Chapter 6 – The Modern Era of Panpsychism and Participation

1) Emergence of the Mechanistic Worldview in the 17th Century – Spinoza and Leibniz

In the 1600's one finds an emerging scientific and objectivist worldview competing with the naturalistic and animistic theories of the Renaissance. The early rationalism and empiricism led the departure from Scholasticism and Church orthodoxy. Science was now poised to make great advances. But panpsychism and participatory thinking would survive, albeit in increasingly diverse forms.

With respect to philosophy of mind, the 17th century is dominated by perhaps the two most notable panpsychist philosophers, Benedictus Spinoza (1632-1677) and Gottfried Leibniz (1646-1716). Both created comprehensive metaphysical systems that attempted to bring order to mind and reality. Both were strongly panpsychist, and both made a number of observations that were remarkably anticipatory of hylonoism, and participatory philosophy generally. So much has been written about their views that I will only provide the briefest of summaries here. Instead I will focus on the connection to the central ideas of my thesis.

Spinoza's ideas are presented primarily in his magnum opus, the Ethics (1677). His approach in the Ethics was 'geometrical', that is, it relied on a system of arguments patterned after mathematical formalism. Such a mathematical methodology was a very recent development in philosophy, largely attributable to Descartes. But beyond pure methodology, Spinoza believed that mathematics could lead to true insight into the nature of reality. Allison notes that, for Spinoza, "the principles that apply to mathematical objects and perhaps other abstract entities *also apply to reality as such*. Thus, [he achieves] a real definition, an adequate, true or clear and distinct idea of a thing..." (1998: 92; my italics). This is essentially my claim about hylonoism: that even though it is a mathematical formalism, it nonetheless makes very real and clear statements about reality.

Spinoza created a radical monism in which the single underlying substance of all reality was what he called 'God'. This substance he saw as identical with the natural cosmos,

and thus he equated God with Nature – resulting in a strong form of pantheism. Recognizing mental and physical phenomenon as a part of reality, Spinoza declared these to be two of infinitely many 'attributes' of the one God/Nature; these two realms are referred to as "*thought*" and "*extension*", respectively. Thus Spinoza's theory is often called a 'dual-aspect' theory of mind and matter. Particular objects, or particular thoughts and mental states, are called 'modes' of the corresponding attribute. For example, a table is a 'mode of *extension'*, and pain is a 'mode of *thought'*.

The two realms, extension and thought, are not independent. Quite the opposite. They have a very specific and fundamental connection: every physical "thing" (Spinoza's term) has a corresponding mental aspect, which Spinoza calls an "idea", and conversely every mental idea has a corresponding object, or thing. This is Spinoza's unique brand of unity, known as *psycho-physical parallelism*. To every physical thing or event there corresponds an *idea* of that thing or event. As physical things change and evolve with time, so too in an exactly corresponding manner do the ideas. In his words, "the order and connection of ideas is the same as the order and connection of things." (IIP7)[1]. They are "the same" because they both reflect the single underlying unity of God/Nature.

Moreover, the 'idea of an object' is to have a very specific interpretation: it is the *'mind'* of that object. Every mode of extension has its corresponding mind, which is its mode of thought. Since every object has a corresponding idea, *every object can be said to have a mind*. This is most clear to us in our own case, wherein the human mind is simply the idea of the human body. But it is a general ontological principle, and thus applies to all things.

This is spelled out explicitly in the Scholium of Part II, Prop. 13. He states:

> From these [propositions] we understand not only *that* the human mind is united to the body, but also *what should be understood* by the union of mind and body. ... For the things we have shown so far are *completely general* and *do not pertain more to man than to other individuals*, *all of which, though in different degrees, are nevertheless animate*. (my italics)

Spinoza then goes on to explain what he means by "different degrees":

> I say this in general, that in proportion as a body is more capable than others of doing many things at once, or being acted on in many ways at once, so its mind is more capable than others of perceiving many things at once. (ibid)

In other words, *the greater the complexity of interaction with the world that a given object has, the greater the complexity of the corresponding mind*. Clearly, physical objects exist and interact in varying degrees of complexity, and this fact accounts for the variation in complexity of their minds, of one being "more excellent" than another. This is an important insight, and it strongly anticipates not only Teilhard's thesis of complexity/consciousness, but my own theory of hylonoism.

Recall my earlier discussion: I claim that reality consists of two realms, that of participatory matter (the Partimater), and that of participatory mind (the Partimens). Hylonoism states that every physical object or system has a corresponding mind, given by a singular hylon point, which moves in the mental realm, the Partimens. The hylon corresponds with the physical object, but is not 'caused' by it; there is simply a one-to-one association between the two. As the physical system changes in space-time, so the hylon moves in 'nous-time'. And the complexity of the physical system -- such as the number of neurons in the brain, speed of energy exchange, degree of interconnection -- determines the complexity of the corresponding hylon-space, as measured by the number of dimensions of the phase space and the complexity of the virtual attractor pattern (i.e. personality). A richer, more complex physical object will correspond with a richer, more complex, 'more excellent' (to use Spinoza's phrase) personality, or mind.

As I see it, there is strong affinity between Spinoza's ideas and my own. Spinoza devised the basic ontological structure, but I think that hylonoism represents an important new stage of thinking because it explains not simply *that* such a correspondence occurs, but *how*. And hylonoism carries with it many further implications and articulations that Spinoza's theory simply could not anticipate.

Of course, neither theory really explains *why* this should be the case -- why is it that dynamical physical systems can be captured by a single point moving in a multi-dimensional space? Stated otherwise: Why are there minds at all? Such a brute fact of ontology may never have an adequate 'explanation', other than through some recourse to ultimate cosmological principles like the Anthropic Principle, or Teilhard's Omega Point. Perhaps one can only state that the presence of mind is in the transcendent nature of the cosmos, that a cosmos without mind is literally and figuratively unthinkable.

Is Spinoza a 'participatory' philosopher? I think he is, but in a subtle, groping way. Spinoza is clearly holistic. He identifies Nature with God, and thus adopts a reverential attitude to all beings. He finds a home for the 'spiritual' in his attribute of mind, and places this on equal footing with the material aspect of reality. On the other hand, he is notoriously deterministic, and perhaps overly rational in demeanor; his vision suggests the mechanistic perspective to come. And he has no conception of an evolving, open-ended cosmos -- an idea that would not emerge until the time of Diderot, some 50 years later. Still, his accomplishments will always rank among the greatest in Western philosophy.

Leibniz was a comprehensive thinker, making important advances in philosophy, mathematics and physics. Here I can focus only on one aspect of his philosophical system, namely, his conception of the *monad*. This is expressed chiefly in his work The Monadology (1714b), but it appears throughout his philosophical corpus. The concept of the monad is important for two reasons: one, because it is the basis for his panpsychism, and two, it has a number of clear comparisons to my concept of the hylon.

A monad is an atom-like, small and simple substance that is the basis of all reality. All material objects are simply aggregates or composites of a large number of these point-like substances. Monads are 'simple' but yet possess a number of important and interesting characteristics. Five of these are relevant to our discussion.

One, Leibniz writes, somewhat cryptically, that monads are "windowless". Some commentators take this to mean that they are causally exempt from the rest of the physical world, but this is inconsistent with other statements he makes (see below).

Rather, I interpret this more literally: that the monad is something into which we 'cannot see'. The monad is an irreducible entity of which we cannot analyze as we do other natural phenomena. If we 'peer into' a monad in a scientific sense, nothing presents itself to us. We must understand it on the basis of first principles.

However, this is not to say that the monad cannot accept outside influences into itself. The second point is that in spite of being windowless, every monad is utterly unique in that each represents a unique perspective or outlook on the universe. This uniqueness of outlook results in a "plurality of properties and relations" (1714b, sec. 13) within the monad. As Leibniz explains: "Each monad is a living mirror...which represents the universe from its own point of view, and is as ordered as the universe itself." (1714a, sec. 3).

Three: The internal ordering of the monads is to be understood as consisting of two primary qualities, *perception* and *appetite*. The changing internal states are the *perceptions of the monads*, and these changes are brought about (in a rather vague way) by the monad's appetite.

Four: There is of course a strongly animistic implication in these two terms, and for good reason: *each monad is identified with a 'soul'*. The connection of 'soul' with a point-like entity comes from the earliest parts of Leibniz's philosophy. Even in 1671, at age 25, he noted that "the soul, strictly speaking, is only at a point in space..." (cited in Hoeffding, 1908: 335). This reiteration of Bruno's equation of the monad with the atom is another intriguing anticipation of the hylon, and the idea of mind as 'a point in space'. Later, in 1695, he writes of "true unities" underlying reality:

> [I]n order to find these *real unities*, I was forced to have recourse to a *real and animated point*, so to speak, or to an atom of substance which must include something of form or activity to make a complete being. (1695: 139)

Here again we see the association of 'animation' with a point-like entity. Leibniz continues:

> I found that [the monad's] nature consists in force, and that from this there follows something analogous to sensation [i.e. perception] and appetite, so that we must conceive of them on the model of the notion we have of *souls*. (ibid.)

> We could call them *metaphysical points*: they have *something vital*, a kind of *perception*, and [furthermore] *mathematical points* are the *points of view* from which they express the universe. (ibid, p. 142; original italics)

This is a very clear description of what, for Leibniz, could only have been a strong intuition of the nature of soul. Being a mathematician, it would certainly be natural for him to express the point-like nature of the soul in mathematical terms.

The fifth characteristic of the monad is the fact that it is, above all, a *unity*. Monads themselves are unities, but so too are collections of monads. Any material object is a 'collection of monads', and is integrated by the action of a "dominant monad" which represents the integrated unity of the object. The dominant monad is the soul/mind of the object, and recalls the Stoic concept of the *hegemonikon*. The mind of human being is associated with the dominant monad of the body.

One is led to ponder how and why Leibniz would have articulated such a theory of mind and being. It seems not to follow necessarily from any of his other work, and in fact he really offers little in the way of a philosophical defense for his monadology. Certainly he was influenced by Bruno and Campanella[2], but this does not explain his reasons for holding such a theory. It seems to me that Leibniz simply had a deep intuitive feeling that mind was of a point-like nature, was non-physical in some sense, and must be seen, in a consistent universe, to inhere in all things. This is precisely the view of hylonoism. In the 21st century, I have the advantage of expressing such intuitions in more precise language, and thus (hopefully) can provide more in the way of a philosophical defense.

Together, Spinoza and Leibniz anticipate many central intuitions of hylonoism. It would not be too far from the mark to describe hylonoism as a highly-articulated "Spinozist monadology".

To close out this discussion of the 1600's, I note two comments by Issac **Newton** (1642-1727). As the Father of the Newtonian worldview, he is typically depicted as a hard-core materialist who sought explanation of all phenomena in the movement of inert atoms by various mechanistic forces.

In fact, Newton had serious doubts about viewing matter as dead and inert, and some believe that he actually had a strong inclination to view all matter as *living (hylozoism)*, and even as possessing mind-like qualities. Robert McRae (1981) performed a brief but interesting study along this line, based largely on a detailed investigation by McGuire (1968) of Newton's post-*Principia* writings. McRae states very directly, "Newton had no objection to hylozoism… [and] indeed, appears to have been powerfully attracted to [it]." (p. 191).

The basis for this can be found in a draft variant of Query 22 in the 1706 work *Optice*.

> For Bodies…are passive. … [T]hey cannot move themselves; and without some other principle than the *vis inertiae* ['inertial force'] there could be no motion in the world. … And if there be another Principle of motion there must be other laws of motion depending on that Principle. … We find in ourselves a power of moving our bodies by our thoughts…and see [the] same power in other living creatures but how this is done and by what laws we do not know. … [I]t appears that there are other laws of motion…[and this is] enough to justify and encourage our search after them. *We cannot say that all nature is not alive*. (cited in McGuire, pp. 170-1; my italics)

Quite a statement by the Father of Mechanism! Certainly this is not an outright endorsement of hylozoism or panpsychism, but it obviously shows that he is willing to entertain the idea and not rule it out *a priori*.

Newton was influenced by the Stoics, and like them he saw a cosmos of both passive and active principles. The 'inertial force' (*vis inertiae*) was just such an active force. This

was a universal force that Newton speculated might be connected to mind and will. He wrote:

> [I]f there be an universal life, and all space be the sensorium of a immaterial living, thinking, being, …[then] the laws of motion arising from life or will may be of universal extent. (ibid, p. 205)

All of this sheds some interesting light on the emergence of the Mechanistic Worldview. The very founder of this worldview saw at least some reason to believe that the cosmos was animate throughout. Panpsychism was seen as compatible with science, and in fact served as a kind of deeper explanation of natural phenomena. Mind was inherent in matter, and its nature was not unlike that of our own human mind. This again is a form of participation, of situating the human within the universal context.

Even though the early mechanistic universe still allowed for the ubiquitous presence of mind, the stage had been set to remove it completely. Philosophers were beginning to speak of nature as a *machine*. This comes out clearly in the writings of Leibniz. Already in his first public philosophical work, "A New System of Nature" (1695), he speaks of "natural machines", but takes care to note the "true and immense distance" between machines made by God and those of man. He makes several other such references in later works, and gives the concept notable discussion in the Monadology: any body composed of monads forms "a kind of automaton or natural machine" (sec. 3). In other words, "each organized body of a living being is a kind of divine machine or natural automaton" in which its parts are themselves machines: "natural machines…are still machines in their least parts, to infinity." (sec. 64). The monads themselves are not machines, but rather the spiritual, percipient basis of all machines.

For Leibniz, his conception of material bodies as "divine machines" was a way of explaining that (a) God did not need to intervene in daily affairs on a continuous basis, and (b) the animating power of mind in the world was sufficient, together with the laws of nature, to 'automatically' explain movements and behavior. This view was compatible with that of Descartes, who radically separated mind from (human) body, and removed it completely from the physical world. This next logical step was taken by LaMettrie.

