaning with which we are familiar in an everyday way, but which we do not recognize explicitly as such. (pp. 308-09)
Once this concept of the “twofold” is properly understood, we are in a position to develop it further: not only is this concept applicable to actual texts, but it also applies to the world itself, in all of its manifestations. In other words, everything in the world can be understood – and indeed is understood, however unconsciously – as having both a sensible element (corresponding to the marks on the page) and a supersensible element (corresponding to their meaning). In fact we observed this earlier when we examined the case of Virgil, the blind man whose sight had been restored. After his bandages were taken off he found himself before a text that he was required to learn to read if it were to make “sense” to him visually. In this regard Bortoft (1996) observes,

> It is … a useful exercise to read a text in English and then to look immediately at a text written in a script with which one is unfamiliar – say Arabic or Chinese … The nonfamiliar script is an approximation to what our experience of the world would be like without the perception of meaning – what we recognize as the various objects in the world would be just like the elements of this script. The error of empiricism is now particularly clear: what it takes to be material objects are really a text, and what it believes to be sense perception is really an experience of reading. (p. 348)

This logos-character of the world is critical to an understanding of Goethe’s scientific method, because it opens the way to the realization that meaning is not a sort of “name-tag” that we subjectively pin onto the world in an external fashion, but is the intrinsic being of the world itself coming to its fullest realization within human consciousness. As Tarnas (1991) notes,

> The new conception fully acknowledged the validity of Kant’s critical insight, that all human knowledge of the world is in some sense determined by subjective principles; but instead of considering these principles as belonging ultimately to the separate human subject, and therefore not grounded in the world independent of cognition, this
participatory conception held that these subjective principles are in fact an expression of
the world’s own being, and that the human mind is ultimately the organ of the world’s own
process of self-revelation … Nature becomes intelligible to itself through the human mind.
(p. 434)

With these paradigm-shattering insights we are enabled to fully comprehend Olive Whicher’s
(1997) seemingly mystical assertion that, employing the scientific methods of Goethe and Steiner,
“We become capable of observing the invisible” (p. 18), and we can also appreciate Kühlwind’s
(2012) contention that “this kind of seeing awareness is in a position to know the spiritual world
experimentally” (p. 94). As Bortoft (1996) concludes, “Goethe meant it literally when he said that
nature is a text which he was learning to read” (p. 348).

(iii) Goethe’s Implicit Theory of Knowledge

Although a full exegesis of the philosophical underpinnings of these ideas is unfortunately
beyond the scope of this thesis, a brief indication of an important epistemological insight which is
implicit in Goethe’s worldview may nonetheless be helpful here. A stubbornly persistent and
pervasive Cartesian-Kantian prejudice holds that the process of thinking is inherently subjective; in
fact it is this very prejudice which gives rise to the problems noted by Tarnas and Bortoft above.
Steiner (1968) notes that

This objection rests upon a confusion of two things – the theater in which our thoughts
play their role and that element from which they derive the determination of their content,
the inner law of their nature. We do not at all produce a thought-content in such fashion
that, in this production, we determine into what interconnections our thoughts shall enter.
We merely provide the occasion through which the thought-content unfolds according to
its own nature. We grasp thought a and thought b and give them the opportunity to enter
into a connection according to principle by bringing them into mutual interaction one with the other. It is not our subjective organization which determines the interrelation between $a$ and $b$ in a certain manner, but the content of $a$ and $b$ is the sole determinant. The fact that $a$ is related to $b$ in a certain manner and not in another, – upon this fact we have not the slightest influence. Our mind brings about the interconnection between thought masses only according to the measure of their own content. (p. 36)

If we can grasp this conception of the true nature of thinking, the way is opened to the realization that – despite our differing views of it – there is only one world of thought. As Steiner (1968) explains, “Let us for a moment imagine … that there is one sole thought-content, and that our individual thinking is nothing more than the act of working ourselves, our individual personalities, into the thought-center of the world” (p. 39). This insight is essential for a true understanding of Goethe’s scientific approach.
The Cognitive Path

“the world’s hardest task begins easy
the world’s greatest goal begins small”

- Lao-tzu, Taoteching

(i) Understanding Humanity

Austrian philosopher/scientist/educator Rudolf Steiner was active in the late 19th and early 20th centuries. He developed fruitful approaches to a great variety of human endeavors, including art, science, education, architecture, agriculture, medicine, etc. He is best known today as the founder of the Waldorf school movement and biodynamic farming.

Steiner adopted the term anthroposophy (“wisdom of humanity”) in characterizing his teaching. The hallmark of this teaching was the recognition that supersensible realities require the development of a science which is capable of apprehending them, and for this reason Steiner also employed the term spiritual science for his findings.

Steiner’s scientific approach is more or less congruent with Goethe’s with respect to its treatment of the mineral, plant, and animal kingdoms. When science is applied to humanity, however, the Goethean method hits a wall, while Steiner’s is able, at least in principle, to extend humanity’s understanding of the world to an understanding of itself.

What is it that stops Goethe’s inquiries at this point? In Steiner’s (1973) view, it is that “Goethe has no faculty for observation of the innermost nature of man, for self-contemplation” (p. 76). This may seem a rather reckless and unfounded comment to make about such a deeply insightful thinker as Goethe, yet Steiner elaborates on precisely what he is referring to:
Goethe did not make the distinction between thinking about thought and the perception of thought. Otherwise he would have attained the insight that although in the sense of his world-conception one may indeed refrain from thinking about thought, it is nevertheless possible to attain to perception of the world of thought. Man has no participation in the coming-into-existence of all other perceptions. The ideas of these perceptions come to life within him. The ideas, however, would not be there if the productive power to bring them to manifestation did not exist within him. The ideas may be in truth the content of what is working in the objects, but they come to evident existence as a result of the activity of man. Therefore man can only cognize the essential nature of the world of ideas when he perceives his own activity. In every other perception he does nothing more than penetrate the idea in operation; the object in which it is operating remains, as perception, outside his mind. In the perception of the idea the operative activity and what it has brought about are contained within his inner being. He has the whole process completely present within him.

(pp. 70-71)

This passage from Steiner contains a crucial insight for humanity’s self-knowledge that is unfortunately extremely difficult both to understand and convey, largely for reasons having to do with the structure of language. Notwithstanding this difficulty, however, we can begin with Goethe’s insight – noted earlier – that our mode of scientific inquiry must be determined by the nature of the object itself. As we discovered, there is no scientific reason to arbitrarily impose an inorganic method on an organic object. By the same token, we must make a comparable shift in our mode of inquiry when we move from scientifically studying plants and animals to understanding ourselves. Why? Because in the latter case, as Steiner (1968) observes, we have the whole process we are studying completely present within us:
In the case of every external object, I am aware that first it reveals only its outside to my senses; as regards a thought, I know quite certainly that what it exposes to me is its all, that it enters my consciousness as a totality complete in itself. (p. 34)

In other words, when Goethe intensively studied organic life in his quest to arrive at the archetypal plant and animal (i.e. the living supersensible realities which animate these organisms and give them their being), he was bringing outward (percept) and inward (concept) together. In studying ourselves, however, we are bringing percept and concept together internally, completely within our own being. This fact puts us in a position to comprehend the world process from within itself, because we ourselves are an integral aspect of that process in its coming-into-being. As Steiner (1973) observes, “When he observes thought, man penetrates the world process” (p. 71), and from another angle, “man knows the world only to the extent to which he knows himself” (p. 76).

(ii) Everyday Thinking & Living Thinking

Another way of approaching this thorny issue is through the work of Kühlewind, who worked within the anthroposophical tradition developed by Steiner. Kühlewind continually emphasizes the difference between everyday thinking, which deals almost exclusively with thoughts that have been “finished” or already thought, and the kind of “upstream,” living thinking that consciously participates in the thinking process in its actual coming-into-being. Helpful in understanding what is meant here is a careful consideration of the marked difference between learning a first and second language:

The first language creates the meanings that are then “named” in the second language. In fact, this process reinforces the impression that the world is built up nominalistically because we easily forget that we perceive a thing only if it has a meaning, only if it is already defined by a concept. [We observed this earlier in the case of Virgil, who had had his
eyesight restored. Before the first language or mother tongue, there is nothing that could be named. (Kühlewind, 1992, p. 31)

In effect the second language is learned in such a way that it relies on “finished” meanings created in the first language, meanings which were originally apprehended by the child in a living way, as they came into being.

As we grow older we “forget” this participative mode of consciousness by means of which we learned our first language – after all we accomplished this mostly unconsciously – and consequently we begin to see the world more and more as a fait accompli, as a finished product which we apprehend after the fact, applying language to it and manipulating it as if it consisted merely of a huge collection of furniture. In other words, we become more and more enmeshed in a subject/object, onlooker mode of consciousness. This is what enables Spengler, among others, to treat the world process in the manner – to reprise our earlier metaphor – of a basketball game which humanity watches from its seat in the bleachers. This is also what enables humanity to treat the Earth as a collection of objects to be moved around at will, as a heap of resources to be extracted and exploited without limit, as a vast waste dump for toxic industrial waste products, etc.

It is my contention in this thesis that only a conscious, adult return to the originally unconscious participative mode of awareness of the child can overcome our entanglement in the onlooker consciousness. To amplify on the above analogy, this upstream movement of consciousness gives us the awareness that we are the players in the game, and how the game plays out depends on what we do.

This understanding is akin to the Buddhist doctrine of “dependent co-arising” (Macy, 2007, p. 31). According to this insight,
things do not produce each other or make each other happen, as in linear causality. They help each other happen by providing occasion or locus or context, and in so doing, they in turn are affected. There is a reciprocal dynamic at play. Power inheres not in any one dominating entity, but in the relationship between entities. (Macy, 2007, p. 33)

One of the key factors which has kept us from realizing this “reciprocal dynamic” is our misconception of the true relation between subject and object. There is a deeply entrenched undercurrent of thought in modern culture which holds that anything experienced by a human being which is of a non-quantitative nature (e.g. the “secondary qualities” of Locke, spiritual experiences, etc.) is inherently subjective and hence scientifically unreliable. In Steiner’s anthroposophy this relation is understood differently. Bortoft (1996) sums up this contrasting insight as the realization that “knowledge is not just a subjective state, but a state of the object which occurs in the subject” (p. 383, emphasis mine). This understanding is the spiritual cornerstone of the scientific method and raising of consciousness here advocated.

Philologist Owen Barfield sheds further light on this misconceived, artificial conundrum:

It is not justifiable, in constructing a theory of knowledge, to take subjectivity as a “given.” Why? Because, if we examine the thinking activity carefully, by subsequent reflection on it, we shall find that in the act of thinking, or knowing, no such distinction of consciousness exists. We are not conscious of ourselves thinking about something, but simply of something … Consequently in thinking about thinking, if we are determined to make no assumptions at the outset, we dare not start with the distinction between self and not-self; for that distinction actually disappears every time we think. (quoted in Talbott, 1995, p. 297)
In summing up this passage, Talbott (1995) concludes, “That is, both subject and object are
determinations given by thinking. They presuppose thinking, which therefore cannot be classified as
either subjective or objective” (p. 297).

