Chapter 8 – Social Phenomena, Aggregate Mind, and the Nature of Exchange

To paraphrase George Herbert Mead: the capacity for 'sociality' is a universal characteristic of the natural world. To be social is to interact with one's 'companions', that is, with the forms and structures that exist in one's environment. I have argued that all material objects are interconnected and stand in a continuous relationship with one another; they co-participate in a common physical realm. Correspondingly, all minds are interconnected because they are joined to co-participating physical systems, and because of this they exist in the common realm of the Partimens. Every object participates to a greater or lesser degree in every other object, just as every mind participates in every other mind.

In the most basic sense, then, to socialize is to stand in relationship to the things in one's surroundings. To 'stand in relationship' is to interact, and in the physical world this means to engage in some kind of *exchange*. This exchange may be one of words, of money, of photons of light, or bits of food and water – in general, some form of mass or energy. Interaction, exchange, and co-participation are basic elements of all existence.

Living creatures socialize in a unique way, by interacting strongly with others of their kind. All life forms that reproduce sexually must of necessity socialize. Such living beings are born into social settings; they develop, mature, and reproduce in social settings. The nature of any given individual is intimately bound up with its social condition, and in a sense we cannot even define what it *means* to be an individual without a consideration of the social context. This seems particularly clear in the case of humans.

At the same time, living beings are themselves composites of living entities -- organs, cells, mitochondria, and so on. These elements interact and exchange energy, and by this process comprise the larger organism. Thus, livings things are literally 'participations', both from within (internally) and without (socially).

I have argued that the participations in the brain give rise to mind, and the larger network of participations within the body give rise to the 'total mind' of the organism. Hylonoism then generalizes this phenomenon, conjecturing that all participations between structures *at any level* give rise to mind. In the special case of living organisms, and humans in particular, the network of participations within a given species give rise to a special form of mind that may be called an 'aggregate mind'. (Traditionally, the human aggregate mind has been referred to as a 'group mind', or 'collective consciousness'). Such an aggregate mind is a necessary implication of hylonoism. It has particular importance for us as human beings, because of the power it has over both its constituent members (individual people) and the natural world in which it resides.

In this chapter I will explore the concept of an aggregate human mind, and then analyze its source in the phenomenon of social exchange; this leads to an outline of a general theory of participation. The human group mind is the best place to begin this exploration, first, because it is the most examined idea historically, thus giving us many developed ideas to draw from; second, because many aspects of our present social condition can be better understood in light of participatory theory of aggregate mind; and third, because it is symbolic of the concept of exchange in general that occurs throughout the natural world. I will rely on the work of Durkheim, since he was the first of the modern era to articulate a clear concept of group mind[1]. After Durkheim, Teilhard has perhaps done the most to develop the philosophical implications.

Group mind will be seen to co-exist with the various processes of exchange that occur in the human sphere. Thus, an understanding of mind requires an understanding of the phenomenon of exchange. In the most basic terms, exchange occurs when a person or thing gives up something of itself to another. Generally, the more of something one 'has' (money, food, energy), the more one is able to give. A network of exchange thus implies a condition of abundance or surplus – a surrender or expenditure of an 'excess'. The 'philosophy of exchange' as such was begun by Georg Simmel, and further developed in the work of Mauss, Bataille, and Teilhard. I will continue to explore this line of thinking, and reach some general conclusions about the connection between mind and 'participatory exchange'.

1) Historical Ideas of Group Mind

Human beings participate in the natural world. Our interactions with nature and natural objects are a continuous condition of our existence, and in fact are essential to our being. Certain subsets of these all-encompassing natural participations have relatively great significance for us. One of our more important modes of participation is amongst fellow human beings. This mode we simply call 'human society', as the term is commonly understood.

Much of our daily existence consists of interactions with other people, whether family members, coworkers, or anonymous strangers. If we consider both the time actually spent interacting and the time spent on things that are a direct consequence of social interaction, it is clear that such participation occupies a large percentage of our lives. Many of humanity's greatest accomplishments, and greatest failures, occurred through events that were shaped and conditioned by the nature of society.