2) Continental Thinking of the 18th Century

Julien **LaMettrie** (1709-51) extended the ideas of Descartes and Leibniz, and envisioned humanity utterly devoid of soul. He had no use for God or the supernatural, and insisted that everything in the world admits of a 'natural' explanation. It was obvious that many things, including people, were capable of self-movement, and that people had certain mental abilities as well. These must therefore be explained as inherent abilities of 'ordinary matter', since by his reasoning there could be no other explanation.

The most appropriate metaphor at the time was that of a *machine*. By the early 1700's, machines were becoming quite complex and could do a variety of semi-intelligent and autonomous activities. Machines clearly operated by some internal means without any aid of the supernatural, so it was logical to assume that all things, humans included, operated in an analogous manner. This was the reasoning behind LaMettrie's infamous work, *L'Homme Machine* (Man, a Machine), which he published anonymously in 1747. Mankind itself was now being drawn into the Mechanistic Worldview that had, until then, been used only to describe the non-human world.

To explain movement and thought, LaMettrie sought a theory in which such powers were *inherent in matter*. To assume otherwise would be to attribute some special status to mankind, which sounded very much like the theological supernaturalism that LaMettrie wanted to avoid. He ultimately spelled out a view that may be called *'vitalistic materialism'*, wherein all matter contained within itself an animating force that was expressed to varying degrees, depending on the complexity and structure of the object.

LaMettrie developed these ideas both in *L'Homme Machine* and in an earlier work, The Natural History of the Soul (1745). In the earlier work he wrote of 'feeling' as a third general attribute of matter; he also stated that "it is clear enough that matter contains the motive force which animates it and which is the immediate cause of all the laws of movement." (1745: 49). He adopts a kind of agnosticism about this view, admitting that he has no comprehensive theory that would explain this. Then in *L'Homme Machine* he

extends the idea that the organizational complexity of the human body accounts for its 'soul':

> [T]hese faculties are obviously just this organized brain itself, there is a well-enlightened machine! … [Even our conscience is] no more foreign to matter than thought is… Is organization therefore sufficient for everything? Yes, once again. (1747: 59)

He continues by stating that it is the *matter of the body itself* which exhibits 'feeling': "Since thought obviously develops with the organs, why would the matter of which they are made not be susceptible to [for example] remorse once it has acquired in time the faculty of feeling?" (ibid).

Thus in LaMettrie one finds an interesting conjunction of the Mechanistic Worldview and a 'panpsychist' (or better, pansensist and pan-noetic) outlook. The two views were, to him, entirely compatible; in this sense he was very much in line with the thinking of Leibniz and Newton.

LaMettrie's dynamic theory of matter draws upon Leibniz, and anticipates the 'dynamism' school of thought that would emerge in the 1800's – recall my discussion in Chapter 3. And it lays the groundwork for the thinking of Diderot and Maupertuis that followed close behind. Finally, let me note that LaMettrie saw important ethical implications in his theory, ones that were the complete opposite of what might commonly be supposed. Rather than becoming depressed or degraded by being called a 'machine', LaMettrie suggests that people see this first of all as an integration of humanity into the larger scheme of nature, and second, as simply *the truth* – a truth that, by tearing away false illusions about ourselves, leads to greater happiness:

> Whoever thinks in this way will be wise, just, and tranquil about his fate, and consequently happy. He will await death neither fearing nor desiring it; he will cherish life…; he will be full of respect, gratitude, affection, and tenderness for nature in proportion to the love and benefits he has received from her; and, finally, happy to know nature and to witness the charming

> spectacle of the universe, he will certainly never suppress nature in himself or in others. (1747: 75)

LaMettrie seems to sense that there is a risk in seeing the 'man-machine' as something alien to nature, and he clearly wants to dispel this thought. In fact he, like Bruno, seems to be groping toward an articulation of an early ecological philosophy that is holistic and integrative. This trend would accelerate with the German Romanticism and *Naturphilosophie* that emerged in Goethe, Schelling, and Fechner. It would also be taken up by fellow Frenchman Denis Diderot.

As co-editor of the rationalist, humanist, and secularist work, the *Encyclopedie*, **Diderot** made clear his intentions to find naturalistic solutions to matters of philosophy and nature. Diderot's thinking was in fact quite close to that of LaMettrie, although he rejected the use of the word 'machine' in reference to living creatures. Apart from this largely semantic difference, they both sought a holistic worldview which opposed the growing presumptions about 'dead matter', and they both sought to deeply integrate humanity into the larger cosmos.

Diderot created not so much a comprehensive philosophical system, but rather was content to explore various philosophical themes. Three such themes are relevant to my discussion here, and these are: panpsychism, unity of the self, and evolution.

Like LaMettrie, Diderot's panpsychism is more appropriately described as a pansensist outlook. In his first philosophical writings Diderot displays his tendencies to such a view, including for example a sympathetic discussion of the panpsychist ideas of Maupertuis in his 1754 work, Thoughts on the Interpretation of Nature. Fifteen years later this theme strongly reemerges in Diderot's philosophical masterpiece, the dialogue *L'Reve D'Alembert* (D'Alembert's Dream, 1769). He writes that "this faculty of sensation…is a general and essential quality of matter" (p. 49). There are repeated references to the 'general sensitivity of matter'. At one point he comments that "[f]rom the elephant to the flea, from the flea to the sensitive living atom, the origin of all, there is no point in nature but suffers and enjoys." (p. 80). Even in one of his last works,

Elements of Physiology (1774-80) one finds Diderot stating that "sensitiveness" is one of the five or six essential properties of all matter.

The second theme, *unity of the self*, addresses one of the fundamental problems of panpsychism: if each atom is individually intelligent, how do they combine to form the single sense of being that we all feel? Modern panpsychists refer to this as the "combination problem", and consider it one of the more significant barriers to any viable theory of panpsychism. Leibniz solved it by creating the "dominant monad". In D'Alembert's Dream, Diderot rather points toward an amorphous notion of 'unity of being' that occurs when the intelligent particles are sufficiently interactive. He makes an analogy in a swarm of bees: "This cluster is a being, an individual, an animal of sorts." (p. 67). It is a unitary being because of the extremely tight interaction between parts, which pass from being merely "contiguous" into being truly "continuous". Clearly the strength of interaction determines the intensity of the single being; and this, I may add, is precisely the conclusion of hylonoism -- intensity of exchange determines intensity of mind. To Diderot, the human body is similar to the swarm of bees; the body is a collection of organs, which "are just separate animals held together by the law of continuity in a general sympathy, unity, and identity." (p. 68). It is the "continual action and reaction" between parts that creates the unity. It is simply this *connection*, this *exchange*, that accounts for the unity: "It seems to me that contact, in itself, is enough". (p. 76).

The third theme is that of *evolution*. Diderot was one of the first to articulate the basic concept, though he was helped along by other contemporaries, among them LaMettrie and Maupertuis. LaMettrie's *Systeme d'Epicure* (1750) and Maupertuis' *Systeme de la nature* (1751) both put forth early ideas relating to the transformation of organic beings over time. Diderot's Interpretation of Nature followed shortly, in 1754, and included this passage:

> [I]t would be easy to believe that in the beginning there was only one animal, a prototype of all animals, certain of whose organs nature has merely lengthened, shortened, changed, multiplied, [and] obliterated... Imagine the fingers of your hand joined together and the material of which the nails are

> made becoming suddenly abundant [and] covering the whole extremity... [I]nstead of a hand you have a horse's hoof. (sec. XII)

He duly credits Maupertuis as accepting (though not inventing) this "philosophical conjecture". Then there is the famous final entry of the Interpretation, titled "Questions":

> Just as in the vegetable and animal kingdoms an individual begins, ...grows, continues to exist, degenerates, and is no more, so it might well be with species in their entirety. [Organic life may have] passed through an infinite number of structural changes and developments; [and] acquired, successively, motion, sensation, ideas, thought, reflection, conscience, feelings, passions... [M]illions of years elapsed between each of these developments; [and life] may have further developments still to undergo. (sec. LVIII)

As before, this theme is explored in D'Alembert's Dream.

> The tiny worm, wriggling in the mud, may be in the process of developing into a large animal... (pp. 53-4).

> Who knows what races of animals have preceded us? Who knows what races of animals will come after ours? (p. 72)

> [A]n organism...advances towards perfection by an infinite number of successive developments... (p. 88)

Crocker (1954) argues that "Diderot's theory [of evolution] is distinctively broader and more modern" than that of LaMettrie or Maupertuis (p. 138). And it cleared the intellectual ground for Darwin's Origin of Species (1859), which would not be published until more than a century after these three Frenchmen first articulated their ideas.

Apart from these main themes, Diderot made a number of other comments and observations that are relevant to this thesis. He recognized the importance of *exuberance*

and *abundance* in the process of creativity: "Restraint destroys the greatness and energy of nature." (1746, sec. III). He acknowledged the key role that *memory* plays in identity and being: "The consciousness of continued identity...constitutes the existence of a perceiving being. ... And on what is this consciousness based? On the memory of its actions." (1769: 55). And, taking a cue from LaMettrie, Diderot expands on the concept that the complexity of the organism co-defines how it interacts with the environment; significantly, Diderot makes this concept bi-directional: "The more senses [an organism has], the more needs. ... [O]rgans produce needs, and reciprocally, needs produce organs." (ibid., p. 78). Given that needs are related to the conditions of the environment, and that organs are related to the sensitivities of the organism, we can see in this an element of *co-evolutionary participation*:

changing environment -> new needs -> emergence of new organs -> new sensitivities;

and conversely,

new sensitivities -> development of new organs -> new needs and demands on the
environment -> modification of the environment.

The organism and the environment react to each other, and in a sense mold each other in a co-evolutionary process.

Finally, following the lead of Leibniz and his monadology, Diderot makes a few isolated comments regarding the *point-like nature of the mind*. Early in Part II of D'Alembert's Dream, a sleeping D'Alembert murmurs something about "a living point... First nothing, then a living point." (p. 65); one immediately recalls the monad of Leibniz. Later in the dialogue, Mlle. de l'Espinasse reflects on the nature of her mind and its connection with all parts of the cosmos. She is asked, "What limits your real extension, the true sphere of your faculty of sensation?" "Nothing does. I exist as it were *within a single point*; I almost cease to be material, I feel nothing but my thought..." (pp. 92-3; my italics). Here is not merely some abstract monad, but the human mind itself seen as a 'single point',

virtually 'immaterial'. Again there is an obvious connection to hylonoism and the hylon as an immaterial point-like mind. Diderot clearly had an intuition that his own mind had an essential point-like unity to it, and this was somehow related to the infinite extension of the sensitivities of the body. Even Kant had a similar intuition; he said that the human soul "resides in a place of a smallness impossible to describe." Let me emphasize: *this is rare insight into reality, based upon pure intuition*. Nothing in empiricist or rationalist philosophy would have led Diderot (or Leibniz, or Kant) to this conclusion. The seed may have been planted by Bruno and Plato, but there is no other way to justify such a statement. No argument is made. It is pure insight into the nature of mind.

Conflicts between panpsychism and the emerging Mechanistic Worldview occurred not only in France, of course, but throughout Europe. Kant had some interesting comments on hylozoism, and one in particular illuminates this conflict. In an early work *Traume der Geisterseher* (Dreams of a Spirit-Seer, 1766), Kant examines the spiritual realm and explores the possibilities of trans-physical phenomena. Here he shows some sympathy to a Leibnizian hylozoism/panpsychism, and suggests that such an issue may be undecidable: "[T]o which members of nature life is extended, and…those [to which] degrees of it…are next to utter lifelessness, can, perhaps, never be made out with certainty" (p. 57). Then in the next sentence he makes a prophetic statement:

> Hylozoism imputes life to everything; materialism, carefully considered, *kills everything*. (ibid; my italics)

Kant seems to sense that there are two conflicting worldviews here, one which is sympathetic and life-enhancing, and another which is clinical, dispassionate, 'anti-life'. If materialism "kills everything", it cannot be long before humanity itself is caught in this same devitalizing net.

In England, the scientist and natural philosopher Joseph Priestley was developing a dynamist theory of matter in which mind and matter are seen as two manifestations of a common underlying substance. When matter is seen as essentially 'force' rather than

composed of hard, impenetrable billiard balls, then matter has become *dematerialized* – which makes it far more compatible with something ephemeral like 'mind':

> And since it has never yet been asserted, that the power of *sensation* and *thought* are incompatible with these [powers of 'attraction' and 'repulsion'], I therefore maintain, that we have no reason to suppose that there are in man two substances so distinct from each other as have been represented. (1777: 219)

Nowhere does Priestley explicitly state that all matter possesses mind, but this implication can be seen to follow from his premises. He is an implicit panpsychist, and someone who, at the time, was fundamentally challenging the 'inert matter' view of the world. Today, of course, we see this as essentially a true picture of reality; all interaction with subatomic particles is via particles of force. We have 're-materialized' force, and brought it into our standard mechanist picture of the universe.

German philosophers were developing their own theories of mind and matter, and many continued with the theme of panpsychism. Developments in science, especially biology and physics, allowed for new articulations and new perspectives. Like Priestley, Johann **Herder** (1745-1803) was a dynamist/energeticist philosopher. He argued that *'Kraft'* (force or energy) was the single underlying substance of reality, which reflected both mental and physical properties. Herder's synthesizing and holistic mind sought to unify the diversity of forces (gravity, electricity, magnetism, light) under the single framework of *Kraft*, of which the various '*Kraefte'* were different manifestations. Not only forces, but material objects as well are seen as manifestations of *Kraft*. All aspects of reality exist at different 'levels of being', each exhibiting a different level of organization of the one *Kraft*. The *Kraft* is at once a life-energy, spirit, and mind.