(iii) Moving Upstream

So what exactly is entailed by this “upstream” cognitive shift that I have repeatedly been
mentioning? Bortoft (2012) diagnoses the difficulty: “Our problem is that where we begin is
already downstream, and in our attempt to understand where we are we only go further
downstream. What we have to do instead is learn how to go back upstream and flow down to
where we are already, so that we can recognize this as not the beginning but the end” (p. 18). In so
doing, we are enabled to experience “dependent co-arising,” thereby realizing how we co-create the
world every time we think, and overcoming our entanglement in the onlooker consciousness.

Bortoft (2012) includes a series of diagrams which assist in clarifying what he means in the
just-quoted statement. For our purposes one (p. 19) will suffice:

\[
\text{intrinsic direction of experience} \\
\begin{array}{c}
\text{what is experienced} \\
\{\text{the experiencing of what is experienced}\}
\end{array}
\]

Bortoft emphasizes that

The \{} is important. If we just say there is a shift of attention from what is experienced to
the experience, we are in danger of unwittingly treating “experience” as if it could be
separated from what is experienced. But there can be no experience without something
that is experienced. The shift of attention “back upstream” is subtle, and not coarse as it
would be if we made the mistake of trying to focus on “experience” directly – this would mean trying to turn experience into what is experienced, which is the fallacy of introspection with which phenomenology [the method Bortoft here employs] has often been confused. (p. 19)

Many critics of Goethean science and anthroposophy fall into the very trap Bortoft here cautions against. Not realizing the living, experiential quality of this upstream movement, they remain trapped at the level of either/or, subject/object consciousness, and they treat the idea of living thinking or experience itself as simply another finished, dead thought like any other (i.e. they evaluate it according to criteria it makes no claim to meet in the first place). Thus the very real distinction between finished thought and living thinking is missed, and the assertion of this distinction is taken as special pleading. Olav Hammer (2003), a university professor in Sweden, follows this strategy in critiquing Steiner:

The transition from “thinking” in the everyday sense to thinking as the process that engenders the highly specific esoteric claims in much of Steiner’s later works seems partly to stem from a linguistic confusion. When Steiner revised [Intuitive Thinking as a Spiritual Path: A Philosophy of Freedom] for the second edition of 1918, he introduced a telling distinction between thinking and “real” thinking. Steiner also occasionally distinguishes between abstract thinking and living thinking. The former is closer to thought in the non-anthroposophical sense of the word. The adjectives placed first in each phrase serve to make a rhetorical point. It is these distinctions that essentially distinguish his own clairvoyant insight from that of other esotericists. (p. 421)

The only reason this distinction appears “telling” to Hammer is that he hasn’t experienced it, thereby stranding it at the level of abstraction for his own understanding. The essential point that is
being conveyed by Bortoft and Steiner is that the living reality of thinking needs to be experienced, and if this insight is itself – however ironically – treated as an abstraction, then the point is inevitably missed. When the upstream movement is achieved, the one and the many, the universal and the particular, subject and object, are reconciled and appear as an inextricable unity.

This is where Gadamer’s ideas can be of great help. In speaking of a work of art (e.g. a dramatic performance), he observes that each “presentation has the character of a repetition of the same. Here ‘repetition’ does not mean that something is literally repeated – i.e. can be reduced to something original. Rather, every repetition is as original as the work itself” (quoted in Bortoft, 2012, p. 207). In other words, we can avoid the trap of either/or thinking by realizing that the one and the many form a unity. In the same way that each individual sugar maple is equally a sugar maple in the archetypal sense, without having to be compared with a rigid schematic blueprint of what a sugar maple ought to be, each performance of a play is that play. The archetypal play or maple is a living reality that comes into being in any number of ways, not an abstract scheme with which each version or instance must be compared.

Bortoft (2012) uses the example of Hamlet:

Evidently, if the work lives in its presentation, then it cannot be separated from its presentation. So we cannot have the work-in-itself and its presentation. There is no “pure” Hamlet apart from its presentation, and yet each presentation is an interpretation. But because the work lives in its presentation, it follows that each presentation is an interpretation of the work itself and not merely a subjective interpretation imposed upon it. In other words, the interpretation belongs to the work even though it can come-to-presence only through the actors, the audience, and the director. (p. 111)
Gadamer (1975) approaches this rather tricky matter through the example of the celebration of a festival:

The festival changes from one time to the next. For there are always other things going on at the same time. Nevertheless it would still remain, under this historical aspect, one and the same festival that undergoes this kind of change … From the start it belonged to it that it should be regularly celebrated. Thus it is its own original essence always to be something different (even when celebrated in exactly the same way) … It has its being only in becoming and in return. (p. 110)

As Bortoft (2012) remarks in summarizing the ideas expressed here by Gadamer: “[W]e have to think of celebrating a festival in the intensive dimension of One and not the extensive dimension of many ones. This is where the unity of the festival is to be found” (p. 207).

What this all points to is Kühlwind’s (1984) assertion that “the thinking process itself must be brought into the realm of experience. It is very clear this can be no mere speculation or further reflection but rather an action in its own right: a ‘doing’” (p. 29). And the necessity for taking this step arises from the largely unacknowledged fact of our ignorance about the true nature of thinking:

After all, we do everything, even all research, by means of thinking. But we really know nothing about the act of thinking. Should we not then know the tool with which we bring about everything – even technology? An often unconscious obstacle standing in the way of this challenge is that a new capability must be acquired, somewhat like achieving mastery in an artistic pursuit through doing and practice, rather than through reading, reflecting and gathering knowledge. (p. 29)
Here again we see art and science coming together, as in Goethe’s scientific practice. This focus on developing capacities rather than merely hoarding information might be compared with developing physical strength through weightlifting. If I attain a certain level of strength by lifting weights, this strength is available to me as a capacity when a situation calling for such ability presents itself. I do not have to consult a mass of data or remember myriad details in order to employ my strength; the capacity is simply there to be used. Similarly, the practice Kühlewind here recommends has nothing to do with filing away and retrieving information dealing with every conceivable scenario; rather it involves developing one’s cognitive faculties so as to be ready to encounter any conceivable situation in a flexible and living way.

Perhaps the easiest way to come to a preliminary understanding of the upstream cognitive shift (thereby achieving Kühlewind’s above recommendation) is to consider the well-known phenomenon of the Necker cube. (This is the common rendering of a “reversible” three-dimensional cube drawn in two dimensions, seen in elementary geometry textbooks, doodled by schoolkids, etc.) When one reaches the point at which one can flip the two different “versions” back and forth at will, the participatory quality of cognitive perception becomes conscious; in other words, the normally transparent organizing ideas are brought into full awareness.

(iv) The Gentle Will

Closely connected with this is Kühlewind’s (2011) conception of “the gentle will.” We saw in our examination of the practice of Goethean science that emphasis was there placed on allowing the object of inquiry to “speak out of itself” rather than forcing it to submit to preconceptions. This is the essence of the gentle will:

In our current civilization, everyday life is governed by the principle of usefulness, and so by the “hard will” of egoism. This has already brought the world to the brink of
catastrophe, whatever technocrats may say or think about it. I see no other hope of avoiding destruction than for our mentality to change. This means for the hard will to become the gentle will. (pp. ix-x)

It is important to emphasize here that the gentle will is not simply a passive will, but is more accurately characterized as a receptive will. In discussing this concept, Bortoft (1996) stresses that

The difficulty we have in understanding this notion is that we think in terms of either/or, which in this case means either “active” or “not active,” i.e., passive. But the receptive will is not passive. One way of looking at receptivity is to see it as the reconciliation of two opposites: activity and passivity. It is a third state, which is neither active nor passive, yet which includes both of these in such a way that each is transformed by the presence of the other. But this is a new condition, a third state, not a compromise or some kind of “average” of active and passive. (p. 382)

We witness here again the curious way in which “downstream,” either/or, subject/object, onlooker consciousness closes us off from extricating ourselves from its clutches by reducing everything it examines to its own finished, deadened level. In other words, even Kühlewind’s proposed solution appears as a relatively lifeless abstraction when viewed through the lens of the onlooker consciousness.

In Kühlewind’s oeuvre the hard will is linked to the ego or “me-feeling” or lower sense of selfhood. The gentle will, by contrast, enhances and expresses the “true I” or “I AM” or higher sense of selfhood: “This “I AM” or Self is the experience of one’s own spiritual being” (Kühlewind, 2011, p. 21). In essence, the various exercises in the practice of Goethean science (e.g. exact sensorial imagination) as well as those of Steiner (e.g. those in his book How to Know Higher Worlds) and Kühlewind (whose exercises are inspired by and overlap with Steiner’s) are all aimed at
developing the true I at the expense of the ego, the gentle will at the expense of the hard will. And in the course of this process the onlooker consciousness is not only overcome but seen for what it is: a *method* with limited utility rather than an ontology which has been allowed (through our own ignorance rather than any intrinsic failing of its own) to dictate not only our scientific practice but our sense of presence to each other and to the Earth.

*(v) Consciousness Exercises*

Unfortunately only a preliminary indication can be given here of the actual practice of these exercises. One example from Kühlewind (2011) may be instructive:

We choose a simple, familiar object (such as a button, needle, pencil, or ring); look at it carefully if need be; then put it aside, or close our eyes, and try to picture the object. This goes better the more we simply “let the picture come,” as we do in memory (when we “call yesterday afternoon to mind,” we do not have to *piece* the image together). (p. 16)

We notice here the similarity of this exercise to Goethe’s exact sensorial imagination, yet Kühlewind emphasizes the importance of choosing a mundane object: “If the theme is attractive, then it requires no inner exercise of strength to stay with it” (p. 15). Once again, we need to remain focused on the development of capacities. If I lift weights by using a feather instead of a dumbbell, I won’t be able to develop much strength.

Kühlewind continues,

First, we let the image come up briefly; on the second or third attempt, we try to have it linger. We accompany the image of the object with thoughts, describing its shape, its qualities, what it is made of, and so forth. Then, we try to picture it in its function (the spoon “spooning”). Finally, if the previous attempts (“stages” which merge into one
another continuously) have gone well and without distraction, we try to concentrate on the idea of the object, which the inventor had before his or her inner eye: the function, before any material object embodied it. (p. 16)

We can see here the initial glimmerings of how the mutual alienation of subject and object, one and many, universal and particular resulting from one-sided Platonism might be overcome.