In the context of this thesis, I want to explore the degree to which such socially-determined actions can be considered actions of a singular collective entity, possessing a unitary sense of mind. I am concerned less with the psychology of the *individual person*, and more with the psychology of the *group* as a whole -- though ultimately, both forms of mind are 'aggregate', and both may be seen to share certain core qualities.

Having thus examined something of the role of mind in the subatomic domain and in the human brain, I now consider the human social phenomenon and the possibility of an aggregate or 'group' mind. I have argued that the quality of mind occurs wherever interaction, exchange, and transformation take place; in short, *participation implies mind*. I claim that this is a general phenomenon, and occurs equally in the realm of social interaction and exchange as it does in cerebral neural exchanges. Social interaction yields mind, and society *is* mind.

The idea that some subset of humanity, or humanity as a whole, forms a 'group mind' is an old concept[2], and was held by a number of important thinkers. It dates back at least to

Plato and his Republic. In his exposition of the ideal city (*polis*) Plato states that the city has a *psyche* (soul/mind) that is of the same nature and structure as a man. The human *psyche* has three parts: appetitive / consumptive, emotional / assertive, and intellectual / reasoning. Likewise the *psyche* of the city has three corresponding parts: economic, military, and governing. Plato writes: "we are surely compelled to agree that each of us has within himself the same parts [of the *psyche*] and characteristics as the city" (435e). And again: "the same number and the same kinds of classes as are in the city are also in the *psyche* of each individual" (441c).

Consequently a city assumes human-like personality characteristics. A city may be said to be "courageous" (429b), or have "good judgment" and be "really wise" (428d): "it necessarily follows that the individual is wise in the same way and in the same part of himself as the city" (441c). Both types of *psyche* relate to the Forms in the same way: "a just man won't differ at all from a just city in respect to the Form of justice; rather he'll be like the city" (435a). And more generally, the virtuous *psyche* (human or *polis*) must maintain a harmonious balance between the three parts; "everything...that has to do with virtue [is] the same in both" (441d).

The obvious question here is whether Plato is speaking merely metaphorically or if he intends to literally claim that a *polis* possesses a *psyche*. From within the mechanistic perspective one would obviously assume it is a metaphor, since there is no allowable sense in which a group of people can possess a *psyche*. However Plato writes as if he intends a literal interpretation, and nowhere does he indicate that this is a mere metaphor. Combined with the arguments for Plato's panpsychism (cf. Chapter 5), the literal interpretation is, I think, far more compelling.

Much later, Hobbes articulated his vision of the social creature, the Leviathan, which functioned as a coherent entity. In the mid-1800's Fechner argued for a collective consciousness of mankind. As James recounts it, "[Fechner says] we must suppose that my consciousness of myself and yours of yourself, although in their immediacy they keep separate and know nothing of each other, are yet known and used together in a higher consciousness, that of the human race…" (1909: 155).

The emergence of evolutionary theory gave new force to this view, and Spencer in particular became known for his ideas of social Darwinism and the society as an evolutionary competitor, in ruthless struggle with other social forms. Pierce's 1892 article "Man's glassy essence" clearly articulates a belief in the literal existence of a group mind. He extends his general conception of panpsychism and concludes that higher order minds must also exist. He writes,

> If this [panpsychism] be the case, there should be something like personal consciousness in bodies of men [collectively] who are in intimate and intensely sympathetic communion. … *Esprit de corps*, national sentiment, sympathy, are no mere metaphors. None of us can fully realize what the minds of corporations [i.e. collectives of people] are, any more than one of my brain-cells can know what the whole brain is thinking. But the law of mind clearly points to the existence of such personalities… (1892: 21).

This is a clear and unambiguous statement, which follows logically from the theory of mind that Peirce has put forth. (I note again here that hylonoism's 'law of mind' also implies the presence of a group mind.)