Herder clearly saw such a panpsychist dynamism as an alternative to the reigning Cartesian mechanistic materialism, which he strongly opposed. This opposition is consistent throughout virtually all of his philosophical writings. Nisbet notes that, for Herder, "the psychology of feeling tends to replace mechanical analysis..., and *Kraefte*

increasingly supplant 'dead' matter... [From 1769 on, Herder] consistently attacks mechanistic theories of nature." (1970: 133).

Herder was a close acquaintance of Wolfgang von **Goethe** (1749-1832), and the two seemed to have shared many ideas about the nature of reality. Goethe developed a poetic form of panpsychism, which displayed itself chiefly in his writings that personified nature. Ernst Haeckel found support in Goethe's philosophy and often cited Goethe's view that mind is inseparable from matter:

> As even Goethe has clearly expressed it, "matter can never exist and act without mind, and mind never without matter." (Haeckel, 1868/1876: 487).

Haeckel's citation comes from a letter Goethe wrote near the end of his life, in 1828. The original passage is enlightening. Goethe notes that there are "two great driving forces in all nature: the concepts of *polarity* and *intensification*" (1828/1988: 6). The former is associated with the material dimension of reality, and the latter with the spiritual. He defines polarity in a very Empedoclean manner as "a state of constant attraction and repulsion"; intensification is an evolutionary imperative, a "state of ever-striving ascent" (ibid). He continues:

> Since, however, matter can never exist and act without spirit ["*Seele*", 'spirit' or 'mind'], nor spirit without matter, matter is also capable of undergoing intensification, and spirit cannot be denied its attraction and repulsion. (ibid)

Here we find a beautifully concise vision, one that applies equally well to hylonoism: '*no matter without mind, no mind without matter'*. This is *not* to say that mind is identical with matter, nor that one can be *reduced* to the other. It simply claims that mind and matter 'go together', that neither exists without the other. This is precisely the claim of hylonoism. Goethe again expresses this sentiment when he notes that Nature reflects herself "everywhere in a manner analogous to our mind." (cited in Vietor, 1950: 13). And lastly, there are suggestive passages such as the following:

> [I]t is the observer's first duty…to aim at the completeness of the phenomena…so that they will present themselves to one's observation as an organization manifesting an inner life of its own. (cited in Naydler, 1996: 83).

This "inner life" of natural phenomena bespeaks of the mind in nature.

We also find hints of participatory thinking in Goethe. Stephenson informs us that Goethe sees man as integrated and interactive with surrounding Nature, and that there is even a kind of merging of the two: "In [Goethe's] contemplation of nature-in-particular, the 'character' of the observer is caught up in the 'character' of the observed" (1995: 59). In Goethe's words, "The phenomenon is not detached from the observer; rather it is caught up in the observer's individuality." (ibid). The result is a fleeting but intense experience of identification between knower and known.

This approach to inquiry Goethe called 'delicate empiricism'. Naydler describes this in terms of participation:

> The Goethean scientist seeks to participate in the objects investigated to such a degree that the mind makes itself one with the object, thereby overcoming the sense of separateness that characterizes our normal experience of ourselves in relation to the world. (1996: 71)

Delicate empiricism thus reflects new values upon nature, values that are opposed to the traditional ones of objectivity, detachment, and control; as Naydler says, this is "essentially a reverential path, not a path of manipulation and control" (ibid: 24). Thus we find another case in which panpsychism and participation combine to point toward a new worldview.

3) 19th Century Developments in Germany and England

The struggles and conflicts of worldviews in the 1700's continued into the next century, but with a distinctly modern focus that was largely the result of advances in physics, biology, and mathematics. Many important developments occurred in Germany, beginning with the philosophy of **Schopenhauer**.

Schopenhauer's master work, The World as Will and Idea (1819), describes a two-fold system of reality. First, the world presents itself to us not as it is in itself, but rather as our minds grasp and shape it. Perception is a phenomenal image, not anything inherent in the thing that is perceived (although there may be some connection or correlation between these). The world is an 'idea' in our minds – a view essentially that of classical idealism.

Second, even though we typically do not perceive the thing-in-itself, Schopenhauer argues that this does not mean (as Kant claimed) that it is unknowable. For there is one particular object that we do know intimately, and that is our *physical human body*. We know the thing-in-itself of our own bodies because we *are* that thing. On the 'inside' we are mind, desire, feeling, emotion: in short, *will*. But the human body has no special ontological standing; it is a physical object like all objects. Therefore, whatever inner nature we have must be realized to some degree *in all things*. The thing-in-itself of all objects, then, is nothing more than will. Thus the world is both, and at once, 'idea' and 'will'. As Schopenhauer writes, "For as the world is in one aspect entirely *idea*, so in another it is entirely *will*." (1819: 5).

If all things possess a will, then all things have an aspect of mentality – a clear panpsychist philosophy[3]. This will that is manifest in 'inanimate' objects is not 'consciousness' (which is entirely too anthropocentric a term for Schopenhauer), but rather a 'vitalizing energy' that manifests itself in terms that may be described analogously with human personality traits. The idea of 'will as force or energy' has been noted by other commentators. Hamlyn (1980) argues that Schopenhauer's will is "a kind of force which permeates nature and which thus governs all phenomena" (p. 95). Magee (1983) describes it as literally 'force' or 'energy' -- making Schopenhauer out to be a dynamist or energeticist -- and argues that the developments of 20th-century physics have

"provided the most powerful confirmation that could be imagined" (p. 145) of his philosophy.

Schopenhauer lends credence to this 'energeticist' view in his own writing. On a number of occasions he equates will with the physical forces of nature. For example, he notes that "the force which attracts a stone to the ground is...in itself...will" (1819: 38). In a later work, *Ueber den Willen in der Natur* (On the Will in Nature - 1836), he states that "generally every original force manifesting itself in physical and chemical appearances, in fact gravity itself -- all these in themselves...are absolutely identical with what we find in ourselves as *will*." (p. 20).

This life energy of nature does exhibit qualities that appear to us as 'personalities', with particular psychic or mental dispositions:

> When we scrutinize [the forces of nature] closely, we observe the tremendous, irresistible force with which rivers hurry down to the sea, the persistence with which the magnet turns again and again to the North Pole, the readiness with which iron flies to the magnet, the eagerness with which in electricity opposite poles strive to be reunited, and which, just like human desire, is the more intense for being thwarted: ...it will cost us no great effort of the imagination, even at so great a distance, to recognize our own nature. (ibid., p. 50)

Schopenhauer opposed the mechanistic worldview. He saw inherent limitations in a "purely mathematical" analysis of reality, and sought resolution in something approaching a *participatory* outlook. The starting point is the fact that both 'perceiver' and 'perceived' are one and the same thing -- objectifications of will. Thus, in Schopenhauer's words, "At bottom it is one entity that perceives itself and is perceived by itself... The whole process is the *self-knowledge of the will*; it starts from and returns to the will."[4]. Magee elaborates:

> [K]nowledge is at bottom a process of self-awareness, the same entity knowing itself. Subject cannot exist without object, nor object without subject. The two are correlative. (1983: 162)

And, he might have added, self-defining and co-creative. As Schopenhauer explains, "each of the two [subject and object] has meaning and existence only through and for the other, each exists with the other and vanishes with it. ... [W]here the object begins, the subject end." (1819: 5). This intimate correlation between subject and object is a consequence of the inadequacy of viewing the world solely as 'idea' -- an inadequacy that is ameliorated by seeing the world as something in itself (i.e. will):

> [T]here is...something inadequate about ['world as idea'] ...because it merely expresses the fact that the object is conditioned by the subject, without at the same time saying that the subject, as such, is also conditioned by the object. (ibid, p. 20).

Here are the first beginnings of a truly modern conception of participatory philosophy. Mind and matter co-defining each other, conditioning each other, bringing meaning and order to reality.

Finally, Schopenhauer offers insight into evolution, and to the hylonoetic concept of a layered hierarchy of minds. First, he observes that the 'higher grade' of unity of livings organisms is not reducible to the more fundamental ('lower grade') forces. He speaks of living things as exhibiting a "special Idea", a type of Platonic Form, which represents the unity of the whole organism. This holistic, anti-reductionist view is again something common among participatory thinkers.

The "special (or "higher") Idea" of the more complex organism is the result of struggle and conflicts between the lower grades of objectified will, i.e. the more fundamental forces. When such conflict occurs,

> there emerges...the phenomenon of a higher Idea which overwhelms all the less perfect phenomena which had existed previously, yet in such a way that it allows their essential nature to survive in a subordinate mode... (1819: 71)

This 'higher Idea' has something of "an entirely new character" (ibid. p. 72), that is, it is a truly emergent phenomenon. It succeeds over the lesser forces by a process of "dominating assimilation" (ibid), of pulling together and coordinating the lower objectifications of will without annihilating them – an idea that recalls both the Stoic *hegemonikon* and Leibniz's dominant monad.

This process of "striving after ever higher objectification" (ibid., p 71) is very much in line with evolutionary notions of struggle and transcendence. When such a higher Idea comes into being as a more evolved entity, it exists in conjunction with the lower subordinate Ideas, which continue on in their struggle for independence and self-realization. The higher and lower 'objectifications of will' exist simultaneously, in a kind of nested hierarchy of 'wills'.

Thus we see that every material object, as long as it persists, consists of a struggle of competing wills; the highest and dominant objectification holds sway as long as it can, but the lower grades are ever-present, always striving, waiting for the day when they can reclaim the matter of the object. Schopenhauer describes this as "a constant war against the many physical and chemical forces which, as lower Ideas, have a prior right to that matter." (ibid., p. 73). Interestingly, he makes in this context a prescient observation about the role of *energy* in sustaining an organism:

> [W]e can also say that every organism expresses the [higher] Idea it mirrors only according to the deduction of the portion of its energy expended in subduing the lower Ideas that contest its claim on matter. (ibid).

The struggle is continuous, and requires constant expenditure of energy. This is yet another anticipation of the idea of 'dissipative structures', and represents a line of thought reaching back to the 'effluences' of Empedocles.

For Schopenhauer, this "constant war" against the forces of entropy pointed to a world of endless struggle, and from this he drew notoriously pessimistic conclusions about life and existence. In opposition to this we find the philosophy of Gustav **Fechner** (1801-1887). Fechner developed an exuberant, life-enhancing vision of nature that was strongly panpsychist, and again contains elements of participation and hylonoism.

Fechner's panpsychism is focused primarily on plants. He devotes an entire book to the subject (Nanna, or on the Soul-Life of Plants, 1848). The fact that plants have a *Seele* ('soul' or 'mind'; the German translates either way) is of critical importance to him, because it serves as the basis for a completely panpsychic universe, and even a new worldview: "The decision as to whether the plants are animated or not decides many other questions and determines the whole outlook upon nature." (1848: 163).

Mind, for Fechner, exists in a hierarchy of layers, each lower layer participating in the higher. These layers run from the lowest order of being up through the universe as a whole. Thus, not only is the plant ensouled, so too are its cells. In the other direction, he sees soul in *societies* of plants and animals, in the Earth as a whole (anticipating Gaia theory), and in the solar system. Fechner is the first scientist-philosopher to seriously examine these possibilities, and to regard them as *actual features of reality*. William James was greatly impressed with Fechner's philosophical system, and gives an excellent summary of his view, which I quote at length:

> In ourselves, visual consciousness goes with our eyes, tactile consciousness with our skin. … [T]hey come together in some sort of relation and combination in the more inclusive consciousness which each of us names his *self*. Quite similarly, says Fechner, we must suppose that my consciousness [and yours, though] they keep separate and know nothing of each other, are yet known and used together in a higher consciousness, that of the human race… Similarly, the whole human and animal kingdoms come together as conditions of a consciousness of still wider scope. This combines in the soul of the earth with the consciousness of the vegetable kingdom, which in turn contributes…to that of the whole solar system, and so on from synthesis to

> synthesis and height to height, till an absolutely universal consciousness is reached. (1909: 155-6)

So here is a view of mind as a nested hierarchy, reaching from the lowest forms to the greatest – a view in perfect agreement with hylonoism. Unlike the hylonoetic account, Fechner can offer only analogy, based, as with Schopenhauer, in our own personal experience. It is, as James says, "A vast analogical series, in which the basis of the analogy consists of facts directly observable in ourselves." (ibid, p. 156).

Fechner seems to have had an intimation of *chaos theory*, at least as regards the fact that small changes can have large and lasting effects. He believed that our minds are immortal, because their presence leaves a wake in the mind of the Earth, one which never dies out and is never forgotten. As James explains it: "[T]he memories and conceptual relations that have spun themselves round the perceptions of [a] person remain in the larger earth-life as distinct as ever, and form new relations and grow and develop throughout all the future…" (1909: 171)[5]. James continues his discussion of Fechner's ideas, explaining our existence as an ephemeral structure formed upon a great sea of consciousness: "We rise upon the earth as wavelets rise upon the ocean. We grow out of her soil as leaves grow from a tree." (ibid). This beautifully anticipates Heidegger's concept of being as an 'eddy', and is again consistent with my own hylonoism. Lastly, James (perhaps more in his own voice than Fechner's) notes that *being is a two-way proposition*:

> [T]he event works back upon the background, as the wavelet works upon the waves, or as the leaf's movements work upon the sap inside the branch. The whole sea and the whole tree are registers of what has happened, and are different for the wave's and the leaf's action having occurred. (ibid, pp. 171-2).

This is a deeply insightful passage. It captures elements of chaos, of participatory ontology, and of participatory mind, all in a single grasp. In a sense, hylonoism is a new articulation of these same sentiments.