A point of emphasis for Kühlewind is that it is not sufficient for the image to appear once if we want it to linger longer. It all too easily disappears right away, and consciousness becomes occupied with other, associated contents. If we want to hold onto the image, we have to produce it continually; it has to be nourished continually by a stream of attentiveness. In this case, “letting it come” means an ongoing process of letting it arise, out of a gentle, light, playful stream of attentiveness – not cramped or cramping, not “hard will.” (pp. 16-17)

Anyone who has had the experience of attempting to master a musical instrument (or any other art form, for that matter) can vouch for the immense difference between trying to rigidly control the instrument or means of artistry and collaborating with it in a free and open exchange. The former mode doesn’t appear to work any better in our treatment of the environment than it does in the realm of music and the arts.

The importance of such exercises as the one here detailed (and there are many more, dealing with thinking, feeling, willing, mental picturing, imagination, etc.) should not be underestimated. The words of this thesis may or may not convincingly point to the necessity for such development, but only an actual doing of these exercises can demonstrate this necessity. I can vouch from my own somewhat limited experience with these exercises that they’re nowhere near as boring as they seem
from their descriptions; in fact, if boredom occurs it is a direct indication that they are being carried out incorrectly.
The Scientific Reality of the Spirit, Part II

“There may be times when what is needed is not so much a new discovery or a new idea as a different ‘slant.’ I mean a comparatively slight readjustment in our way of looking at things and ideas on which attention is already fixed.”

- Owen Barfield, Saving the Appearances

The “cognitive path” which I have here examined the foundations of leads far beyond these foundations. The more controversial supersensible discoveries which Rudolf Steiner claimed to have made could in principle be verified if this path was actually followed and evaluated on its own merits rather than treated as an abstraction, thereby distorted, and hence rejected. We have seen that there is nothing inherently scientific about treating the onlooker consciousness as if it were the only game in town, so if we nonetheless continue to insist on doing so we need to be honest with ourselves and admit that we are not making this choice on scientific grounds. We might take note here of the rather curious way in which faith has come to permeate our practice of science, which has generally claimed to be free of such influence.

Hopefully the preceding exposition has enabled the reader to at least become somewhat more open to the treatment of supersensible realities in a scientific manner. This in turn will enable us to proceed a bit further in our examination of the harmful effects of a scientific practice which largely ignores or misunderstands these realities.

Early on in this thesis we noted important distinctions between the organic and inorganic realms. Building upon these earlier observations, we can now further distinguish between the plant, animal and human kingdoms which together comprise the organic world. All three of these kingdoms are characterized by an inner directing principle which cannot be isolated physically yet can clearly be observed in terms of its outward manifestations.
Following Steiner (1979), we can note the supersensible “levels” which cannot be directly observed with the physical senses: the etheric, the astral, and the I. In the example we studied earlier of the *Ficus* vs. the salt crystal, the etheric level accounts for the observed order of difference (e.g. growth, reproduction, etc.) between them. In the example of the toad vs. the salt crystal, not only the etheric but the astral level accounts for the observed order of difference between them. Both the toad and the *Ficus* exhibit the presence of the etheric, but the characteristically behavioral, animal aspect of the toad demonstrates the presence of the astral as well.

Pressing beyond this to an examination of the human kingdom, we discover a further level of free, conscious willing and choice as demonstrated in higher cultural attainments, such as art, science and religion, not found in animals. Here we witness the presence of the I. Humanity comprises the astral and etheric as well.

Taking these three supersensible levels as a plausible hypothesis, we can now lay out these levels for the four kingdoms as in the manner of Figure 1. As we have seen, we have traditionally practiced modern science (meaning science as it has developed since the beginning of the Scientific Revolution) as if 1. only the physical/material is real, or 2. even if the supersensible is real, it is (at least possibly) reducible to the physical/material. If, understanding this, we closely examine Figure 1, we can gain a more accurate sense of what we are in fact doing when we practice science in the manner to which we have become accustomed.
In effect we are abstracting the physical/material from the living whole when we study the organic realm in this way. I must emphasize again here that there is nothing intrinsically wrong with doing this. The problem arises when – forgetting the process of abstraction – we then assume that the abstraction is the *whole itself*. This is what the onlooker consciousness does: *it unconsciously encourages us to reify the object*. In other words, by artificially excluding the supersensible aspects of life (which are in fact what makes life “life” in the first place), plants, animals and humans are reduced to the level of inert matter which can in turn be exploited in utilitarian fashion.

We are all familiar with the popular metaphor “throwing the baby out with the bathwater.” What we are witnessing here goes far beyond this: it is more accurately characterized as throwing out the baby, keeping the bathwater, and pretending the bathwater is the baby!
OVERCOMING THE ONLOOKER CONSCIOUSNESS

Spiritual/Ecological Naïveté

“[C]ulture is not the contradiction of nature but rather the task of humans within it.”

- Erazim Kohák, *The Embers and the Stars*

There is a somewhat surprising wrinkle to this unconsciously abstracting tendency of modern science, one that has not sufficiently been recognized: namely, that the ecological conversation itself is permeated by this same tendency, with disastrous results.

(i) *Proffering the Disease as the Cure*

We can see this wrinkle bubbling through much of the environmental movement, even those of its expressions which openly acknowledge the spiritual, in various guises. As our first example we might examine the case of Al Gore. In his very first book, Gore (1992) states that “The more deeply I search for the roots of the global environmental crisis, the more I am convinced that it is an outer manifestation of an inner crisis that is, for lack of a better word, spiritual” (p. 12). It was certainly a sign of the times (and still is over twenty years later) that Gore had to hedge a bit in daring to use this emotionally loaded and often misunderstood word, even though it is undoubtedly the correct one. Yet he shows later on in the book, as we have noted, that he has a deeper understanding of the Cartesian underpinnings of the modern consciousness disease which allows him to back up this assertion.

Somewhere, in the end, he forsakes this understanding by advocating not a change in consciousness, but “a Global Marshall Plan” (p. 297). This plan addresses all the measurable outcomes so beloved of conventional science, applying them to various emissions: carbon dioxide, chlorofluorocarbons, etc. Yet not only does this approach fail to directly address the diseased subject/object consciousness which actually enabled us to foist these substances on the biosphere,
but it implicitly asks us to solve the environmental crisis with the very same consciousness that created it in the first place. From our present vantage point we can readily observe that the subsequent trajectory of Gore’s thought and career has remained circumscribed by materialistic preconceptions, and thus has been unable to achieve its avowed – and quite noble – aims.

The very conception that modern global problems can best be solved by massive international mobilizations engineered by Big Government (implementing ideas such as Gore’s) is itself an offshoot of the onlooker consciousness. Steiner (1999), in his book Towards Social Renewal, directly addressed the failings of such conceptions:

It may seem extreme and nonsensical to say so, but it is nevertheless true that even if someone possessed a perfect theoretical solution to social questions it would be wholly impractical to believe that he could cure the ills of humanity simply by making this available. It is no longer either right or feasible in our age to believe that we can influence society by such means. People’s hearts and minds cannot accept or implement social forms dictated from without. They can no longer say to themselves: “This person knows what is needed, so we will do what he thinks right.” (p. 1)

Several remarks need to be made in regard to this statement by Steiner. First, even though he is referring to social rather than environmental problems, his reasoning applies just as well to the latter. Second, in his use of the expression “no longer,” Steiner seems to indicate that this approach was suitable for an earlier stage of humanity, indicating that it is a holdover which needs to be outgrown.

Finally, and of particular importance, it might easily be objected that what Steiner advocated for a solution to the social issues of his day was itself merely another instance of the very
“theoretical solutions” he denigrated. And, by extension, this criticism might be extended to the solutions here presented in my master’s thesis.

This potential objection strikes to the heart of the matter. The key to the solution of the difficulty lies in Steiner’s use of the word “theoretical.” His proposed solution to social ills was not fundamentally a logically convincing thought construction, although it certainly employed logic, and aimed to convince. The essential point is that his suggestions were derived from a direct apprehension of the whole human being, sensible and supersensible, rather than the abstracted distortion or caricature we have become so inured to in modern times. As we saw in the practice of Goethean science, once again the focus is on allowing the phenomenon – in this case humanity – to speak out of itself rather than imposing a preconceived framework – which may have little to do with this phenomenon – over it from the outset. It is precisely this quality of deep spiritual grounding which enables Steiner’s suggestions – at least potentially – to attain the resonance which would qualify them to be evaluated and accepted (taken up into “people’s hearts and minds”) on their own merits rather than simply imposed from without. And, for the same reasons, that is my intention for my own work as well. Czech philosopher Erazim Kohář (1984) beautifully encapsulates the essential insight here: “Transformed objective conditions do not create a transformed person … New, reborn persons, though, can create new objective conditions” (p. 247).

(ii) Undermining the Self

Even more overtly spiritual thinkers than Al Gore have created difficulties for themselves and their work by failing to adequately acknowledge the scientific reality of the supersensible. Joanna Macy (2007), for example, fusing Buddhist ideas with those of systems theoreticians such as Gregory Bateson, states that
The self is the metaphoric construct of identity and agency, the hypothetical piece of turf on which we construct our strategies for survival, the notion around which we focus our instincts for self-preservation, our needs for self-approval, and the boundaries of our self-interest. (p. 148)

Later in the same chapter she adds,

The Buddhist path leads us to realize that all we need to do with the self is see through it. It’s just a convention, a convenient convention to be sure, but with no greater reality than that. When you take it too seriously, when you suppose that it is something enduring which you have to defend and promote, it becomes the foundation of delusion, the motive behind our attachments and aversions. (p. 155)

Taking the self too seriously is one thing, yet denying its true reality is another, and the latter amounts to an unnecessary and unwarranted overcompensation for the former. The I is neither a “construct” nor a “convention,” but a spiritual reality which is directly experienced, and is in fact the prerequisite for any conscious experience to take place. Macy fails to make the distinction between I and ego which we noted earlier, and which causes Goethe’s Faust to exclaim, “Two souls, alas, are dwelling in my breast.” The upstream cognitive movement described and advocated here is precisely what enables us to directly experience our reality as spiritual beings. Otherwise – however ironically – our onlooker stance causes us to view the same I which is the sine qua non of the practice of science as an abstraction: “The ‘I’ concept we ordinarily have is in fact only a memory, a shadow, something already thought: a memory of an intuition” (Kühlewind, 1984, p. 30). Macy’s intention in denigrating the self is a positive one: overcoming human egocentricity; yet her proposed solution both neglects and presupposes the higher I-consciousness by which this evaluation is in fact made.
As they stand her assertions unwittingly destroy the basis for human moral choice by artificially undermining it.