A number of other important German philosophers put forth panpsychist views, including Hermann **Lotze**, Eduard von **Hartmann**, Ernst **Haeckel**, and even (surprisingly) the positivist Ernst **Mach**, who argued that "individual sensations" (1883/1942: 580) are the basis of physical reality. These thinkers had less of an impact on participatory philosophy, so I will pass over them here.

In a similar manner, numerous panpsychist theories emerged in England and America in the mid- to late- 1800's. William Kingdom **Clifford**, Samuel **Butler**, Herbert **Spencer**, and Morton **Prince** all developed variations of panpsychism, and contributed strongly to the larger discussion of mind/matter issues.

For my purposes here, William **James** (1842-1910) is the most significant figure of this group. His Principles of Psychology (1890) examined a number of theories of mind, including Clifford's 'mind-stuff' theory. James is sympathetic to those who see life and mind in all things, and asserts that the theory of evolution provides among the strongest evidence yet for such a view:

> *If evolution is to work smoothly, consciousness in some shape must have been present at the very origin of things.* … Some such doctrine of *atomistic hylozoism*…is an indispensable part of a thorough-going philosophy of evolution. (1890/1950: 149).

Though agreeing with this in principle, James finds most all previous theories inadequate. He offers up an alternative, "polyzoisim" (or "multiple monadism"). He claims no originality to this view (which "has been frequently made in the history of philosophy"), but simply sees it as the most logically consistent and problem-free alternative. Consider the human brain. Under polyzoism, every cell in the brain has its own unique consciousness that is distinct and unrelated to that of the other cells. But the cells clearly interact physically, and there interaction is brought together in a unifying entity that James hypothetically calls the "central cell" or "arch-cell" -- one might say, the *ueber*-cell. Physical changes in the arch-cell represent the totality of changes in the other cells, and the consciousness associated with it is the unity consciousness of the human ego. As James explains it:

> [A]mong the cells [there is] one central or pontifical one to which our consciousness is attached. But the events of all the other cells physically influence this arch-cell; and through [it] these other cells may be said to 'combine'. ... [T]he conscious correlates to these physical modifications [in the arch-cell] form a sequence of thoughts...each of which is...an integral and uncompounded psychic thing... (p. 179)

But James quickly notes that such a theory is neither compatible with physical evidence nor entirely free of logical problems. Science, he states, has found no physical evidence for an arch-cell. Furthermore, one cannot stop logically at the cell, but must extend the reasoning down to some ultimately small and simple units -- arriving precisely at Leibniz's monadology: "The theory [of polyzoism] must set up for its elementary and irreducible psycho-physic couple, not the cell and its consciousness, but the primordial and eternal atom and its consciousness." (p. 180). Such a view seems "remote and unreal", but nonetheless "must be admitted as a possibility" -- and in fact "must have some sort of a destiny." (ibid).

James concludes the chapter by making a rather surprising conclusion: that all the arguments that tend toward an 'arch-cell' or 'dominant monad' also apply to the common conception of the *soul*. We may view the soul as a spiritual entity that unifies the physical actions of the many individual brain cells, and results in a single state of consciousness. James' purpose here is to "perhaps force some of these materialistic minds to feel the more strongly the logical respectability of the spiritualistic position." (p. 181).

Let me add here that these *very same logical arguments support hylonoism*. James' 'soul', like the hylon, represents the instantaneous state of every neuron in the brain: "The soul [read: hylon] would be thus a medium upon which...the manifold brain-processes *combine their effects*." (ibid). Changes in the cells produce a kind a variation or movement in the soul/hylon: "To the state of the entire brain at a given moment [the soul] may respond by inward modifications of [its] own. These changes...may be simple or complex [read: 'chaotic']." (ibid). From a hylonoetic perspective, James' difficulty is

rooted in that fact that the hylon is a non-physical thing that is simultaneously present with changes of energy in the brain (or body). It is a psychical entity that co-exists with (any) physical process, but yet is neither caused by, nor causal on, the physical. James admits that his soul-theory "does not strictly *explain* anything", but it has the advantage that it is "less positively objectionable than either mind-stuff or a material-monad [polyzoism] creed." (ibid: 182).

From these early sympathies, James gradually increased his commitment to panpsychism, arriving at a clear and unambiguous position by 1907. In that year he gave the Hibbert Lecture (published in 1909 as A Pluralistic Universe), not only endorsing panpsychism but challenging the basis for the mechanistic worldview. There are two kinds of philosophers, says James -- the 'cynical' and the 'sympathetic'. The former inevitably develop *materialistic* philosophies, and the latter *spiritualistic* ones. Here we see James' recognition of the ethical imperatives that are built into one's worldview. Spiritualism may be either of the dualist (traditional) type, or of the monist type. The spiritual monists, furthermore, may be either of a radically monist variety (i.e. absolute idealism), or may be more of a 'pluralist monism' (!); it is this latter group in which James places himself and his radical empiricism. The 'monism' resides in the fact that all things are 'pure experience'; the 'pluralism' in the fact that all things are 'for themselves', i.e. are objects with their own independent psychical perspectives. Radical empiricism is not only sympathetic; it is a *morally vital* philosophy. Materialism, because it removes the intimacy between mankind and nature, is cynical and axiologically defective: "Not to demand intimate relations with the universe, and not to wish them satisfactory, should be accounted signs of something wrong." (1909/1996: 33).

As I noted earlier, James devotes an entire lecture (chapter) to Fechner's panpsychism, and gives a very sympathetic reading. The subsequent lecture, "Compounding of Consciousness", offers his final solution to the 'combination problem'. Formerly he had argued that any 'collective experience' had to be unlike the 'constituent experiences'; they had to be "logically distinct". The result, logically speaking, was that combination was impossible. Now James realizes that this situation is "almost intolerable" because "it makes the universe discontinuous." (p. 206). Such logic forces one to conclude that the universe is a "contradiction incarnate". If logic compels one to this view, "so much

the worse for logic" (p. 207). For James, logic is an intellectual tool of the cynical materialistic philosophers, and he now abandons it. Faced with the choice, he opts for the view that "life is logically irrational." (p. 208). He adds: "Reality, life, experience, concreteness, immediacy, use what word you will, exceeds our logic, overflows and surrounds it." (p. 212).

Here, too, he abandons his earlier soul-theory: "Souls have worn out both themselves and their welcome, that is the plain truth." (p. 210). Individual minds, and the hierarchy of lower- and higher-order mind, constitute the reality of the cosmos -- "the self-compounding of mind in its smaller and more accessible portions seems a certain fact." (p. 292). The conclusion is that "we finite minds may simultaneously be co-conscious with one another in a super-human intelligence." (ibid)[6].

In the final lecture, James clearly states his beliefs in favor of 'superhuman consciousness' and of "a general view of the world almost identical with Fechner's." (309-10). He sees in this a new worldview, a sea-change in philosophy, "a *great empirical movement towards a pluralistic panpsychic view of the universe*" (p. 313; my italics). This new worldview "threatens to short-circuit" the cynical worldview of the mechanistic materialists. This, of course, has been my thesis all along: that panpsychism is the deeper and more persistent worldview, and a return to it will mean a dismantling of the reigning Mechanistic Worldview.

Four important events in the development of panpsychism occurred in the year 1892: (1) an article by Paul Carus, "Panpsychism and panbiotism", in the journal Mind; (2) the publication of Royce's book Spirit of Modern Philosophy; (3) the publication of Friedrich Paulsen's book Introduction to Philosophy; and (4) Peirce's article, "Man's glassy essence", to which I referred in Chapter 2. The first three of these pertain primarily to a discussion dedicated to panpsychism, so I mention them here only in passing.

Peirce's article, in addition to its insights on chaos theory, argues for a panpsychist interpretation of mind and includes some comments relevant to participation and hylonoism as well. He begins with a look at physics and chemistry, and then moves on

to a discussion of primitive life forms and the 'protoplasm' inside all living cells. Of all the properties of the protoplasm, the most important is that "protoplasm feels" (1892: 12) -- and what is more, it exhibits all essential qualities of mind. This sensitivity and sentience is deduced, Peirce tells us, by *analogy*: "[T]here is fair analogical inference that all protoplasm feels. It not only feels but exercises all the functions of mind." (ibid). The analogy is based on such properties as the sensitive reaction to the environment, ability to move, to grow, to reproduce, and so on.

And yet protoplasm is simply complex chemistry, a particular arrangement of molecules. 'Feeling' cannot be accounted for by mechanistic laws; therefore, we are forced to "admit that physical events are but degraded or undeveloped forms of psychical events." (p. 18)[7]. Peirce then lays out his own 'dual aspect' theory of mind, using the language of participation:

> [A]ll mind is directly or indirectly connected with all matter, and acts in a more or less regular way; so that *all mind* more or less *partakes of the nature of matter*. ... Viewing a thing from the outside, ...it appears as matter. Viewing it from the inside, ...it appears as consciousness. (p. 20; my italics)

Peirce the mathematician senses the dynamic and complex nature of such a general conception of mind; recall the quotation I cited back in Chapter 2, in which he states that "protoplasm is in an excessively unstable condition; and it is the characteristic of unstable equilibrium, that near that point excessively minute causes may produce startlingly large effects."

Such dynamic sensitivity necessarily results in *enhanced capability for feeling*: "nerve-protoplasm is...in the most unstable condition of any kind of matter; and consequently, there the resulting feeling is the most manifest." (ibid). Again, this sort of sensitivity is a general property of matter. "Wherever chance-spontaneity [i.e. unstable sensitivity] is found, there, in the same proportion, feeling exists." (p. 19).

Peirce then describes what he calls a "general idea", a concept that sounds very close to my conception of the 'quasi-attractor' and its role as 'personality' of any given mind (in

the most general sense). A general idea exhibits a certain predictability that Peirce calls a "habit". In fact the general idea is rather the *mind of the habit*. As he puts it: "The consciousness of a habit involves a general idea." (p. 20). The general idea represents a dynamic change ("modification") of mind that is associated with the predictability or regularity of a random ("chance") physical system: "a general idea is a certain modification of consciousness which accompanies any regularity or general relation between chance actions." (ibid).

The 'mind' associated with the general idea is a *unity*, and this unity is essentially like that of a *human personality*, in some fundamental ontological sense:

> The consciousness of a general idea has a certain "unity of the ego" in it... It is, therefore, quite analogous to a person; and, indeed, a *person is only a particular kind of general idea*. ... [E]very general idea has the unified living feeling of a person. (pp. 20-1; my italics)

Peirce seems to struggle to express himself clearly; perhaps the language to describe his insights did not yet exist, nor allow for a concise articulation. The language of chaos theory allows us to describe a quasi-attractor pattern in the hylosphere, and the movement of single point (the hylon) to describe the dynamics of mind. But the similarity of meaning is striking, and indicative, I think, of a common underlying vision of mind.

4) The Evolution of Ideas into the 20th Century

Panpsychist interpretations of mind and matter continued into the early 20th century unabated. Royce released his magnum opus The World and the Individual (1899-1901) which elaborated on some of the themes in his panpsychism. Charles Strong published an important book, Why the Mind has a Body (1903), and Prince (1904) provided further elaborations of his ideas.

Two major milestones in the development of participatory philosophy occurred in the first decade of the 20th century: Ferdinand Schiller's Studies in Humanism, and Lucien

Levy-Bruhl's How Natives Think. Beginning with **Schiller**: His pivotal work was published in 1907. It was at this point in time that all the key elements of participatory philosophy were coming into place, and Schiller was the first to fully sense that something of major importance was emerging. He drew together four key elements of participation: (1) 'evolutionism', (2) the idea that we not only 'create truth' but also even 'create reality', (3) panpsychism, (4) the importance of 'action' in the realm of philosophy and human affairs. This last point is of notable historic importance because it establishes Schiller as one of the founders of the field of 'action research' -- the methodology of which has been built on the basis of the Participatory Worldview.

Schiller is most well known as a humanist and pragmatist, but his particular interpretation of these views was highly original and insightful. In the early part of the 20th century there were four major pragmatist philosophers: Peirce, James, Dewey, and Schiller. Interestingly, *all four held to panpsychist views*. Yet this fact does not appear to bear directly on pragmatism, which traditionally includes the views that (a) truth is not absolute, and depends in some sense on human interaction; and (b) the critical factor in a philosophical theory is its *consequences*, its implications in the real world. Perhaps openness to panpsychism comes from the 'flexibility of thought' engendered by pragmatism -- the willingness to repudiate standard or fixed notions of truth -- along with the view of experience as an on-going process that is in some sense constitutive of both subject and object.

The personal and subjective aspects of pragmatism were taken up by Schiller, and he developed them in light of a profoundly humanist perspective. These led him to a philosophy of mind and an ontology that were deeply participatory and panpsychist; and to see that all notions of truth and reality are actually determined, for us, by our modes of inquiry and interaction, but more generally by the manner in which any being participates in the world. All of these ideas appear in his Studies in Humanism.

Early in the book Schiller explores themes of participation in Plato, especially the Parmenides. He recalls Plato's thesis that the ordinary world of phenomena, which is something less than ultimate reality, takes its meaning and integrity only through its participation in the ideal realm of the Forms; he writes that "the perishable world of

Sense...is saved from utter unreality by its relation to the Ideas in which it can mysteriously 'participate'." (p. 45). Schiller notes that this is problematic, because we have a hard time understanding just how such a participation can work: "The weak point in [Plato's] theory lies in the difficulty of conceiving the connection between the Ideal world and the phenomenal, i.e. the precise nature of 'participation'." (ibid). Schiller sees Plato's difficulty as arising from his notion of absolute truth, and his conception of reality as timeless and static. Plato has a significant logical problem in describing precisely how the dynamic world of phenomena can participate with the unchanging and immortal Forms. Schiller's solution is to discard the realm of the absolute, and to adopt a dynamic, participatory theory in which truth and reality gradually take shape over time, as a function of the modes of human inquiry.

Schiller then tackles directly the twin themes of Truth and Reality. Truth, he says, is neither absolute nor eternal, but is *literally created by humans*. Consider truth as embodied in 'facts'. Facts, Schiller explains, "are far from being rigid, irresistible, triumphant forces of nature; rather they are artificial products of our selection, of our interests, of our hopes, of our fears." (p. 371). The ideal of an objective fact of nature, as lying around waiting to be 'discovered', is absurd. Rather, humans work upon the 'raw chaos' of the world; they use their various sensitivities and apply their existing structures of thinking to create a datum, a quantum of knowledge. The sciences are created as coherent systems of these data; "they, very largely, *make their own facts as they proceed*." (p. 370). In other words, "the sciences always select and 'cook' their facts. ... Hence what is fact for one science, and from one point of view, is not so for and from another, and may be irrelevant or a fiction." (p. 371). Thus, it is the *active role of individuals* that results in the making of truth; Schiller says that "it is an active endeavor, in which our whole nature is engaged." (p. 425). In this vein Schiller devotes an entire chapter to "the making of truth".

Likewise he addresses the immediate implication: if humans can, in a sense, make truth, then we also must be said to make *reality*. And in fact Chapter 19 is titled, "The Making of Reality" -- the climactic chapter of the book. Schiller attributes to Hegel the view that "the making of truth and the making of reality must be made to coincide." (p. 422). But Hegel failed when he conceived of the thought-process as abstract and dehumanized.

Schiller seeks to reattach thought to reality, and he does so in a deeply ontological manner. He explains:

> In validating our claims to 'truth' we really 'discover' realities. And we really transform them by our cognitive efforts, thereby proving our desires and ideas to be real forces in the shaping of our world. (p. 425)

> *[R]eality can, as such and wholly, be engendered by the consequences of our dealings with it*. (p. 428)

But just in what sense can it meaningfully be said that we 'make reality'? Schiller first notes that, unquestionably, what passes for truth and reality *changes over time*. Evolution applies to these concepts just as it does to the entire cosmos, and as humanity evolves and its worldviews evolve, so do truth and reality:

> Methodologically we may and must assume that every truth and every reality now recognized is to be conceived as evolved from the cognitive process in which we now observe it, and as destined to have a further history. (p. 433)

To speak of some abstract, theoretical 'reality' that is unarticulated by the human mind is to speak nonsense. Paraphrasing Skolimowski: *Unarticulated reality is no reality at all.*

So we must accept that reality changes over time, and that human actions have a fundamental role in this change. Still, are we justified in claiming that "our making of truth really alters reality"? Schiller's answer is an unwavering 'yes'. He simplifies his explanation by reducing the process of knowledge to its two essentials of 'knower' (subject) and 'known' (object). The question then becomes: by the process of 'knowing', in what ways (if any) are the subject and object modified or affected? This is the essence of the issue, as it is obvious that both knower and known are *parts of reality*, so if they are changed by 'mere knowing', then *eo ipso* reality is changed. To change reality through the process of 'knowing' is, for Schiller, the process of "making reality".

Consider first the knower. Given the above, it is self-evident that knowing changes the knower, and thus 'reality'. In particular, the subject actively *selects* certain aspects of its environment. The subject is, in general, confronted with a vast and complex flux of natural phenomena, and it must, in some sense, decide which aspects are of significance. By focusing on some portion of the environment the knower modifies both its own mental patterns and physical state. As a result, the behavior and actions of the subject will be altered. Schiller emphasizes this point: "Knowing always really alters the knower; and as the knower is real and a part of reality, *reality is really altered*." (p. 439).

Now consider the object known. First of all, the fact that the subject's actions will be changed by the knowledge of some object makes it likely (actually, inevitable[8]), that these actions will affect the object known. My knowledge of an apple on the table is likely to affect, in some clear and obvious way, the state of the apple. All knowledge is either actually or potentially applicable to events in the real world; as Schiller points out, it is "not real knowledge, if it cannot be applied." (p. 438). This is the first and most obvious sense in which 'objective' reality is altered by knowledge. Second, a thing known is affected when it is *sensitive to the state of knowledge of the observer*. This condition occurs when the state of the object "depend[s] essentially on whether it is *aware of being known*" (p. 440). This again is obvious when considering humans, or higher animals. Schiller cites the example of an actor suffering stage fright, because he is concerned about the thoughts and feelings of the (knowing) audience. Pets clearly respond and are sensitive to the mental state of their owners.

But what about the lower animals, or plants, or 'inanimate' objects? Schiller is adamant; *all objects whatsoever* are altered by the process of being known. He takes the standard example of a stone. Here is an object that displays an "apparent absence of response", and seems utterly unconcerned whether it is being apprehended by a knower. But this apparent unresponsiveness is illusory:

> A stone, no doubt, does not apprehend us as spiritual beings… But does this amount to saying that it does not apprehend us at all, and takes no note whatever of our existence? Not at all; it is aware of us and affected by us on

> the plane on which its own existence is passed… It faithfully exercises all the physical functions, and influences us by so doing. It gravitates and resists pressure, and obstructs…vibrations, etc, and makes itself respected as such a body. And it treats us as if of a like nature with itself, on the level of its understanding… (p. 442)

The 'common world' of knowledge, the common reality between a person and a stone, is clearly not the same as that between two people. But it is certainly not lacking in 'reality'. It is a brute plane of existence, of mass, force, temperature; it is one in which the two objects, knower and known, come together with *different histories* and *different sensitivities*. The stone "plays its part and responds according to the measure of its capacity" (ibid). As Skolimowski has said: *'Reality' for each being is a function of its sensitivities.*

To the charge that this view is "sheer hylozoism", Schiller responds, "What if it is, so long as it really brings out a genuine analogy? The notion that 'matter' must be denounced as 'dead'…no longer commends itself to modern science." (p. 443). Schiller then correctly notes that his view is more accurately described as 'panpsychism' – as seeing all things with a mind after the manner of the human mind. This is why he emphasizes that his view is that of 'humanism'. And it is humanistic in a second sense: that it seeks to integrate the human into the universe. After all, the true end objective of any valid system of philosophy is "to make the human and the cosmic more akin, and to bring them closer to us, that we may act upon them more successfully." (ibid).

Thus Schiller makes his case that both the knower and the known become altered, changed, 're-made', in the process of knowing. The critic may at this point object: "But this is not what one means by 'making reality'!" To which Schiller might reply, "What were you expecting?" Of course, he does not mean that we can 'create something out of nothing', or that we have some strange powers of telekinesis. We work with the 'primal chaos' of the universe, which is meaningless and in a sense non-existent *as such*, until we act upon it and make it something known. This is a deep insight into the nature of the world, a fact that perhaps only a few have grasped in its full significance.

But Schiller was the first to make the leap of understanding, to see (A) that all things have an aspect of mentality after the manner of the human, and therefore (B) that *all things*, not just humans, *have some power to make reality*. He is very explicit on this point: humanism, as he conceives it, sees "the occurrence of something essentially analogous to the human making of reality throughout the universe." (p. 437). This is a tremendous advance in thinking, and has been utterly unappreciated by 20th century philosophers. Understandably so, because it is a complete slap in the face to the positivism and realism that have dominated philosophical inquiry. To them, this sounds like pure subjectivism, or worse; yet Schiller is quick to note that a 'common world' nonetheless emerges, because of our common history, common physiology, and common culture. This common world is an *intersubjective reality*, neither purely subjective nor absolute.

Schiller's concept of all objects as 'makers of reality' is a central anticipation of my own concept of *'noetic symmetry*', which is really an expansion and new reading of Schiller in light of our understanding of chaos theory. I claim that *all objects always simultaneously apprehend each other*, to a greater or lesser degree; this interaction yields a *new structure of mind*, one whose intensity is determined by the degree of interaction.

Chaos theory now affords us a completely new way of understanding how things interact, combine, and affect one another – something that Schiller, like Peirce, seems to have sensed. Let me note here one relevant comment by Schiller. In leading up to his chapter on "Making Reality", he addresses the charge that human freedom is inconsequential because it can have only "infinitesimal effects" on the Earth. As he says, "it cannot divert the stars in their courses, it cannot even regulate the motions of the earth; it cannot ward off the ultimate collapse of the Solar System" (p. 412). His reply to this criticism is that (a) human freedom "is not necessarily negligible [just] because it cannot control the cosmic masses", (b) the fact that our influence appears confined to the surface of the Earth is of no small importance, (c) reality is "far more plastic than as yet we dare to think", and most importantly (d) "even *differences of choice which at first seem infinitesimal may lead to growing divergences*, and ultimately constitute all the difference between a world in which we are saved and one in which we are damned."

(ibid; my italics). This is a beautiful anticipation of chaos theory, something that Schiller perhaps picked up from fellow pragmatist Peirce (recall my discussion of Peirce, 1892).

Finally, let me note Schiller's emphasis on the importance of *action*. Like all the pragmatists, he sees the value and 'proof' of philosophy in its consequences. To a greater degree than the other pragmatists, Schiller stresses the role of human action and its close connection to one's overall worldview. I noted earlier the quote by Schiller in which he emphasizes that the guiding theme of his humanism is such that "we may act upon [the human and cosmic realms] more successfully". This indicates his emphasis on *human action* as literally changing truth, and changing reality. He adds that the true process of knowing "always ends in an action which tests its truth" (p. 440). He asks that we "consider the whole process as completed, i.e. as issuing in action, and as sooner or later altering reality" (ibid). This is Schiller's "pragmatic conception of knowledge", and is a clear anticipation of the theory of 'action research' as envisioned by Kurt Lewin in the 1940's, the man who is often cited as the founder of that movement[9].

Schiller maintains this overall philosophical outlook throughout his writings. We find in one of his last works, Logic for Use (1929), a reiteration of the themes found in Studies. In discussing the meaning of humans as 'making reality', he notes: "For what is real and true for us depends on our selecting interests: the answers we get follow from the questions we put." (p. 445). He emphasizes his pragmatism and thesis of action: "Real knowledge does not lie idle – it colours our life. We act on it, and act differently. So reality is altered, not only *in* us but *through* us." (p. 446). And, he again points out that all objects whatsoever have some limited power to make reality:

> [W]e can say that inanimate objects also are responsive to each other, and modify their behavior accordingly. A stone is not indifferent to other stones. On the contrary, it is attracted by every material body in the physical world. … [T]he stone responds, after its fashion, to our manipulation. Treat them differently, and they behave differently: that is as true of stones as of men. (p. 447)

As it happens, Schiller's philosophy was largely overlooked for many years after his death in 1937. Only with Skolimowski's work do these themes become resurrected, and very recently there has been something of a resurgent interest in Schiller's writing; reissues of both Studies and Logic for Use are planned in the coming few years.

Levy-Bruhl (1857-1939) was a French philosopher who turned his attentions to the issues surrounding the mental systems of indigenous peoples around the world. He published *Les functions mentales dans les societes inferierures* (How Natives Think) in 1910, in which he offered up a comprehensive theory of the general mode of thought in the various native cultures. This theory he called the "Law of Participation", and it was the first instance in which the concept of participation was taken as the basis for an entire worldview. Levy-Bruhl's theory of participation is closely intermingled with the concept of indigenous animism; once again, we find a case of a deep philosophical connection between participation and a panpsychist ontology.

Prior to Levy-Bruhl, the standard explanation for the 'bizarre' behavior of native societies was animism. This was seen as a nearly universal quality of indigenous people, and depicted in strict contrast to European rationalism. In using the term 'animism', the European anthropologists took a euro-centric perspective; they defined it as 'all things possess a soul', where soul was interpreted in the conventional, dualistic, theistic Christian sense. When natives spoke of animals, plants, or objects possessing a 'spirit', anthropologists interpreted this in the only sense they were familiar with. This 'philosophical animism' was then explained as the basis for the indigenous worldview.

Levy-Bruhl saw through this euro-centric bias. He extensively and carefully examined a large number of original sources on native culture, and drew different conclusions. First, he concluded that the native worldview not merely animated, it was *mystical*. He writes:

> If I were to express in one word the general peculiarity of the collective [native] representations..., I should say that this mental activity was a *mystic* one. ... [T]he reality surrounding the primitives is itself mystical. Not a single being or object...is what is appears to be to us. (1910: 38).

Second, this mystic worldview coexists with a radically different mode of perception of the natural world. As Levy-Bruhl says, "primitives perceive nothing in the same way as we do." (p. 43). Natural phenomena are not 'physical' in the Western sense, nor are they 'objective'. Native perception is eminently holistic; "[it] remains an undifferentiated whole" (p. 45). Things and events are deeply and mystically interrelated.

Third, native mentality has its own sense of 'logic' that is vastly different than in the West. He points out that a central concept of logic is the 'principle of non-contradiction' -- two distinct things can not be identical, two things cannot occupy the same space at the same time, causality is temporally and spatially limited, and so on. This principle is violated many times over in native mental representations. People are literally identified with animals, objects possess powers over health and weather, people and things have multiple 'souls', etc. Non-contradiction is the core our rationalism, and yet native societies demonstrate utter disregard for this seemingly universal principle. As such, Levy-Bruhl explains that this mode of thinking may be termed "prelogical"; it is a unique form of 'logic' that is based on different and equally valid principles. Of the term 'prelogical', he says, "It is not *antilogical*; it is not *alogical* either. By designating it 'prelogical' I merely wish to state that it does not bind itself down, as our thought does, to avoiding contradiction." (p. 78).