(iii) Blurring the Distinction Between Human & Animal

Something similar happens in the case of other gifted ecological thinkers, such as Gary Snyder (1990) and David Abram (2010), who have emphasized the view that human beings are merely one animal among many. Snyder (1990), for example, asks

Do you really believe you are an animal? We are now taught this in school. It is a wonderful piece of information: I have been enjoying it all my life and I come back to it over and over again, as something to investigate and test. I grew up on a small farm with cows and chickens, and with a second-growth forest right at the back fence, so I had the good fortune of seeing the human and the animal as in the same realm. But many people who have been hearing this since childhood have not absorbed the implications of it, perhaps feel remote from the nonhuman world, are not sure they are animals. They would like to feel they are something better than animals. (pp. 15-16)

Here again the intention is noble, yet it comes at the price of a distortion. My contention is that, from a spiritual scientific standpoint, the characterization of humans as slightly more advanced animals is not only misleading but incorrect, and in practice extremely dangerous. The logic seems to be that we’ve become alienated from the rest of life due to a misguided and unwarranted belief in our superiority, and we can only rejoin the community of life by renouncing this mistaken view.

Far from merely wanting to feel it is “better,” humanity is fully justified in understanding itself as a distinct kingdom due to the undeniable presence of the I. The I is what gives us our conscious freedom, bringing along in its trail morality and all the highest manifestations of art and
culture. This critical connection between freedom and responsibility is precisely the nexus where the approach of Snyder and Abram comes to grief. Responsibility is unthinkable without freedom – and vice versa – but in denying humanity its I Snyder et al. pull the rug out not only from underneath human freedom, but willy-nilly from the responsibility they elsewhere insist on. Such arguments try to have it both ways. In the end the reasoning comes down to: We’re just another animal, as long as we ignore the vast and obvious differences, either by literally ignoring them or by explaining them away. This then puts us in an absurd position where we either have to begin insisting on moral behavior from animals or abrogate our distinctively human responsibility and simply watch the life systems of the Earth continue to collapse. It is likely that this species of spiritually naïve reasoning is playing – contrary to its intention – a major role in fomenting the sense of helplessness which is so palpable today in the environmental movement and elsewhere. It is not an unjustified presumption of superiority, but an insufficient understanding of humanity’s very real spiritual difference from animals, that is the true source of our difficulties. Only on a firm grounding in spiritual truth can humanity rejoin the community of life.
Evolutionary Cosmology: Teilhard, Swimme & Berry

“We may not be aware of the degree to which our preconceptions do violence to the facts we observe …”

- Kurt Goldstein, *The Organism*

“It can do no harm to recall occasionally that the prehistoric evolution of the earth, as it is described for example in the early chapters of H. G. Wells’ *Outline of History*, was not merely never seen. It never occurred.”

- Owen Barfield, *Saving the Appearances*

This problematic blurring of distinctions which we have repeatedly witnessed in various manifestations has its foundation in the abstraction of the sensible away from the sensible-supersensible whole of the organism. Once this has been achieved, the strictly material, corpse-like attributes which have thus been isolated can be compared with inorganic matter and *voilà*: there is no difference.

(i) *Life from Non-life?*

Even the most brilliant thinkers of our culture have often, as we have seen, not been immune to this tendency. The French philosopher and paleontologist Pierre Teilhard de Chardin serves as an instructive example. In his masterwork *The Phenomenon of Man*, Teilhard (1959) carefully details his conception of the evolution of the universe from “elemental matter” all the way through to modern humanity.

In doing so, Teilhard is forced to contend with an extremely difficult problem: how the transition was made from non-life to life. Unfortunately Teilhard only achieves an apparent explanation by blurring the distinction between organic and inorganic in the manner already described. “The mineral world,” Teilhard asserts,
and the world of life seem two antithetical creations when viewed by a summary glance in
their extreme forms and on the intermediary scale of our human organisms; but to a deeper
study, when we force our way right down to the microscopic level and beyond to the
infinitesimal, or (which comes to the same thing) far back along the scale of time, they
seem quite otherwise – a single mass gradually melting in on itself. (p. 77)

There is something rather strikingly un-Goethean in Teilhard's use of the word “force” here.
It seems to indicate that he has an agenda (i.e. reducing animate to inanimate) which he wishes to
impose on the phenomena rather than allowing them to speak out of themselves. Further on he
remarks,

Without exaggeration it may be said that just as man, seen in terms of paleontology, merges
anatomically with the mass of mammals that preceded him, so, probing backwards, we see the
cell merging qualitatively and quantitatively with the world of chemical structures.
Followed in a backward direction, it visibly converges toward the molecule. (p. 82)

Here again Teilhard’s choice of words is revealing. He is undoubtedly correct when he
observes that man “merges anatomically” with earlier mammals, but as before this recognition is
based on a one-sided abstraction of the sensible away from the sensible-supersensible whole, thus
leaving out of account the incarnated I which in fact constitutes our sharpest distinction from the
animals. And when he claims that the cell “merg[es] qualitatively and quantitatively” with inorganic
molecules, he is again merely considering the organic in its inorganic aspect, omitting the
supersensible element which accounts for the qualitative distinction between the two realms: the
inner organizing principle we considered earlier. The organic is the same as the inorganic, as long as
we ignore the differences …
We have no scientific reason to believe that the living properties we observe in organisms on a microscopic level are not exactly the same properties we observe with our unaided senses. The same is true with respect to inorganic matter. In other words, as Talbott (2012a) remarks, “It’s life all the way down.” The assumption that life is reducible to non-life has in fact never been substantiated scientifically, yet we stubbornly persist – in our scientific practice as a whole – in clinging to this assumption or at least possibility. The unconsciously abstracting subject/object consciousness is what creates this dilemma, precisely by excluding the supersensible from scientific consideration.

(ii) The Anthropomorphizing of Matter via Electricity

As I intimated earlier, Teilhard has plenty of company in this regard. Cosmologist Brian Swimme and historian/geologian Thomas Berry developed an impressive and majestic “universe story” based unfortunately on many of the same materialist assumptions on which Teilhard and others relied. Swimme and Berry (1992) describe the process by which the transition from inorganic to organic was made:

[In the beginning there were only these potent grains of dust gravitating around a fitfully burning young star. In the beginning there were only helpless planetoids colliding with one another, sticking together, smashing apart, cohering, growing, exploding under impact, reassembling, gathering mass in the storms of collisions to become, finally, a planet. (p. 84)]

Later, out of this inorganic matrix, “Life was evoked by Earth’s dynamics, ignited by lightning” (p. 85). We are reminded here of Frankenstein, who was likewise pieced together out of inorganic matter and then given “life” via a jolt of electricity.
This Frankenstein-like attribute brings us back to various points we have examined earlier in this thesis, foremost among these the metaphysical separation which artificially divided the world into two parts: a world of appearances (known through the senses) and a world of reality (known through abstract theorizing). This two-world conception in turn encourages us to trust our abstract theories over our unaided senses. In this particular case we can see how, once we’ve abstracted the sensible away from the sensible-supersensible whole, the resulting disenfranchised supersensible qualities (etheric, astral, I) then have to be reintroduced to the phenomena in sensible/material (i.e. distorted) guise. In the same way as the materialist conception of natural selection necessitates the unscientific importation of organic qualities into inorganic matter, Swimme and Berry’s depiction of the genesis of life requires these orphaned attributes to be reduced to the level of a sensible phenomenon like electricity, which in turn surreptitiously reintroduces them to the story.

To the best of my knowledge a cell or organism has never been created in a laboratory by jolting inorganic matter with electricity. This should not be surprising. While such stimuli can certainly reconfigure matter in terms of its structure, there is no scientific reason to believe that such experiments will bestow an inner directing principle where one was originally lacking. In this respect it is useful for us to recall something which our much maligned unaided senses tell us: We never see life arising from non-life, but only the reverse. In every case in which we witness the creation of life, this life has been bestowed by a preexisting sensible-supersensible whole, an organism. By contrast, we continually observe the material/mineral aspect of organisms being cast off and returned to the inorganic realm when organisms die. Inert matter can certainly be taken up and incorporated into a living organism, but it never spontaneously creates one from scratch, even when struck by lightning. Brady (1987) observes in this regard that
corpses make no sense in themselves, having fallen out of their proper context, and were they not referred back to the power from which they came they would be unintelligible. This point is too often forgotten, or never noticed in the first place, and as a result we sometimes speak as if life were something one could add to the corpse in order to vitalize it. But if life is a context, it is an immanent rather than transient cause, and where it is not immanent it cannot by definition be added. (pp. 287-88)

Barfield (1963) has constructed a sort of Socratic dialogue (pp. 63-86) which highlights the self-contradictions and inconsistencies of postulating a mindless universe which existed with many of the same features (including “secondary qualities”) we observe in it now, millions or even billions of years before the advent of human consciousness. The absurd result is “a world which is a kind of magic-lantern show, projected by our minds and senses on to a backcloth of whirling particles or some mathematical substitute for them” (p. 87), yet which is somehow held to be scientifically valid. “What is unjustified is the assumption, first, that because no physical human remains are found, human consciousness was not yet operative in any form, and, secondly, that terrestrial conditions in general already resembled those of today” (p. 90).
Conclusions

“There are a thousand hacking at the branches of evil to one who is striking at the root …”
- Henry David Thoreau, *Walden*

“We live in a world of meanings, though we are convinced we live in a world of things.”
- Georg Kühlewind, *The Gentle Will*

I want to emphasize here that it is not my intention to be overly critical of the ideas of Macy, Teilhard, Gore, Snyder, Abram, etc., but rather to highlight some problematic aspects without which they could be enabled to reach their full fruition. All of these thinkers, in the environmental movement and beyond, have a great deal to offer in helping modern humanity to overcome its most pressing dilemmas.

We have made use, for example, of Macy’s insights regarding one-sided mysticism and dependent co-arising. Berry (1999) highlights one of Teilhard’s key contributions:

[S]eldom have such demands been made on the will as are being made at the present time. A concern for will does appear in the work of Pierre Teilhard de Chardin … He saw quite clearly that we must consciously will the further stages of the evolutionary process. (p. 173)

Those of us who are counting on salvation no matter how we behave in this world may want to reconsider our position in light of such ideas.

I have tried to show that the most fundamental of our problems is our individual and collective entanglement in the onlooker consciousness, and that if we attempt to fashion solutions
from this same level of consciousness, these solutions themselves will be handicapped by the same artificial objectification of the world which created the need for them to begin with.

In my view the overcoming of the onlooker consciousness is already implicit in the ecological efforts that are currently being made. Hence, making this cognitive shift explicit could possibly accomplish a great deal in harmonizing what may turn out to be relatively minor differences between approaches and in aligning them within a common – yet flexible – orientation. A useful analogy for what we are currently facing is furnished by the idea of a long string of zeroes without a “One” in front of it to give it value. This “One” is already implicit in each of the individual zeroes, but needs to be brought into full conscious awareness in order to take its proper place at the head of the string. In a similar fashion the upstream cognitive shift here advocated shows great promise in enabling us to actually perceive our difficulties at their supersensible root, and thereby solve them, rather than remaining stranded at a subject/object mode of consciousness which forces us to repeatedly engage with them in the abstract.