This combined native worldview -- mystic, holistic, spiritual, prelogical -- he calls *participation mystique*: "mystical participation". The fundamental principle guiding such a worldview is the Law of Participation. It is this law rather than 'animism' that underlies native mentality. He explains:

> Now there is one element which is never lacking in such relations [between beings and objects]. In varying forms and degrees they all involve a "participation" between persons or objects which form part of the collective representation. For this reason I shall...call the principle which...governs the connections and the preconnections of such representation, *the law of participation*. (p. 76)

Levy-Bruhl reexamines a large number of case studies and reinterprets them in light of his Law of Participation. In each case he emphasizes that what one finds is not 'naive animism', but something more complex: "Everywhere, the very expressions used by investigators suggest the idea of participation" (p. 93). People and things participate in an inherently spiritual world, and as such all things take on an element of spirituality. Things are animate not because each has a 'soul' in the Western sense, but because they participate in a common spiritual universe that manifests itself uniquely in all things.

The Law of Participation is thus the basis for the indigenous participatory worldview. Levy-Bruhl argues that this is true for essentially all non-Western cultures, but *not only* for them. At the end of How Natives Think he points out that elements of this mode of thinking exist even within the Western worldview. The participatory perspective on the human mind, he says,

> [T]hrows light...upon our own mental activity. It leads us to recognize that the [presumed] rational unity of the thinking being...is a *desideratum*, not a fact. Even among [Europeans], ideas and relations between ideas governed by the law of participation are far from having disappeared. They exist, more or less independently, more or less impaired, but yet ineradicable, side by side with those subject to the [conventional] laws of reasoning. ... The prelogical and the mystic are co-existent with the logical. (p. 386)

This recalls my central point, that panpsychism runs as the deep undercurrent of human thought, and has only superficially been 'eliminated' from Western civilization. For Levy-Bruhl, participation and panpsychism (in the guise of animism) are deeply linked. They are fundamental elements of the worldviews of all people and all cultures.

Unfortunately, Levy-Bruhl's work has also been largely overlooked. Like the cotemporaneous writing of Schiller, it presented uncomfortable ideas that challenged deeply held beliefs about human nature. In the latter part of the 20th century only Barfield, Koestler, and Abram have appreciated the influence of Levy-Bruhl, and each of these men have developed participatory philosophies, as I will explain later.

Two contemporaries of Levy-Bruhl and Schiller were Henri Bergson and Samuel Alexander. **Bergson**'s major philosophical works – including Creative Evolution (1907), Mind Energy (1920), and Duration and Simultaneity (1922) – all contain passages that endorse a form of panpsychism. His development of the philosophical importance of time and evolution deeply influenced both Teilhard de Chardin[10] and Skolimowski. An examination of Bergson's philosophy of evolution would take me too far from the concept of participation, so I defer that discussion.

In a 1914 article, "The basis of realism", **Alexander** articulates not only a panpsychist ontology but the beginnings of a participatory epistemology as well. The central point of this article – recalling Schopenhauer – is that our cognitive relationship with things we experience is *essentially the same as the relationship between any two objects.* Alexander first notes that "mind and things are continuous in kind" (1914/1960: 189). This continuity between knower and known is described as one of 'compresence', or co-presence. Thus he writes: "[O]ur compresence with physical things…is a situation of the same sort as the compresence of two physical things with one another." (p. 191); or more generally, "between any two existences in the world whatsoever"[11]. Each object generally is compresent with other objects at an equal or lower order in the ontological hierarchy. The location of a thing in this hierarchy determines its ability to 'know' others:

> *Mind* enjoys itself and contemplates *life* and *physical things*. The living being, the tree, enjoys itself and contemplates the air it breathes… The distinction may be carried further down…and it may be carried up [to the realm of the divine]. [T]he universe consists of distinct real existences of different order, compresent with each other and 'knowing' each other in such measure as is possible to them at their various stages of development. (p. 195; my italics).

This can be read as an early anticipation of Skolimowski's form of participatory epistemology. Knowledge is seen as a function of the receptivity, or sensitivities, of the perceiver; "in an extended sense a physical thing 'knows' other things to the extent of its receptivity." (p. 217). Alexander continues, linking this idea to panpsychism: "We may extend the sense of cognition, and calling compresence 'knowing', may ascribe 'mind' to

all things alike, in various degrees." (ibid). And he concludes with an argument by analogy for panpsychism:

> [M]atter receives much more [potency] than materialism credits it with. … [I]t is even possible that the union of body and mind which we find in the human person may turn out in the end to be typical of every form of existence from the lowest to the highest and perhaps of the universe as a whole. (ibid)

In retrospect Alexander's work here recalls Schiller's Studies in Humanism, and presents (in less detail) many of the same themes. But the extent of this influence is unclear.

By the mid-1920's, Alfred North **Whitehead** was beginning to develop his "theory of the organism", a process philosophy and panpsychic system based upon 'events', or "actual occasions". His student and colleague, Betrand **Russell**, produced a similar philosophical view, and made a number of tantalizing though ambiguous claims about panpsychism. Russell's comments belong more properly to a dedicated discussion of panpsychism, so I will not address his ideas here. Whitehead's process philosophy is the basis for current theories of 'panexperientialism' (see e.g. Griffin, 1998), and has inspired a number of participatory thinkers in the present day, Skolimowski included. An examination of the details of Whitehead's philosophy is not appropriate here, but the relevant ideas of his are captured in the writings of Hartshorne (below).

The union of process philosophy and panpsychism reached its peak in the work of Charles **Hartshorne**. An important early work of his is the 1937 book Beyond Humanism. Here he offers a critique of science and the scientific method, which, he says, treats objects in nature not as individuals but as 'crowds', 'swarms', and 'aggregates'. Mind and sentience are *not* to be found in aggregates, but only in true individuals, and thus science overlooks the possibility of panpsychism – interpreted as 'all true individuals possess minds'. This is an important point, and is central to Hartshorne's interpretation of panpsychism. Based on his reading of Whitehead, Hartshorne claims that *only things with a deep organic unity* qualify as true individuals: these include animals and individual cells. He also includes atoms and molecules, based on the new dynamic theories of atomic structure. At the higher end of the scale he includes the universe as a

whole. However, he explicitly excludes a great many objects, among these are plants, bodily organs, and all 'inorganic' objects like rocks, tables, chairs, and so on. Such things may be composed of sentient cells or sentient atoms but are not *in themselves* sentient. Nor, for the same reason, does a crowd of people have an individual mentality associated with it.

Hartshorne does not offer much in the way of argumentation for this particular dichotomy. He vaguely refers to Whitehead, who seems to have spoken of aggregates as a different class of existence, but even here (as in many cases) Whitehead is not entirely clear on the matter.

Hartshorne's dichotomy between true individuals and aggregates seems entirely too arbitrary, especially when viewed from a hylonoetic perspective. If one postulates a fundamental divide in nature, then one ought to have a compelling reason for doing so. A rock is an aggregate of sentient atoms; a person is an aggregate of sentient cells – what is the difference? The difference is in the complexity of the elementary particle in each case (atom vs. cell), and in the complexity of mass-energy exchange between these two classes of particles. But they are alike in their constitution *as aggregates*. A living aggregate is clearly different than a non-living aggregate, but not in its 'aggregate-ness'. By the theory of hylonoism, this aggregate-ness establishes the existence of a hylon, and hence a mind. Clearly the dimensionality of the phase space is vastly different, as is the complexity of the quasi-attractor personality. Even on *a priori* principles, it seems clear to me that any two coherent and persistent structures of mass-energy should share certain core characteristics, and unless one is prepared to argue for eliminativism or dualism, that mental qualities must be among these.

Hartshorne also introduces in this book his vision of a *participatory epistemology* that he calls “organic sympathy”. Though not explicit, he appears to take elements from both Schiller’s and Campanella’s philosophies, adds the Empedoclean concept that 'like knows like' (recall the passage, "For by Earth we see Earth…"), and combines them into a view that stresses the importance of the term ‘participation’. He first notes that the very process of perception, and the associated awareness, are best described as a participation in which both the subject and the object share a certain quality of the perception.

Consider the perception of color: "The direct object of awareness is *participated in* by awareness, [as well as] 'color's awareness' (as feeling), so that its quality belongs for the time being to two systems, the object's and the mind's." (p. 186; original italics). Such a sharing of common qualities is the basis for his theory of knowledge. It involves an essential exchange of 'essence' in which something of each party is given to the other. "Everything I know is sympathized with, participated in, by me and hence is akin to me." (p. 187). And, he even offers the first known (though vague) definition of *participatory mind*: "'mind' is that with which at least some slight degree of imaginative sympathy, participation, is possible." (pp. 191-2).

He goes on to claim that 'organic sympathy' (and the accompanying panpsychism) is capable of resolving six major philosophical problems: mind-body, subject-object, causality, the nature of time, the nature of individuality, and the problem of knowledge (cf. 1937: 194-9). Very briefly: the human mind results from a "sympathetic participation" or "sympathetic rapport" with the sentient cells of the body -- whose sentience is itself a product of the rapport with the sentient atoms. The relation of subject to object is similarly an exchange between 'enminded' participants, without which knowledge would be impossible. More generally, all causality is manifested through such a resonance between two minds. Moments in time are a "sympathetic bond" between past and future, much as Bergson and Whitehead described. The 'individual' is a result of a balance between the integrative power of sympathy and the disintegrative power of its opposite, antipathy; in the manner of Empedocles, Hartshorne notes that pure sympathy would destroy individuality (by merging all into one), and pure antipathy would not allow for any structure or knowledge at all.

Finally, Hartshorne breaches the subject of how (or if) a perceiver can have some effect upon that which is perceived. This again recalls the arguments of Schiller, wherein the process of 'making reality' occurs through changes in reality as a consequence of perception. Hartshorne notes that the new physics reveals the insight that physical 'action' or 'effect' is not as localized as previously thought, and that there is effectively a kind of 'cosmic field' of action that is set up between knower and known. The mind perceives something by action of an object upon it, by transmission of some essence. The relevant question is whether this process of sensing "acts also upon the sensed

object, [and] whether this...action is appreciable or significant." (p. 207). Although "[t]here seems no evidence that it is", he cites the work of J.B.S. Haldane as indicating the belief that it is "possible that the brain is in direct contact with the external object...through some process of outflowing into the extra-bodily field." (ibid).

The assumption is that the object 'feels' something comparable or analogous to what the subject feels -- i.e. a red apple is said to 'feel red' as it reflects red light to an observer. This is Hartshorne's concept of 'influence by sympathy'. Though he does not acknowledge it, such a sympathetic epistemology has its inspiration back in the ideas of the Renaissance naturalists. I have noted the apparent influence of Campanella in particular, and we find yet one more suggestive passage near the end of the chapter on Organic Sympathy. In discussing the importance of these ideas to the mind-body problem, Hartshorne makes reference to Campanella's three primalities of love, wisdom, and knowledge:

> We can never understand the relations of power and knowledge to love unless we concentrate upon the mind-body instance of all three relations. ... The philosophy of power, the philosophy of knowledge, the philosophy of love, will each be clear only when they all coincide in relation to the supreme instance [i.e. God as the mind of the world-soul]. (pp. 208-9)

It is not clear whether he simply failed to acknowledge Campanella, or picked the idea from Leibniz, whom he does cite on occasion[12] -- recall Leibniz's mention of these same primalities in the Monadology. Regardless, we see yet again a connection and continuity between various panpsychist philosophers and concepts of participation.

These themes continue throughout his writings. In 1977 he repeats his idea of participatory epistemology, noting that when the body is in pain both the body and the cells suffer: "what is our suffering but our participation in their suffering?" (1977: 92). The same concept holds between any two objects. "[T]he psychicalist [panpsychist] view holds that physical nature is mind in [non-human form,] with which we have more or less mutual participation." (p. 93). He quotes Carlyle: "*To know is to sympathize*." (ibid).

Hartshorne's recent death at age 103 represents the passing of one of the most significant panpsychist philosophers of the 20th century. He consistently argued for his particular philosophy of 'psychicalism' and contrasted it repeatedly with the evident weaknesses of the materialist worldview. The vitality of present-day process philosophy is largely attributable to his work, and it remains the only unified philosophical school advocating a form of panpsychism.

One other figure of the mid-20th century that merits mention is Owen **Barfield**. Anthroposophist and friend of Rudolph Steiner, Barfield wrote on a wide variety of subjects including philosophy, religion, morality, and literature. His major contribution to participatory philosophy occurred in 1957 with his book Saving the Appearances. Inspired by Levy-Bruhl and his 'law of participation', Barfield makes the first substantial attempt at articulating a comprehensive worldview based on the philosophy of participation.

He takes up where Levy-Bruhl ended -- with the suggestion that modern society, like primitive society, is founded on a form of participation. Early in the book he offers a definition: "Participation is the extra-sensory relation between man and the phenomena" (1957: 40). Participation is inherent to the very process of phenomenal perception, and thus is "as much a fact in our [modern] case as in that of primitive man" (ibid). The earlier form of participation was direct and intuitional, something that Barfield designates "original participation" (p. 41). In this sense the 'primitive man' was directly aware of his condition of participation. Modern thinking, by contrast, is dominated by abstract, theoretical 'alpha-thinking'; this results in a 'sophisticated' new form of participation that Barfield calls "final participation" (p. 137). Because of this abstract nature, most modern people are largely unaware of their participatory interactions with the world.

Over the past 2500 years original participation has gradually been driven out of Western culture and replaced with the more 'scientific' final participation. This transition began with the ancient Greeks and attained its completion around the mid-18th century -- with Goethe standing out as the last true embodiment of original participation: "It is almost as if the Gods had purposely retained this sense in Goethe as a sort of seed-corn out of

which the beginnings of final participation could peep...on the world of science." (p. 139). This "progressive decline of participation" has coincided with "the evolution of consciousness" (p. 105), and is reflected in our increasingly metaphorical language and reliance on images of phenomena rather than the phenomena themselves.

Ultimately, Barfield makes very clear the central role that participation plays in our relationship with the natural world. It is in fact the central unifying concept that makes the universe comprehensible. We risk denying this process of participation at our own peril:

> The plain fact is, that all the unity and coherence of nature depends on participation of one kind of the other. If therefore man succeeds in eliminating all original participation, without substituting any other, he will have done nothing less than to eliminate all meaning and all coherence from the cosmos. (p. 144).

Barfield argues not for a return to original participation (cf. p. 45), but rather for a recognition of the importance of participation in general, and for the development of a fully modern 'final' participation that employs humanity's full capacity for imaginative and creative thinking. Such a final participation will be "exercised with the profoundest sense of responsibility, with the deepest thankfulness and piety towards the world" (p. 147). Final participation is deeply value-laden, and invokes a reverential attitude toward the cosmos. It is such themes that Berman, Abram, and especially Skolimowski develop to a high degree in the late 20th-century, as I explain in the following section.

5) Developments of the past Three Decades

Apart from Hartshorne, few philosophers in the past 30 years have spoken out in support of panpsychism, and fewer still on behalf of participatory philosophy. The most notable example of the latter is Skolimowski, as I explained briefly in Chapter 1. I have already discussed his development of participatory philosophy, but need to elaborate on his primary work, Participatory Mind (1994). Two other names of

significance arise in connection with the philosophy of participation, and these are Morris Berman and David Abram. Both men have written expressly about the connection between panpsychism and participation, and see it, as I do, as the basis for a new worldview.

Before discussing these three, I briefly note some interesting comments by Arthur Koestler. Koestler wrote profusely in the 1950's, 60's, and 70's, covering a wide range of literary and philosophical subjects. In his 1964 book The Act of Creation, Koestler articulates the beginnings of what he would call a theory of "open hierarchical systems". Writing on the nature of human emotions, he notes that the common denominator of the wide range of our human emotions

> is a feeling of participation, identification, or belonging; in other words, the self is experienced as being a *part of a larger whole*… I propose to call the common element in these emotions the *participatory* or *self-transcending* tendencies. (1964: 54)

This participatory tendency is counterbalanced by a "self-assertive" tendency in which people seek to maintain their sense of individuality.

This idea is developed in his book The Ghost in the Machine (1967). Here he presents his full theory of open hierarchical systems, in which all things, not just humans, are elements in a grand ontological hierarchy. Echoing (but not acknowledging) Cardano, Koestler argues that all things are both a *whole* composed of constituent parts, and a *part* of larger wholes: in his words, a "holon" (as I mentioned in Chapter 4, this has no connection with my concept of a hylon; there are, though, certain similarities between Koestler's open hierarchical system and the hierarchical mind of hylonoism). In Ghost he elects to drop the term 'participatory' in favor of 'integrative', the latter being "more appropriate" (cf. footnote, p. 56), but the meaning is consistent[13].

As with other participatory thinkers, Koestler sees the need to address the issue of mind and the implications of panpsychism. In his cosmological hierarchy he must either explain why 'mind' suddenly appears at the level of the human (or animal, etc), or argue

that it increases progressively with level of complexity. As well he needs to address the issue of mind in supra-human 'holons'. Koestler appears undecided. On the one hand, he states, "It would, of course, be grossly anthropomorphic to speak of 'self-assertive' and 'integrative' tendencies in inanimate nature…" (1967: 62). But he continues (in the manner of Empedocles!): "It is nevertheless true that in all stable dynamic systems, stability is maintained by the equilibration of opposite forces… centrifugal or separative [and] attractive or cohesive" (ibid: 62-3). This balance of forces increases in complexity with each level of 'holon', resulting in progressively greater degrees of freedom of action: "each upward shift is accompanied by the subjective experience of freedom of decision" (1967: 347). This strongly hints at panpsychism.

Koestler openly addresses panpsychism in his book Janus (1978), noting (incorrectly) that panpsychism and Cartesian dualism occupy "opposite ends of the philosophical spectrum" (p. 229). Again he appears ambiguous. He claims that his "hierarchic approach replaces the panpsychist's continuously ascending curve…by a whole series of discrete steps – a staircase instead of a slope" (p. 230). But is this any less panpsychic? Presumably every step, except perhaps the first, has some degree of mind associated with it, and in fact he admits as much: "consciousness is not an all-or-nothing affair but a *matter of degrees*" (ibid). The levels of consciousness "extend far below the human level", and he concludes that "[this] hierarchy appears to be open-ended both in the upward and downward direction" (ibid). Koestler seems to want to deny the panpsychist implications of his own theory, but cannot find a clear argument why.

Koestler cited the work of Levy-Bruhl, and may well have picked up the designation 'participatory' from him. More recently, Abram is aware of both of these thinkers, and has integrated several of their ideas in his own philosophy. I address this shortly; but returning to the chronological order:

Morris Berman published his book The Reenchantment of the World in 1981. Here he presents a highly simplified picture of Western civilization. Prior to Descartes, he argues that the dominant mode of human interaction was that of "participating consciousness", defined roughly as an animistic, holistic, magical way of thinking. Subject and object are deeply unified in a manner that he describes as "an ecstatic

merger with nature" (p. 17). The culmination of this mode of thought occurred in the alchemy of the late 1500's. Beginning as far back as 2000 BCE, he states that a non-participating, non-animistic mindset began forming, which was to eventually overtake and replace the more ancient participating consciousness. With the advent of the Scientific Revolution and the Mechanistic Worldview, this "disenchantment" came to the fore; and mind was progressively removed from natural phenomena. This process, claims Berman, is at the root of many of our present environmental, social, political, and economic problems. A participatory worldview is our only possible salvation: "Some type of holistic, or participating, consciousness and a corresponding sociopolitical formation have to emerge if we are to survive as a species" (p. 23).

Reenchantment is significant because it squarely links the two concepts of participation and animism (panpsychism). Berman notes that the modern consciousness "recognizes no element of mind in the so-called inert objects that surround us. … One of [my] goals…is to demonstrate that it is this attitude, rather than animism, which is misguided." (pp. 69-70). Borrowing both the approach and the terminology from Barfield, Berman focuses on the contrast between the more ancient 'original participation' and more modern forms. Berman defines the traditional animism of original participation as "self and not-self identified at the moment of experience" (p. 76), thereby imbuing spirit into all things that are experienced. Original participation is deeply sensual; it is more about *feeling* than thinking.

He recounts how Newton and Descartes succeeded in overthrowing the remnants of animistic and occultist thinking. They (and others) did this, he claims, out of an expediency driven more by social, political, and economic factors than pure science:

> [The] triumph over the metaphysics of participating consciousness was not a scientific but a political process; participating consciousness was rejected, not refuted. … [S]cience may not be epistemologically superior to the occult world view, and [the] metaphysics of participation may actually be more accurate than the metaphysics of Cartesianism. (p. 135)

But science could not completely eliminate participating consciousness, because in fact it is inherent in the human condition. Rather, the scientific mindset *denies participation,* and in doing so induces a variety of social and psychological pathologies.

Berman goes on to claim that participating consciousness reemerged in the ideas of quantum mechanics: the uncertainty principle, loss of classical determinism, Wheeler-esque interactions between observer and observed, and even panpsychist attribution of mind to quantum particles (more on this in Chapter 7). Berman argues that modern physics places emphasis on the *relationship* rather than on the entities involved, and that this points toward a new world view. Such a modern interpretation of participation is described as the "inherent truth or order in the conjunction between man and nature" (p. 151).

The animistic dimension of participation finds support, Berman explains, in the work of psychologists Karl Jung and Wilhelm Reich. They argued that the 'mind is in the body', and that material objects possess an indwelling 'unconsciousness'. As in hylonoism, people comprehend with their entire physical being; the brain is merely a "thought amplifier" (p. 179) that accentuates what the body knows. Reich's work is particularly key:

> *Reich supplies that missing link* [between animism and participation]. For if the body and the unconscious are the same thing, the permeation of nature by the latter explains why participation still exists, why sensual knowledge is a part of all cognition, and why the admission of this situation is not a return to primitive animism. (p. 180)

Berman then concludes with a fairly detailed look at the ideas of Gregory Bateson, whom Berman claims offers the only groundwork for a new participatory metaphysics that can "reunite fact and value"; he says that "Bateson's work represents the recovery of the alchemical world view in a credible, scientific form" (p.196). There are in fact some strong elements of panpsychism in Bateson, and I will examine these briefly in the next chapter. Here, suffice to say that I am less optimistic than Berman about the relevance of Bateson's metaphysics.

Berman is a psychologist, not a philosopher, and so he approaches participation from a somewhat different perspective. A formal philosophical treatment occurs in 1994 with the publication of **Skolimowski**'s seminal work, Participatory Mind. The central concept is precisely that which I have been elaborating throughout this thesis: neither 'mind' nor 'reality' exists independently, but rather that they mould and shape each other in a deep manner. Skolimowski states that they must in fact be seen as joined in a single entity, "*mind/reality*" – much like the new physics conceives of 'mass/energy'. His system is thus an ontological monism, and he refers to it as "noetic monism".

Skolimowski's participatory philosophy is far-reaching. It is "first and foremost a *process philosophy*" (p. 371), where 'process' is to be understood in the widest evolutionary sense. As he sees it, participatory philosophy is not only a new philosophy of mind, but also an epistemology, an ontology, and a new system of metaphysics. As a consequence he outlines a new Participatory Methodology, and even a new interpretation of the concept of the 'true' that he calls Participatory Truth. Together these ideas form the basis of the most highly articulated Participatory Worldview to date.

Skolimowski begins with a very basic insight that often gets overlooked: human beings cannot perceive, think, or do anything a *without the filtering effect of the human mind*. Everything we sense, everything we say, is conditioned and shaped by the structure of our mind. "Everything there is, is filtered by the mind, chiseled by the mind, sculptured by the mind." (1994: 3). The structure of our mind is shaped in turn by the billions of years of universal evolution that preceded us. We are undeniably a part of the universe, a part which is capable of *reflecting back upon itself*. Evolution has shaped us, and now we shape the cosmos, according to the sensitivities of our mind.

The mind of the human, like the mind of any organism, is not merely that which processes abstract information. Mind is to be conceived as "the total capacity of the organism to react intelligently and purposefully" (p. 17). This total mind (which he calls Mind II) is what determines the nature of reality for the given organism. Mind II, when merged with reality, comprises a new, enlarged entity that he calls Mind III – 'mind/reality'.

This fusion of mind and reality has a long philosophical legacy: the union of the knower and the known; or as Skolimowski says, "the observer and the observed merge inseparably" (p. 34). It has its roots in Empedocles' concept that 'like knows like', and is articulated beautifully by Campanella and Goethe, among others. To this insight Skolimowski adds a strong *evolutionary dimension*, one which links mind and cosmos: "the becoming of the universe is inseparable from the becoming of the mind" (ibid). In the 20th century only Teilhard has taken evolution so seriously.

As mind reaches out and imposes order on reality, it defines the limits of what can be called 'real'. An amoeba has (relatively) very limited sensitivities, and thus maps out a relatively limited and simple reality. Reality for it is what it can grasp and comprehend. An automobile, an airplane, or a star literally do not exist, are 'unreal', from the perspective of the amoeba[14]. Likewise for humans: the structure of the atom and the structure of the universe *as we conceive them* represent the limits of our minds. The dynamics of the mind carve out of the 'primordial chaos' a coherent structure that we call reality. We never see this reality 'as it is', but only as reflected in the present state and sensitivity of our minds. As Skolimowski says, "*the outer walls of the cosmos are the inner walls of the mind*" (p. 81). He depicts the dynamics of mind as tracing out a *spiral*, which precisely matches with the boundaries of what we call reality; this is his "spiral of understanding". Furthermore, as the human evolves and changes over time, the mind changes, the sensitivities change, and therefore the walls of the cosmos change. An enlargement of mind equates to an enlargement of reality.

Skolimowski is adamant that such a participatory theory mind is not 'relativist', as the term is usually applied. Standard (cognitive) relativism holds that no epistemic perspective has a privileged perspective on truth or reality; therefore, reality is simply 'what we want it to be', and no larger frameworks have any claim on veracity[15]. Skolimowski points out that we do not simply choose reality, but we are limited by the structure of our physical and mental sensitivities, by our evolutionary heritage. All *homo sapiens* share a common basic set of physical sensitivities, and thus it is proper to speak of a *'human-specific' reality*. This is not relativist, except in the sense that it is relative to

other species or other objects. (This is what Skolimowski means when he says that reality is "species-specific".)

Similarly, the one species of mankind has many cultures, each of which have evolved different value systems and epistemic norms. These constitute the 'mental sensitivities' of people, and also shape reality. In this sense, reality is "culture-bound". Reality varies between cultures, but is relatively consistent within a given culture.

Finally, each person has unique perspectives, unique values, and unique sensitivities that uniquely shape his or her own personal perspective on reality. There exists an 'individual spiral of understanding' that represents the unique outlook of each person. This may be called subjectivist or relativist, but only in a very limited sense. The personal aspect of reality is only one small dimension of the larger reality shared by the culture or the species. The fact that I am a member of the human species determines to a large degree how I can conceive of reality; the fact that I live in Western civilization, in America, further limits and defines aspects of my total reality. My unique perspectives cause my personal understanding of reality to be unique, but the larger part of it is shared by many other people. This fact accounts for effective communication between people, and the presence of viable societies. This is what Skolimowski calls "inter-subjective" (or "trans-subjective") reality.