This touches on an extremely important point which requires special emphasis: We are living in a time in which a great and indeed bewildering variety of solutions are being proposed from a multitude of often seemingly contradictory perspectives. As Rudolf Steiner (2006) noted in a 1919 lecture:

> [P]resent human thinking, the modern intellect, lies in a stratum of existence where it does not reach down to realities. One can therefore prove something quite strictly, and also prove its opposite. It is possible today to prove spiritualism on the one hand, and materialism on the other. And people may combat each other from equally good standpoints because modern intellectualism is in an upper layer of reality and does not plumb the depths of reality. And it is the same with partisan views. Someone who does
not look deeper but simply lets himself be absorbed into a certain partisan group – by reason of his education, heredity, life of circumstances and nationality – quite honestly believes, or so he thinks, in the possibility of proving the tenets of the group into which he has slipped. And then – then he fights against someone else who has slipped into another partisan group! And the one is just as right as the other. This creates chaos and confusion in mankind that will gradually become ever greater unless people see through it. (pp. 24-25)

I suspect that most of us can see ourselves in this characterization, at least to some extent. The principle difficulty of the onlooker consciousness is that it makes everything appear “finished” to us, and therefore abstract. If we can successfully make our way upstream, then we can put ourselves in a proper position to distinguish between ideas which are anchored in supersensible reality and ideas which are abstract thought constructions. As Steiner (2006) concludes, “human knowledge must be sought for in a stratum deeper than that of the validity of proofs” (p. 25).

The overcoming of the onlooker consciousness and the recognition of the scientific reality of the supersensible are inextricably intertwined, especially with regard to their experiential quality. This quality is in fact what removes the need for proofs: “Just as in the realm of the physical world it is never possible to prove logically the existence of a whale except by seeing one, so also the supersensible facts can be known only by means of spiritual perception” (Steiner, 1965, p. 106).

Perhaps what the issue comes down to is this: We are not lacking in intelligence; rather we are failing to use our intelligence intelligently. It seems to me that because the onlooker consciousness is predisposed to view the world in an analytical mode, a raising of consciousness to a higher mode of synthesis which recognizes connections and relationships is precisely what would enable this intelligent realization of intelligence. Indispensable to this effort is a certain flexibility
and open-mindedness toward its possibilities. The rigidity of the onlooker consciousness is one of its most problematic characteristics.

It should also be stressed that it is not my intention to promote the unquestioning acceptance of Rudolf Steiner’s ideas as valid science. Such an acceptance would of course be unscientific by definition. On the contrary I am trying to emphasize that the all-too-common rejection of his ideas as inherently unscientific does not itself proceed on a scientific basis. It follows from this that we will best serve the quest for truth by preserving an open mind toward his avowed supersensible discoveries. To those who are inclined to scoff at the very idea of the human being as a self-developing scientific instrument I can only reply: she already is such an instrument, and has been since the beginnings of science.

We need to realize that the failure to properly acknowledge the supersensible has resulted in a distorted, one-sided worldview. A worldview that assumes our detachment from the world can teach us nothing about how to live in it, and the latter is precisely what is required of us, and where we are falling short. The problems facing us are the shadow resulting from this one-sidedness: the more one-sided, the deeper the shadow. Overcoming the onlooker consciousness should, via its very comprehensiveness, enable us to see such shadows for what they are, and hence dispel them.

This realization, however, can give us strength if we see it in its true dimensions. For in alienating us from the supersensible our worldview has artificially severed us from the true source of our powers. Of course we were going to fail to reach the heart of many of our dilemmas from the standpoint of the onlooker consciousness; we could only chop off the heads of the hydra as they continually issued forth.

We exist in a living world, and only a deep sense of life will enable us to heal its very real wounds. This deep sense of life is our birthright, not an abstraction, and furnishes us with our best
chance for success. Steiner (1995b) offers us a valuable insight toward rediscovering this sense within ourselves:

It is true that we have estranged ourselves from nature; but it is just as true that we feel we are in her and belong to her. It can only be her activity that lives in us.

We must find the way back to her again. A simple reflection can show us the way. To be sure, we have torn ourselves away from nature, but we must still have taken something with us into our own being … We can only find nature outside us if we first know her within us. What is akin to her within us will be our guide. (p. 25)
Works Cited


Appendix I: Personal Statement

The roots of my personal interest in the environmental crisis reach deeply back into my childhood. Very early in my life my family spent parts of two summers camping at Lake George in upstate New York. The beauty of the surroundings and the fact that one could not only see to the bottom of the lake but actually safely drink its water made quite an impression on me. I caught my first fish at Lake George: a trout.

I grew up in the Maryland suburbs of Washington, DC, in an area which at that time lay on the edge of the country. The land around my house was typical Maryland piedmont country, with rolling hills, woods, fields and streams. Just in back of our house was a beautiful park with two gigantic centuries-old white oak trees, numerous elm trees, a springhouse, and a man-made pond fed by a creek whose upper reaches had been encased in the neighborhood storm drains.

At first the pond was full of life of many kinds: green frogs and bullfrogs, sunfish, a great variety of water insects, etc. Salamanders could be found in the creek, and toads were commonly seen hopping about. Birds such as kingfishers and green herons were frequent visitors to the pond, and every now and then my friends and I would be thrilled to find a leopard frog or pickerel frog. On one occasion a friend caught a catfish, the only one we’d ever seen in the pond.

The most exciting thing about the pond for me was its incredible profusion of tadpoles. Underneath two majestic weeping willows that reminded one of Babylon were spongy mats of pond vegetation. If this mass of tendrils was pulled back on a late spring or early summer day, a magnificent stream of tadpoles – both larger frog tadpoles and smaller toad tadpoles – would flee into the deeper surrounding waters. I liked to catch a few of these and keep them in jars on the
family room mantelpiece, feeding them periodically and watching them gradually develop into frogs, and then releasing them.

My friends and I liked to explore the storm drains, which appeared to contain no life but still furnished us with an alternative way to explore the neighborhood, which was especially appealing when it was hot outside. I began to notice that the substances flowing through these drains were not entirely of a savory character; in fact, I often noted great billows of detergent suds working their way down the gutters and plopping into the storm drains when we washed the family cars. Having travelled through these “sewers” myself, I knew exactly to where they led: the pond.

Over the course of sixteen years I was a firsthand witness of the inexorable deterioration of the pond and creek. By the time my family moved from the area there were very few frogs left in the pond, the weeping willows had been killed by chemical treatments intended to control algae, and many of the elms had died of Dutch elm disease.

Years later, when I met Thomas Berry, we were able to compare notes on our childhood observations of ecological devastation created by human activity. It had become painfully obvious to me early on that this destruction was being caused by humans, yet I truly had no real inkling of how to stop it. I had also come to realize that the chemical pollution which had destroyed so much of the life within my childhood pond was pervading much of the rest of the Earth, with similar results.

As time passed, I realized that simply telling people about these harmful activities in the hope that they would stop them did no good. Not only that, but it gradually dawned on me that it was essentially impossible to live in this world without myself contributing willy-nilly to the damage. Somewhere along the way I developed the vague idea of a “grand synthesis,” but a more precise formulation of this concept eluded me.
One critically important clue came when I was treated by the energy healer, Mietek Wirkus. The effect of these healings was so dramatic that I realized that the materialist scientific paradigm which I had learned in school was no longer adequate to encompass my own experience.

At the end of January, 2009 I was laid off in wake of the economic downturn, just before I was scheduled to meet with Thomas Berry for what turned out to be the last time. Within a few days, following some deep intuition, I checked Rudolf Steiner’s *The Philosophy of Freedom* out from the public library. Although I struggled to fully understand the book, I quickly recognized that Steiner was here presenting the key insight I had been seeking for so long: Humanity was trapped in an epistemological box of its own making, and the way out was to become aware of how we had created this box out of a series of misunderstandings.

I continued studying Steiner intensively (primarily – out of great good fortune rather than conscious intention – his epistemological works), and a year and a half later, with my unemployment insurance running out, I emailed Craig Holdrege from the library out of desperation. Craig, director of The Nature Institute, a Goethean science nonprofit, replied half an hour later with an offer of a tuition assistance to attend a week-long course at the institute. I met Susan Pearson at this course, and she reminded me about Goddard College.

By this time my “grand synthesis” was gradually coming into focus: a creative, organic fusion of art and science which brought the spiritual faculties of the former together with the rational rigor of the latter. Goethe’s work convinced me that we needed a true science of life, rather than a science of death foisted on the phenomena of life.

My original intention for my master’s degree was to accomplish a synoptic synthesis of Rudolf Steiner and Thomas Berry, but as I proceeded in the program the focus shifted heavily to the former at the expense of the latter. It became quite clear to me that our primary difficulty was
consciousness-related, and hence that the only way to begin to resolve it was through a clarification of our epistemology. In other words – living as we do in a scientific age – we needed to understand how we know what we know, both sensibly and supersensibly. I realized that once Steiner’s epistemological insights were truly understood, the way was opened to a comprehensive scientific understanding of humanity and the world, which was precisely what we needed in order to create solutions that worked.

My task now became one of illuminating and overcoming the entrenched onlooker consciousness which creates the illusion that humanity is separated from the world, making the latter appear as a collection of objects. I needed to encompass several basic areas of inquiry: epistemological, historical, and practical. I feel that I successfully addressed these areas in my thesis, but I was certainly limited by various factors in attempting to bring this off.

One difficulty was the fact that I was attempting to convey ideas which I myself was still struggling to master. I was pushing at the very edge of my own comfort zone, so I was forced to accept the fact that I could only do the best I could within the parameters of my own limitations, however much I wanted to pass beyond them.

The far more fundamental and paradoxical difficulty was this: How do I bring across the necessity for overcoming the onlooker consciousness to an audience that is itself entangled in this same consciousness, and by means of a language which is steeped in it as well?

The only viable option I had was to continually point to the necessity for an experiencing of these ideas via exercises of consciousness, thereby lifting them out of abstraction into the realm of life as it is actually lived rather than merely read about. Just how successful I was in this effort remains to be seen.
In terms of the academic justification of my ideas I was in a virtually impossible position. Many of the shortcomings I was charged with (basing my work on *a priori* assumptions, trying to turn a metaphysical belief system into a science, failing to acknowledge the central importance of measurable outcomes, confusing faith with knowledge) were themselves based largely on Cartesian-Kantian assumptions that are all too often taken to “go without saying,” especially in academia. My response to these charges was to spend a great deal of time and effort unpacking the Steiner/Goethe epistemologies and how much more accurately they describe how we actually arrive at concrete knowledge.

Just to take one example, the Epistle to the Hebrews was quoted to me by one of my advisors: “Faith is the substance of things hoped for, the evidence of things not seen.” I was here being chastised for confusing faith with knowledge. We need to remember, however, that there are two eyes: the physical eye and the spiritual eye. When we read a sentence, the physical eye registers the physical marks on the page, while the spiritual eye registers their meaning. This meaning is not an act of faith; it is a self-evident fact. It is high time that we began to recognize that the reflexive rejection of the supersensible is itself an *a priori* assumption which is not arrived at on scientific grounds.