On a practical level, such a worldview has definite methodological and ethical consequences. Skolimowski outlines what he calls a "participatory research programme" based on the concepts of *responsibility*, *empathy*, and *wholeness* (cf. p. 153). This 'methodology of participation' is offered as an alternative to the standard scientific 'methodology of objectivity'. At the individual level, Skolimowski calls for a transformation to a participatory consciousness. He suggests a number of possible strategies, including in-dwelling, empathetic identification, meditation, even prayer. The point is to make one aware of the conditioning and deeper assumptions that one acquires through one's surroundings and culture, to become aware of the values that guide ones actions, and to envision and create new assumptions and new forms of behavior that are more life-enhancing, fulfilling, and reverential. His goal is encourage the adoption of a participatory mind-set that is congruent with the vision of the participatory universe.

Such actions cannot be justified from within the present (objectivist, mechanistic) worldview; they simply do not make sense, because they lie outside the bounds of the 'standard methodology' which is justified and self-sustained by that worldview itself. Only by understanding the larger role of worldviews can we understand this, and take appropriate action.

As comprehensive and detailed as it is, Skolimowski's system of participatory philosophy stands to be extended in at least one dimension. This is related to his emphasis on the human perspective of the participatory cosmos; *he focuses almost exclusively on the human as subject and participant*. This neglects two aspects: First, there is the impact on the 'object'. As Schiller has pointed out, all acts of perception *change the object of perception*. Whether the object is another person, an animal, an 'inanimate' object, or an entire eco-system, the mode of perception has a definite impact on that which is observed. The methodology of objectivity treats all things (including animals) as senseless, insensitive objects to be used solely for human ends. This approach causes suffering, disruption, and damage to the objects of inquiry.

Second, and more importantly, there is the fact that *all things, as co-participants, create their own reality*. This is the 'panpsychist dimension' of participatory mind. Skolimowski speaks to this somewhat when he acknowledges the reality that is created by the amoeba or other simple life forms. But from the standpoint of participatory panpsychism, *all things, all objects, co-participate and co-create reality*. When we confront an object of inquiry, *it confronts us*. We engage with it not as 'knower' engaging 'known', *but as co-participants, each being simultaneously knower and known*. Such a cognitive exchange yields a *noetic symmetry* between co-participants. This seems to me an important point, something that Skolimowski has not addressed in detail.

There are hints of panpsychist sympathies in Participatory Mind. For one, there is the strong support of Teilhard and his vision of complexity-consciousness -- which is inherently panpsychist. Also, numerous passages seem suggestive:

* the previously cited sentence that “the becoming of the universe is inseparable from the becoming of the mind”;

* "[B]oth bodies and ideas (spirit) exist. But their existence takes different forms. What unifies these different forms of existence is the *evolutionary matrix*... All forms of being come from the same evolutionary barrel." (p. 27)

* single-celled animals having something approaching mind: "It is not fanciful to talk about reality for an amoeba." (p. 17)

* in the manner of Socrates: "The methodology of participation informs us that dialogue with our cells, and even with oaks and rocks, may not be far-fetched" (p. 359)

How can 'dialogue' occur, except between enminded entities? Still, Skolimowski is not explicit on the issue. The idea of 'participation' is obviously central in his work, as is the concept of a dialogue with the world, and yet he does not openly acknowledge the other half of the equation, the mirror image of the human mind – which can only be the *mind in nature*.

I see hylonoism as a natural extension of Skolimowski's theory of mind. It takes his central vision and extends it to all structures, to all forms of existence. Where Skolimowski's work might be said to be a '*special theory* of participatory mind' (special in that it focuses on the human mind), hylonoism may be seen as a '*general theory* of participatory mind', extending the basic insights in light of the new understanding offered by chaos theory.

Finally, the most recent book addressing the philosophy of participation is **Abram**'s The Spell of the Sensuous (1996). Appropriately, this book makes once again the connection between participation and animism/panpsychism, this time from a phenomenological perspective. Unlike Barfield and Berman, Abram argues for a return to an animistic vision of the natural world as a remedy to the radical separation from nature that emerged with Western civilization. His writing is more of a poetic essay than detailed philosophical inquiry (he cites neither Berman, Wheeler, nor Skolimowski); his

objectives here are simply to provoke "new thinking" among intellectual circles, and to "provide a set of powerful conceptual tools...to alleviate our current estrangement from the animate earth" (p. x).

It is one thing to state the need for a return to an animated worldview, and another to explain why. Abram relies primarily on stories from aboriginal cultures, supplemented by his interpretation of Husserl and Merleau-Ponty. Most often, though, he simply states his beliefs as a matter of course -- as when he notes that "Magic is...the intuition that every form one perceives...is an *experiencing* form, an entity with its own predilections and sensations, albeit sensations that are very different from our own" (pp. 9-10). He argues for an almost traditional animism, one in which not only are animals and plants 'alive', "but also the meandering river from which those animals drink, and the torrential monsoon rains, and the stone that fits neatly into the palm of the hand. The mountain, too, has its thoughts." (p. 14). Abram is implicitly making the case that some form of indigenous animism is the preferred mode of interacting with the Earth, not the modern scientific mode of detachment and objectivity. His loose usage of terms like 'alive' and 'thoughts' indicates the poetic and experiential nature of his approach.

The phenomenological basis for Abrams' views comes from his reading of Husserl and Merleau-Ponty, in whom he finds the root of a participatory theory of perception. He finds significance in Husserl's intersubjective *Lebenswelt* ('life-world'), the pre-analytic world as presented directly to our perceptions. The life-world is the meeting place of mind and matter; as such, it involves and encompasses both at once. The extent to which this argues for an animistic worldview is not clear -- and is not evident in the writings of Husserl.

Abram then notes the importance of Merleau-Ponty's advancements, beginning with the latter's identification of the physical body as the 'true subject of experience'. Merleau-Ponty denied the transcendental ego or spirit, and equated the human subject with the body as a whole -- much like I argue that the body constitutes the 'total mind' of the human. Perceptual knowledge occurs when the body enters into a *relationship* with a sensible object. Sounding very much like Campanella, Merleau-Ponty states that the human projects into the sensory realm, and this projection is reflected back into the body

-- "the sensible gives back to me what I lent to it" (Merleau-Ponty, 1945/1962: 214). In this way sensory data are best seen as "certain kinds of symbiosis, certain ways the outside has of invading us and certain ways we have of meeting this invasion" (ibid: 317). It seems clear that this is a deeply participatory approach to sensation and perception. Abram takes it a step further, citing Merleau-Ponty's use of active words with respect to the sensory environment, and reading into this animistic overtones (cf. Abram, 1996: 55). To my mind this is again an unwarranted interpretation -- certainly the case is far weaker than for the other philosophers I have addressed in this thesis.

Abram appropriates Levy-Bruhl's term 'participation' and applies it to the mode of perception that Merleau-Ponty is describing. Abram's conclusion is that "participation is a defining attribute of perception itself", meaning "perception always involves, at its most intimate level, the experience of an active interplay, or coupling, between the perceiving body and that which it perceives." (p. 57). True enough -- and yet this does not seem to justify his following statement: "Prior to all our verbal reflections...we are *all* animists." (ibid). Abram never makes clear why participation requires an animist perspective on the world. Levy-Bruhl *defines* participation animistically, but this is a different matter. Merleau-Ponty envisions a participatory epistemology, but is unclear about the necessity of a panpsychist worldview.

The most substantial argument that Abram makes occurs in one brief passage, in which he offers (in the manner of Schiller) an argument by analogy. He notes the possibility that "both the perceiving being and the perceived being are *of the same stuff*" (p. 67). He continues:

> Each of us [humans], in relation to the other, is both subject and object, sensible and sentient. Why, then, might this not also be the case in relation to another, nonhuman entity? ... Finally, then, why might not this "reversibility" of subject and object extend to every entity that I experience? ... I find myself forced to acknowledge that *any* visible, tangible form that meets my gaze may also be an experiencing subject... (ibid).

But the analogy as stated is not cogent. Simply because two people apprehending each other can be considered interchangeably as subject and object, there is no compelling reason to apply the same position to all objects. Schopenhauer's related analogy -- that I am an object, I possess a will, therefore all objects possess a will -- is logically more correct and convincing. Abram seems to simply take the two ideas of participation and animism, and merge them together -- more on the basis of his intuitions and experience with indigenous cultures than on firm philosophical ground. I agree with his intuition, of course, but I think a much stronger connection can be found between these two.

Finally, Abram makes an interesting conjecture regarding why modern culture has lost its animistic predilections: the emergence of the *written word*. Following the lead of Plato's *Phaedrus*, Abram claims that the written text has literally taken on an animistic demeanor, that we now attribute a 'voice' and 'spirit' to the black ink marks on white paper:

> [T]he animating interplay of the senses has been transferred to another medium, another locus of participation. *It is the written text that provides this new locus*. ... [T]he "inert" letters on the page now speak to us! *This is a form of animism...as mysterious as a talking stone*. And indeed, it is only when a culture shifts its participation to these printed letters that the stones fall silent. (p. 131)

Plato recounts Socrates' statement that writing "will introduce forgetfulness into the soul", and provide only "the appearance of wisdom" (*Phaedrus*, 275a) because men will come to trust in the static, written word. In doing so, they forego "the words of an oak", or a stone. Text comes to replace nature as communicator of truth. In the process, Abram claims, the text becomes deified and animate.

In my view language does in fact play a significant role, as it is the means by which information is exchanged among people in the social setting. 'Language-as-information-exchange' is a part of the larger phenomenon of energy exchange that accounts in part for the power and intensity of mind, in particular of the social mind. I examine this notion further in Part III.

6) Recapitulation of Part II

My objective in the preceding two chapters was four-fold: (1) to demonstrate that panpsychism was in fact a significant and unacknowledged undercurrent of Western philosophy, (2) to examine the history of participatory thinking, (3) to show that this participatory thinking often goes hand-in-hand with panpsychist ideas, (4) to demonstrate that the vision of participatory mind obtained from hylonoism is compatible with historical concepts of mind, and in fact provides a greater illumination and greater sense of explicability than would otherwise be the case.

Expanding on this last point: Hylonoism offers an account of mind that unifies the disparate intuitions and conjectures of thinkers throughout history. No other theory can as consistently incorporate this variety of insights – mind as a single point, mind as a structured hierarchy, mind as pervasive in all things. Even the various philosophers themselves were unable to provide a reasonable explanation for their views; they most often made flat statements of belief, unsupported by philosophical reasoning. As such, these views have been a source of puzzlement and embarrassment to the philosophical establishment of the 20th century. Through the new language of chaos theory, these intuitions become more comprehensible and lucid than ever before.

I have shown that participation and panpsychism are closely and deeply intertwined, and this fact argues strongly for my central thesis that *participatory panpsychism* stands as a viable and perhaps inevitable next phase in the evolution of Western philosophy. My emphasis in Part II has been on the philosophical lineage of participation and panpsychism. However, such concepts have emerged as well from within the disciplines of traditional science and physics, particularly in the past 100 years. I begin Part III with an overview of scientific perspectives on these two concepts (especially panpsychism). This will serve to strengthen my case that panpsychism has persisted, and in fact seems to be reemerging – in the guise of participatory panpsychism – as a leading worldview of the 21st century.

NOTES:

[1] All Ethics quotations are from Curley (1994).

[2] Section #48 of the Monadology recites almost verbatim Campanella's three primalities: "God has *power*, which is the source of everything, *knowledge*, which contains the diversity of ideas, and finally *will*, which brings about change or products in accordance with the principle of the best." (1714b: 219). Granted he attributes these properties to God, but he goes on to explain that they are present "by imitation" in all monads. Leibniz nowhere quotes Campanella directly but he was clearly aware of his work (cf. e.g. "Against Barbaric Physics", in Ariew and Garber, 1989: 314).

[3] With evident disdain, Popper writes, "Schopenhauer is a Kantian who has turned panpsychist." (1977: 68).

[4] Cited in Magee (1983: 161).

[5] A surprisingly similar theory has recently been put forth by Ervin Laszlo, in his book The Systems View of the World (1996).

[6] James comments that paranormal phenomena provide strong evidence for this view: "I find in some of these abnormal or supernormal facts the strongest suggestions in favor of a superior co-consciousness being possible." (p. 299).

[7] Peirce actually presented the beginnings of his view in 1891 (see his 1891/1992: 293), where he comments in passing that "matter is effete mind".

[8] When all of reality is understood as interconnected, any one effect has implications on all things. This has a literal, physical basis, which I will examine later.

[9] See my discussion in Chapter 1 (footnotes).

[10] Bergson's intellectual heir, Teilhard de Chardin developed the concept of panpsychism into a complete world-system, putting it at the heart of his theory of cosmic evolution. Teilhard saw mind as related to a feedback-like phenomenon that he called "doubling back". In his main work The Phenomenon of Man he writes:

> [W]e are logically forced to assume the existence in rudimentary form...of some sort of psyche in every corpuscle, even in those (the mega-molecules and below) whose complexity is of such a low or modest order as to render it (the psyche) imperceptible... [T]he universe is, both on the whole and at each of its points, in a continual tension of organic doubling-back upon itself, and thus of interiorization. (1959: 301-2)

His theory of 'complexity-consciousness' – that mind and spirit increase in intensity with increasing structural complexity – has clear connections to both Spinoza and hylonoism. The full implications of Teilhard's panpsychism are too expansive to address within the bounds of this thesis.

[11] For a good discussion of this concept that "mind-object relations have analogues at each level of finite existence", see Brettschneider (1964).

[12] Elsewhere Hartshorne calls Leibniz's position "the first clear statement of panpsychist theory" (1950: 444), apparently overlooking all the developments of the early Greeks and the Renaissance naturalists.

[13] Though he does return to the language of participation somewhat in his Janus (1978) – cf. footnote on page 58.

[14] This is not to say, of course, that the amoeba has no perception at all of large-scale objects. The exhaust from the plane or the tire of the auto may certainly affect the state of the amoeba, in which case it will clearly comprehend *something* of these things. But it will never comprehend them as whole, complete objects.

[15] This is the view typically held by postmodern deconstructionists.