What this all points to is that as long as we remain downstream in terms of our cognition these disputes will go on forever. As I pointed out in my thesis, *everything* appears finished, and hence abstract, to the onlooker consciousness, even that which is most truly alive. The solution, once again, is an upstream cognitive movement which no longer turns everything it touches into an unconscious abstraction.

In terms of methodology, I tried to walk my talk and rely very largely on close and careful readings of complete texts rather than Internet research. The latter, precisely because it treats its
content as isolated, fragmented “bits,” insidiously encourages a reliance on abstract thought devoid of living context. I’m convinced that focusing on complete books kept my musings more coherent and contextual, in contrast to anything I might have hoped to achieve with elaborate thought constructions pieced together out of bits of information.

Helpful also in this regard was my own practice of consciousness exercises. Although these were intermittent, and restricted to an introductory level, I was able to reach an experiential understanding of the upstream cognitive shift which made my treatment of this topic less abstract than it might otherwise have been. I am looking forward to developing these exercises further, and this is precisely what I plan to emphasize in the near future.

I am now far more aware of how unscientific and faith-based our practice of science can be. I also realize that the responsibility for this lies not with science, but with humanity. We have achieved great things with science, but in many respects we use it unwisely. A greater awareness of the history of science, as well as of how it actually proceeds – as opposed to how many of its practitioners claim it proceeds – is essential for its responsible use.

My work is firmly anchored in Rudolf Steiner’s anthroposophical tradition. However, it cannot accurately be characterized as spiritual science, but rather as a “clearing of the ground” of assumptions and prejudices which continue to obstruct our necessary progress toward the latter. In my view it is unfortunate that so much emphasis has been placed – by both detractors and proponents – on Steiner’s avowed direct spiritual perceptions at the expense of his epistemological insights. Without the latter the former arguably aren’t worth very much. What Steiner was doing primarily was extending the scientific attitude to everything in the universe, sensible and supersensible.
Goethe has been extremely important as well, especially because of his development of a methodology appropriate to the study of organics.

Owen Barfield provided a highly original slant to this work, especially with regard to language, mythology, and the practice of science.

Georg Kühlewind was most helpful for his deep understanding of the *logos*, and for his extensive experience – in our own times – on the cognitive path.

Many non-anthroposophical thinkers were valuable in shedding light on my topic, including Hans-Georg Gadamer, Ernst Cassirer, Michael Polanyi, Henri Bergson, etc. Not all of them made it into my thesis, but many of their insights were markedly congruent with the main track of my argument.

Olav Hammer provided a useful instance of a modern thinker who took issue with the validity of Steiner’s work.

Richard Dawkins and Daniel Dennett needed to be included as popular modern exponents of materialism.

Joanna Macy, Gary Snyder, and David Abram were helpful not only because of the intrinsic value of their thought, but because they have been more overtly influenced by Eastern conceptions than most of the other thinkers I engaged with.

I managed to include Lao-tzu in an epigraph, although I had originally planned to include an entire section on the relevance of the *Taoteching* to the environmental crisis.

Thomas Berry set the ball rolling in the first place with his big-picture view and his acknowledgement of the reality and importance of the spiritual.
This thesis draws upon and in turn affects quite a variety of disciplines: ecology, spirituality, epistemology, the theory and practice of science, consciousness studies, history, anthroposophy, Goethean science, linguistics, anthropology, biology, etc. In terms of the conversation I would place it in the realm in which science and art come together in such a way that the higher spiritual insights of the latter are achieved without ever compromising or sacrificing the formal rigor of the former.

One way of understanding what I hope to be the special contribution of this work to the larger conversation is furnished by the following analogy: Imagine that a marathon course was constructed which allowed for an infinite number of pathways to the finish line. It’s almost as if the different runners (thinkers from different disciplines) have come to a stop in front of the tape (acknowledgement of the scientific reality of the supersensible), wondering how to go about breaking it. It seems to me that many of the apparently diverging points of view which have been developed over the past few centuries are in fact pointing to the same goal. If all our prodigious efforts are ever to bear their promised fruit, we need to finally break the tape by fully affirming the comprehensive sensible-supersensible reality of the universe.

If we can make the shift to living these ideas rather than merely talking about them they should begin to make a great deal more sense…
Appendix II: *My Friends the Mourning Doves, & What I Learned From Them*

One day early in March, soon after I began this thesis, I looked up from reading to see a pair of robins building a nest under the rafters near the edge of my porch. I was happy to see this, although I was somewhat concerned that this nest was being constructed directly across from my front door, only about five feet away from the threshold.

This happened during a spell of relatively warm weather, but soon afterward the temperature plummeted, and to my chagrin the robins did not return along with the warmer air several weeks later.

Sometime in April I again glanced up from reading to discover a pair of mourning doves inspecting the robins’ nest. The female dove apparently gave it her stamp of approval, and her mate began to deliver nesting material (grasses, twigs, pine needles) to her, and she embarked on the necessary renovations. Mr. Dove would fly in with something in his beak, climb on Mrs. Dove’s back, and “hand” (“beak” would be more appropriate) the item to her, and then fly off for more.

Being a longtime bird lover, I quickly became very attached to the doves. I particularly enjoyed looking up from my thesis work to see the “off duty” bird (mourning dove pairs share nesting duties such as incubation, brooding and feeding) bobbing its head and fluffing its feathers on my porch rail. The setup became even more festive when a pair of Carolina wrens built a nest above my porch light, only a foot or two from the door.

One day in late April I returned from a walk in the fields, especially happy to see my feathered friends. “Good morning, birdies!” I exclaimed as I reached for the doorknob.
Once inside, I decided to do some movement exercises. As I moved through my routine I quickly noticed that Mrs. Dove was finding my movements disturbing. Unfortunately I had no blinds or shades that I could use to screen off the view from the outside, so I simply said, “I live here, Mrs. Dove, and you’re gonna have to get used to this.” She flew back and forth between the porch and the railing as I continued my exercises, and then <wham!> I heard a sickening thud against the window of one of the doors.

I had previously had problems with birds hitting this particular window, so I instantly realized what had happened, stopped exercising, and rushed to the window. This was by far the hardest collision I had yet heard, and when I looked out I saw exactly what I feared: Mrs. Dove was lying on the porch beneath the window, upright and with eyes wide open, but unable to move properly. She was looking directly at me, and I just cried and said “I'm so sorry!” over and over. Mr. Dove looked down from the nest with obvious concern.

It quickly became apparent that Mrs. Dove’s right leg wasn’t working properly. She made her way down a few steps to the gravel walkway in front of my cottage, at which point I became concerned that a hawk or my landlords’ cat might pounce on her. I walked out onto the porch and saw that my neighbor Sheila and her two young sons were sitting outside the main house, fifty feet away. Their dog started to run over to greet me, so I shouted “Don’t let her come over here!” and explained what had happened.

I wondered what we could do to protect Mrs. Dove, and Sheila suggested putting an apple basket over her. She fetched the basket and handed it to me, but Mrs. Dove was too quick for me, and flapped awkwardly over the driveway into a small strip of woods behind the cottage. I made a mental note of where she was, then went back inside to make a few phone calls, noticing as I did so that Mr. Dove had vacated the nest.
First I called a local wild bird shop, who in turn gave me the number of a wildlife rehabilitator. Unfortunately she was unable to come out and pick up the bird, and a faulty heater core in my car made it difficult for me to drive anywhere at that time without inadvertently poisoning myself with antifreeze fumes.

The rehabilitator seemed to believe Mrs. Dove’s injury more likely to involve her head than her leg. She suggested that I put out food and water for the bird, and perhaps she would be able to recover on her own.

But when I went back out to bring water to the dove she was nowhere to be found. I left the water at the spot where I had last seen her and returned inside.

As the evening wore on I became more and more sick with grief, reproaching myself for not having taken action to prevent such incidents. I was greatly heartened, though, to see Mr. Dove return to the nest and resume the incubation of the eggs.

My landlords and their family left the next day for a weeklong vacation, and during an extremely rainy weekend at the beginning of May I rooted Mr. Dove on as he valiantly attempted to finish the job by himself. I quickly realized that Mrs. Dove had not been able to survive her injury, so I tried to help her bereaved mate as much as I could, setting out bowls of food and water on the porch rail, and speaking to him in the kindly voice I reserve for my animal friends. As I returned from an errand in my landlords’ house I was very happy to see him packing away some of the birdseed I’d left out for him, and respectfully waited until he had filled his crop.

On Monday morning the sun was shining again, with Mr. Dove still on the nest. Later that morning, though, he was off with a whistling of wings, and did not return.
I found it almost unbearable to contemplate the empty nest, which I felt considerable responsibility for. In the great scheme of things perhaps one deceased mourning dove and two abandoned eggs don’t make much difference. But this thought did nothing to assuage my grief. All I can say in explanation is that once these birds came to live under the same roof with me they became Family, and I felt their loss accordingly. It was painful indeed to continue my thesis without my friends close by. I was reminded of the book *A Walk Across America*, in which the author recounts how his dog Cooper was run over accidentally partway through his journey, and he somehow had to find the strength to continue alone. I too felt very much as if I had run over my own dog. To add insult to injury, the wrens unaccountably abandoned their nest as well during this time.

Two days later I climbed onto a chair, weeping profusely, took the two precious eggs out of the nest, and gently laid them in the woods at the precise spot where I had last seen Mrs. Dove. This was by far the hardest part for me, probably because I’ve had so many “unhatched eggs” in my own life. I decided to dedicate my thesis to my dove friends; I wanted to “hatch some eggs” for them, if you will.

I learned a great deal about birds striking windows as I struggled to make sense out of what had happened. I discovered that at least a billion wild birds are killed every year in North America by window strikes, and that fifty to ninety percent of birds that hit windows end up dying from their injuries, even when they fly away apparently unharmed. Yet I also learned that at least two solutions have been created to address this problem: the Acopian BirdSavers and the Bird Screen.

I took the empty nest down and placed it in an identical alcove further away from my door. Mr. Dove returned to inspect the original site several days later, so I moved the nest back. I had the feeling he wanted to return once he had found a new mate.
Sure enough, several weeks later, in late May, I looked up from reading to see the nest lying on the porch, and looking upward my eyes settled on the pair of doves who had accidentally knocked it over.

I was thrilled to have them back. I figured that since they’d pushed the nest off the edge anyway I would try moving it again. It worked, and soon – with much musical fluttering of wings and great fanfare – they were busily adding to the nest. They flew off together one windy morning, and I contentedly drove off to run some errands.

They weren’t around when I returned that evening, but I didn’t think much of it until I woke up the next morning and the happy couple was still nowhere to be found. Why would they abandon a nest they just finished building, I wondered. Something didn’t sit right.

Later that day, during a rare walk behind the cottage, I discovered the answer: there, in the middle of the path, lay a pile of mourning dove feathers. I suspected that Mrs. Dove had been feeding on the ground, and the noise of the wind had enabled a Cooper’s hawk to strike her out of the blue. I felt bad for her, and also for Mr. Dove, who had now lost two mates.

After a short interval the robins returned and decided to make a go of it. Mr. Robin was a brash, cocky type with a sort of Rod Stewart “featherdo” which stuck up from his head whenever he was feeling particularly feisty. I quickly became attached to Mrs. Robin, who handled all of the incubation duties, taking short breaks periodically to feed and drink and relieve herself. One fine evening I saw her fly out into the field in front of the cottage to meet Mr. Robin, and they spent fifteen minutes or so hunting worms together. The robin version of romance, I guess.

First thing every morning I would check to see if Mrs. Robin was on the nest. When I saw a beak I’d say “I see a beak!” in my special “animal voice.” When I saw a tail I’d exclaim “I see a tail!”
I enjoyed teasing them about the sloppy nest they’d built, with weeds and grasses hanging everywhere. (In fact it’s still like that to this very moment.) I also nicknamed Mrs. Robin the “scaredybird” because I had only to turn the doorknob a fraction of an inch and she’d be on the lawn, eyeing me anxiously.

Every now and then Mrs. Robin would turn the eggs with her beak, standing on the edge of the nest. During this period Mr. Dove returned with another new mate, but – finding the nest occupied – they attempted to build on a precarious ledge near my door. I was surprised at one point to see Mrs. Dove sitting next to the robins’ nest. Mrs. Robin had her beak pointed toward her, almost as if they were having a conversation. But the doves gave up on the ledge soon thereafter and built their nest elsewhere. I held out the hope that they would return when the robins were done.

I eagerly awaited the hatching of the eggs, but the day after Father’s Day (two days before hatching according to my reckoning) Mrs. Robin was away for a very long time, perhaps two hours. When she finally returned she stood on the edge of the nest, as if she were preparing to turn the eggs with her beak, but instead simply stared at them for awhile. Then she flew off and did not return.

There’s something especially tragic and poignant about an abandoned nest full of unhatched eggs. This nesting failure felt almost as painful as the first one with the doves, because I just couldn’t understand how an entire clutch of eggs could go bad at once. Generally speaking, nesting birds can tell if an egg is not developing properly, and will push such an egg out of the nest. Four or five eggs going wrong at the same time is another matter.

I never did figure out what had happened. The eggs remained in the nest, partly because I couldn’t bear to take them out, and partly because the red wasps in the vicinity deterred me. A pair
of house finches showed great interest in the abandoned nest, but seemed to be intimidated by the eggs.

Finally, in early July, the mourning doves again returned, to my great joy. It was time for a successful brood.

I was touched by the way Mr. Dove would go out prospecting for nesting materials, fly in with a single dry weed stem or blade of grass, climb up on his mate’s back and gently “beak” it to her, and then fly off for more. He did this over and over for two days or so. In the meantime Mrs. Dove busily wove the nest together with her beak. This time they built a bit of a skyscraper by dove standards, perhaps to cover over the robin eggs.

The bulk of the incubating was done by Mrs. Dove, who handled the night shift, which also included the evening and early/mid-morning hours. Mr. Dove would fly in and perch on the porch rail anytime between 10:00 and 11:30 AM, then take over until 5:15 - 6:30 PM, when Mrs. Dove would do the same. Mrs. Dove usually flew off the nest before her mate jumped up, probably because she’d been on duty for eighteen hours straight, but Mr. Dove would wait until she began walking into the nest before he flew off.

As hatching time approached I began to get excited at the prospect of the dove chicks (or “squabs”) hatching. I knew from my research that incubation of mourning dove eggs takes about two weeks, and sure enough, right on schedule, I noticed the doves’ behavior changing. Where before they had spent hours sitting calmly on the nest, changing position occasionally, now they were obviously attending to some sort of activity deep down in the nest with their beaks. I knew that the little “squibbers,” as I soon affectionately dubbed them, are exceedingly tiny critters when they’re first born, and I eagerly awaited the day when I would finally be able to see them.
I was getting a bit frustrated by the time – about five days later – that I finally saw the squibbers. Mr. or Mrs. Dove would raise his or her beak and lower it in rhythmic succession, obviously contending with some rather hungry and feisty youngsters. Yet from my angle the nestlings were impossible to see. Then, in the midst of all the commotion, I caught a brief but unmistakable glimpse of a small, dark form pecking desperately at its parent’s beak.

This was a thrilling moment for me, but I really couldn’t tell if there was more than one nestling or not. Mourning doves almost invariably lay two eggs per brood, but it does occasionally happen that one of them doesn’t hatch, or that one of the youngsters doesn’t survive.

A few days later, when I was able to confirm the presence of two nestlings, I discovered that when the adult dove bobs its head up and down during feeding, the two youngsters are usually positioned on either side of its beak, raising and lowering themselves to match the parent’s rhythm. It can be quite difficult to see this when the squabs are very small – especially when the sightlines are not ideal – because the squab that is most visible tends, along with its parent, to block a clear view of the other. Of course, as growth proceeds this gradually ceases to be an issue.

As the squibbers rapidly grew over the following week or so, their parents more or less continued their schedule as it had been established during incubation, with Mrs. Dove handling the evening/night/early morning shift and her mate covering a shorter shift which encompassed most of the daylight hours. I was quite conscious that whoever was “off duty” at a particular time was likely close by, and I caught sight on a number of occasions of Mr. or Mrs. Dove perched on a telephone wire near the nest during these times.

Soon the squibbers were becoming sizable birds, and their plumage gradually lightened from almost black to something more closely resembling the tan/gray of their parents. Unlike the latter, the nestlings’ feathers had a somewhat scale-like aspect to them, and they spent a great portion of
their ample time preening themselves. Their heads and beaks also contrasted with those of the adults: less rounded and graceful, more squared-off.

As the youngsters continued to grow, they began to flap their wings in the nest more often. Looking back, I suspect that this was a way for them to exercise their flight capacities so that they would be as prepared as possible for adult life before actually leaving the nest.

Both parents continued to feed them dutifully at first, more or less according to the schedule established during incubation and early nesting, but increasingly on an alternating basis. I was surprised to see Mrs. Dove continuing to brood the nestlings, albeit considerably less than before, over one week after hatching.

After the brooding period was over, I was working intensively on rehearsing my final graduation presentation to the Goddard community. The two young birds sat very patiently and attentively through all of the rehearsals, and I fancied that they enjoyed and approved of my efforts.

A few days before the two-week mark after hatching, I realized that I wanted some photographic documentation of these birds. I knew that only two or three days remained until fledging, so I went to the drug store and purchased a “disposable” camera for this purpose.

This was the juncture at which I began to more consciously realize the differences between the Goethean methodology and the more conventional approach I had previously been trained in. As I started to snap pictures of these birds I quickly became thankful that I had not had a camera available before that point. Why? I knew all too well what most certainly would have happened: I would have constantly been rushing to grab my camera to document the birds’ every move, and consequently would have lost the intimacy of my cultivated, moment-by-moment, direct observation of them. And this would have been to lose the most precious aspect of my studies.
The Goethean approach emphasizes the qualitative aspects of whatever is being studied, and in the case of the doves these might be most accurately characterized as “the doveness of the dove.” This is not to say that photography does not touch on these qualitative aspects – certainly it does – but precisely the absence of any intervening technology beyond a frankly indispensable pair of binoculars is what allowed me to be properly and fully present to these beautiful feathered beings. Imagine, for example, if your best friend, instead of visiting you and simply being present to you, arrived at your house with a video-camera and an array of diagnostic equipment, and spent the entire visit “documenting” you by means of this technology. Would such a procedure leave you feeling fully known and recognized, or merely categorized and measured?

Having said this, I am very thankful to have had the means to photograph these birds and include these images in my thesis. What I would like to emphasize, though, is the necessity for balance between technology and fully human presence; we need to recognize on the one hand when and why technology is necessary or desirable, and on the other when it might be necessary or desirable to put this technology aside and more fully develop our own innate capacities for engagement with the world.

My most remarkable encounter with “the doveness of the dove” came – in keeping with the general nature of wild things – completely unexpectedly early one August evening, just a day or two before fledging. I was about to head into town to run a few errands, and after loading some things into my car I went back inside to wash my hands. As I turned around from the sink, shaking the water droplets from my hands, I noticed Mrs. Dove perched on the coffee table on the porch, peering through the window at me.

Now earlier that same day I had seen her puttering in her endearing way across the porch in front of my door. Of course the window on one half of this door had caused the demise of one of
her predecessors, so I eyed her movements somewhat nervously. Sure enough, she prepared to launch into flight, and – seeing that she was aimed directly at the window – I lunged desperately at the door, causing her to veer off at the last moment and fly away from the porch. With my heart pounding, I breathed a sigh of relief: “That was close!”

Now, some hours later, here she was, gazing at me with clear, unblinking eyes. I began speaking to her softly, saying how glad I was that she and her mate had chosen my porch as their nesting spot, and how fond I had become of her and her family.

I can only characterize the look in her eyes as the purest, most unadulterated love I have ever witnessed. It felt to me like perfect acceptance, as if she was gazing into the very depths of my soul and adoring what she found there. I began to choke up as I realized what was happening, and she continued with her pure, perfect, unblinking presence. I know this isn’t science, but I will always believe that on some unfathomably deep level, she was thanking me. I managed to snap a photo, and even after I walked right past her, started up my car, and headed toward the main road, I looked back and saw her still perched there, in that same spot.

THE FINAL DAYS OF THE NESTING PERIOD, LEADING UP TO FLEDGING, were an exciting time for me. I had heard and read so much over the years about this phase of avian development that I had to consciously remind myself that I had not actually ever witnessed it.

The feeling of drama intensified when Mrs. Dove showed up one morning on the west porch rail, and – instead of jumping up to the nest to feed the squibbers as usual – let out a series of regularly timed “grunt-coos.”
I had never before heard such sounds from a mourning dove, and in the context I assumed that Mrs. Dove was attempting to coax the youngsters down from the nest. From their demeanor, though, it was evident that they had no intention of budging as yet, and after five minutes or so she flew up and fed them normally. I witnessed two such rituals during the last few days before fledging.

Finally, in the latter hours of a Friday morning, it was obvious that fledging time was nigh. My research had indicated that adult mourning doves hold back on feeding toward the end in order to further encourage their young to embark on their maiden flights, but my own observations did not corroborate this. As it happened, Mrs. Dove flew up and fed them in the usual manner, then departed. Immediately thereafter, as I watched through the window, one of the squibbers, with eyes shining brightly, climbed to the top of the nest, flapped its wings, and launched itself down to a soft landing on the cushion of one of the two porch chairs.

The other youngster, now alone in the nest for the first time in its brief life, held out for a few more minutes before replicating its sibling’s flight and landing on the same target.

Now Mr. Dove flew in and fed both of the fledglings. Soon they were underneath the chair, and to my surprise they spent the remainder of the day huddling together under various pieces of porch furniture, periodically being fed by their parents.

Shortly after the first out-of-nest feeding, Mr. Dove flew up to the nest for a final inspection, and – confirming that the nest was indeed empty – let loose with a triumphant “cooAh coo coo coo.” He had been in the habit of cooing like this just before he fed the two youngsters, and this was his crowning coo.
I was a bit concerned about the vulnerability of these newly fledged birds to predators, so I kept watch for them for the rest of the day. When I went outside I did so very quietly and cautiously, and – perhaps because they were accustomed to me by now – they stayed put. They eventually ended up perched together on the ledge underneath the west rail, partially camouflaged by a large stick that I happened to have left there.

In fact, this was where they spent the following night. I was hoping to witness their first movements the following morning, but as I was lying in bed just as the sun was rising over the mountains, I heard one of the fledglings flapping clumsily but effectively just beyond the west window screen. Shortly thereafter I heard the other flapping against the east window screen, and presumably the two siblings rejoined each other in the woods behind the cottage.

I had known all along that it would hurt to lose my friends, but the unexpected gradualness of their departure considerably leavened this loss, as did my joy and satisfaction in wake of the first successful nesting and fledging under my roof.

One of the new discoveries that I made about mourning doves in the course of this experience was that not only do the male doves coo, but the females do as well. The ladies coo less frequently, and with an endearingly wheezy, higher-pitched rendition. Now, as the two proud parents worked together to feed and teach their fledglings, they constantly cooed back and forth to each other as the latter made their way up and down the hills, fields and woods. Over the following days I could often hear this back-and-forth, sometimes distantly, sometimes very close by. This too helped me to recover from the loss of my friends, as I knew that they were all taking care of each other, and that they would continue to be my neighbors.

A few days later I headed off to Vermont for my final residency and graduation from Goddard. I look forward to my friends coming back and nesting with me again next year!
Two “Squibbers” Waiting for Fledging

Getting Ready to Fly...
Almost There...

Mr. Dove on the West Rail
Hiding On the Ledge After Fledging
Annotated Bibliography


Unfortunately out of print, but like the similar Seamon and Zajone collection a comprehensive examination of Goethean science from a rich variety of perspectives. Despite this similarity any overlap is enriching rather than redundant. This volume is a bit lengthier and more technical than the other, and includes illuminating excerpts from a Goethean science symposium as an appendix. Invaluable for developing a deeper understanding and appreciation of Goethe’s science.


A detailed and comprehensive treatment of the myriad cultural transformations that must take place if both humanity and the Earth are to continue. A “big picture” thinker, Berry acknowledged the spiritual dimensions of the environmental crisis, yet built on an epistemology that did not adequately acknowledge the true nature of these dimensions. Nevertheless, his depiction of our current cultural/ecological shift holds great value as we strive to overcome the onlooker consciousness.


This work has the distinction of being both extremely well written and quite difficult to understand. As such it provides an excellent opportunity for the reader to develop capacities rather than amass information, and rewards close reading. Using a variety of characters with widely
diverging scientific and philosophical viewpoints, it succeeds in deeply penetrating some of the most perplexing dilemmas of modern science.


An invaluable, in-depth introduction to Goethe’s scientific methodology. Indispensable for placing Goethean science in a historical context within which its continuing modern relevance can properly be appreciated. Not only is Goethe compared and contrasted with Newton, but his commonalities with a variety of philosophical schools (especially phenomenology) are examined. The treatment of the problem of wholeness is especially illuminating.


A more concise, distilled and accessible examination of the “upstream” cognitive shift which Bortoft advocated. Especially helpful in clearing up common sources of difficulty in understanding the nature of this shift. The non-technical tone of the book makes it an ideal primer for non-specialists who are attracted to these ideas. With regard to both of Bortoft’s books, reading the footnotes is absolutely essential, as many of his most important insights are included therein.


This book is an especially instructive example of the reductionist methods so often employed by modern science, which become particularly glaring when something as supersensible as consciousness is the subject of inquiry. Of special note is Dennett’s unconscious anthropomorphizing of matter. Best read in tandem with something at the anthroposophical end of the spectrum, e.g. Barfield’s *Worlds Apart*. 

This is a seminal yet difficult work. Though it is very well written, its author doesn’t appear to understand how difficult his style of thought is to understand for most readers. Nonetheless, the book rewards close and careful reading. Invaluable for understanding the nature of hermeneutics and overcoming either/or thinking. An important influence on Henri Bortoft’s work.


An essential compilation of Goethe’s most important scientific writings, translated into English. Includes essays on his methodology and practice as well as on his various areas of inquiry: the morphology of plants and animals, his theory of colors, geology, cloud formations, etc. Particularly important are Goethe’s ideas of the Urphänomen (primal phenomenon) and Urpfanze (archetypal plant).


A concise article describing the basics of Goethean science by its foremost American practitioner. Does a good job of distinguishing this mode of inquiry from conventional science. Written in non-technical language.


The similarity of this title to Rudolf Carnap’s *The Logical Structure of the World* is likely no accident. This book effectively dissolves the basis for the misunderstandings of positivism and
nominalism, clearing the way for a properly spiritual understanding of the world. Brings Steiner’s work in *Intuitive Thinking as a Spiritual Path* into a more contemporary idiom.


This work is the fruit of many decades of dedicated schooling in Rudolf Steiner’s “cognitive path.” A variety of different exercises are described, involving the spheres of thinking, feeling and willing. An excellent practical complement to Bortoft’s books, it assists the reader in actively achieving the “upstream” cognitive movement. Contains numerous suggestions for avoiding common pitfalls on this path.


This book is valuable for bringing a Buddhist perspective to our ecological dilemmas. Macy exhibits a marked Western/humanist interpretation of Buddhist doctrine, as well as a deep understanding of the practical pitfalls of one-sidedly mystical worldviews. The influences of systems theory and materialistic science occasionally make an appearance, with somewhat problematic results.


A well-rounded introduction to Goethean science comprising essays and studies written by a variety of scientists and philosophers. Of particular value is the section on “Doing Goethean Science,” which includes contributions from five different practitioners of this methodology. As of mid-2013 this book thankfully remains in print.

This is one of several key epistemological works by Steiner. His first book, it highlights the foundations of Goethe’s scientific practice, which Goethe himself did not always address directly. Especially helpful in developing an understanding of the necessity for different scientific approaches for the organic and inorganic realms.


Another important epistemological work by Steiner, outlining the essential aspects of Goethe’s scientific method and the worldview which it implies. Covers Goethe’s relationship to Platonism as well as his foundational ideas with regard to metamorphosis, colors, etc. Also explains why Goethe’s worldview was unable to attain a comprehensive scientific understanding of humanity.


The closest thing to an introduction to Steiner’s more esoteric and well known (as paradoxical as that sounds) later work, in which he moved beyond his epistemological foundations to begin scientifically studying human beings comprehensively as beings of body, soul and spirit. Details the spiritual evolution of the Earth and humanity; examines reincarnation and karma; and distinguishes etheric, astral and *I*.


Probably the first successful attempt to clear up the immense epistemological confusions of modern philosophy that followed in the wake of Descartes and Kant. Clearly written, but difficult
for modern minds to follow. Rewards repeated close readings. It would be difficult to reach an understanding of our modern dilemmas (epistemological, scientific, social, psychological) without grappling with the ideas in this book. Best read before Steiner’s later, more overtly esoteric works.


This volume collects all of Steiner’s introductions to Goethe’s scientific writings which he created in the course of editing these writings for a comprehensive collection of Goethe’s works. Steiner, as usual in his treatment of Goethe’s science, brings out explicitly many of the aspects that Goethe himself tended to leave implicit. Best read in conjunction with the Goethean works themselves.


The most comprehensive overview of Western intellectual history that I am aware of. Somehow manages to carefully consider the major trends in Western thought in a nuanced and readable style in less than five hundred pages. Provides an excellent introductory understanding which serves as preparation for more specific studies.
Gratitudes

Craig Holdrege, director of The Nature Institute, threw me a lifeline when I was in a difficult spot, a lifeline that led directly to my attendance at Goddard. He also killed a questionable idea, enabling me to replace it with a much better one.

I was fortunate enough to meet with Thomas Berry on two occasions during the final years of his life. I hope that I have taken a worthy first step here toward the Great Work he envisioned.

Thomas Rain Crowe provided helpful feedback on various writings I produced in the course of my degree work (and also leading up to it).

“Professor” and anthroposophist extraordinaire Michael Mason critiqued some of these same essays, as well as an introductory lecture I gave in Asheville last year. He also ran down some crucial quotes.

My brother Jim Shaw proofread this thesis with his eagle eye for readability. Any remaining typos or other mistakes are strictly his responsibility <snicker>.

Sherman Hoover helped with converting and cropping the dove photos in Appendix II.

John Huie (along with others already mentioned) evaluated my most important pre-Goddard essay.

Susannah Rose suggested a course change which led directly to the development of this thesis.

Rivers Sterling and Patrick Patton, DC, assisted me in strengthening my health for the long haul of completing this degree.
The Audubon Naturalist Society, Burgundy Center for Wildlife Studies, and Seven Ponds Nature Center all provided rewarding experiences along the way. If I ever strike it rich (extremely questionable) I know who’s going to get the extra money.

The Petruccellis offered me a wonderful place to live while I worked on this degree. The sound of children having fun is even better than music sometimes.

The various critters of Jenkins Valley added to the soundtrack over which I worked: cows (“bellyaching bovines,” as I nicknamed them), bluebirds, brown-headed nuthatches (<squeak><squeak>), spring peepers, crows, robins (nesting on my porch at the moment), field sparrows, meadowlarks, mourning doves (my special friends), etc. Also Roxie the kelpie; Gilbertina Maria Rilke, the gender-confused cat; and Robert F. White III the northern bobwhite.

Thomas Rain Crowe, Lois Rheaume, and Mark Corcoran wrote letters of recommendation for my admission to Goddard.

Jennifer Bruno told me about Goddard College, and Susan Pearson reminded me of it at just the right moment. Susan also served as my second reader.

Thanks to Goddard College for giving me the opportunity to earn a degree doing something I truly believed in. (Not an easy trick in this world.) Thanks also to my advisors (especially Jim Sparrell, with whom I worked for two semesters), the maintenance and administrative staff, the rest of the faculty (whether I worked with them or not), and my fellow students. In other words, everybody who makes Goddard what it is.

Special thanks to Deborah Olenev, CCH RSHom, for her homeopathic expertise. What a relief …
I am happy to have immortalized the adult female goshawk featured on my cover page. She was captured and banded at Holiday Beach Migration Observatory in Ontario, Canada in November, 2005. I had the honor and thrill of releasing her off the observation tower a minute or so after this photograph was taken.

My deepest thanks go to my family and friends, without whom this quite simply could not have happened.