Probably the most notable advocate of the group mind concept was Durkheim. His first major book, *Division du travail social* (The Division of Labor in Society, 1893), came out just one year after Pierce's seminal article. Durkheim believed that society formed what he called a *'conscience collective'*, or collective consciousness. This is a mental entity that is as real, distinct, and 'living' as the mind of an individual person. He defines it as follows:

> The totality of beliefs and sentiments common to average citizens of the same society forms a determinate system which has its own life; one may call it the *collective* or *common conscience* [i.e. consciousness]. No doubt, it has not a specific organ [but is] by definition, diffuse in every reach of society. Nevertheless, it has specific characteristics which make it a distinct reality. … It is the psychical type of society… (1893: 79-80).

The collective consciousness was the result of a particular type of social unity that Durkheim called 'mechanical solidarity'. This he saw as a primitive form of unity. It occurred in cases where society was small, unsophisticated, and relatively homogeneous. The typical Australian aborigine tribe was a case in point. Individuals were relatively alike in skills and functions, each relatively self-sufficient. In such cases the collective consciousness was very strong, and provided a powerfully cohesive force.

As society evolved, Durkheim believed that a second unifying force came to prominence, and this he called 'organic solidarity'. Organic solidarity resulted from each person playing an increasingly differentiated and specialized function in society. Like the organs in a living body, people in more-evolved societies developed specialized roles that jointly supported the overall activity of the society. This, in fact, is the purpose and role of 'the division of labor': to allow for a more advanced, more specialized, more interdependent society to emerge. Durkheim does not seem to view organic solidarity as causing any kind of group mind.

So as society evolves the collective consciousness wanes, along with the influence of mechanical solidarity. Yet he claims that it never entirely disappears, even in modern (late 19th century) European civilization. It continues to manifest itself in a series of "social facts" that are the stable and consistent qualities of society, independent of any given individual. In fact, Caitlin observes that "[the collective consciousness] is, moreover, itself a composite of psycho-social facts" (1938: xiv). For Durkheim such facts included the relative constancy of statistics like crime and death rates. More generally, the social facts as qualities of the collective consciousness are able to exert a virtual force upon individual people. As he wrote in Rules of Sociological Method: "A social fact is to be recognized by the coercive power which it exercises…over individuals" (1895: 10). And: "[This force of constraint] is natural…because it springs directly from the collective being which is, itself, a being in its own right" (ibid: 124). These forces, or 'permanencies of social life', were seen by Durkheim as the activities of a real, living group mind. Caitlin notes that "indeed, it is true that Durkheim seems dangerously near personifying them and, by this animism, to endowing them with force." (1938: xvi).

Durkheim thus argues that restrictive social forces, though still present, are steadily decreasing along with the influence of the collective consciousness. Social cohesion is increasing, but now through division of labor and corresponding organic solidarity. This new force of cohesion is, he believes, more benign. Ultimately Durkheim sought an optimistic future for the human person, so he postulated that as the collective consciousness shrank, *the 'individual consciousness' grew*. The progression toward greater freedoms and human rights he took as evidence of this fact[3].

Discussions about collective consciousness were relatively common around the turn of the century[4]. Royce also believed in the group mind concept: "For the social order…is the very breath of life for me, the social being. Nor does it consist of mutually independent selves. It is an organism." (1899-1901: 183). William James concurred with Fechner, and asks suggestively, "May not you and I be confluent in a higher consciousness, and confluently active there, tho we now know it not? … [W]e finite minds may simultaneously be co-conscious with one another in a super-human intelligence." (1909: 290, 292). I examined Haldane's panpsychism earlier, and he too is predisposed towards the idea. He notes that

> [T]he cooperation of humanity…may determine what Comte called a Great Being. … [T]o my mind the teaching of science is very emphatic that such a Great Being may be a fact as real as the individual human consciousness… [E]verywhere ethical experience testifies to a super-individual reality of some kind. (1932: 113-4)

The physiologist R.W. Gerard argued for a biological basis of the social 'epiorganism'. He notes that the epiorganism "manifests the major characteristics of other organisms", including "dynamic equilibrium", "synthesis of living and non-living units", and "adaptive amplification" (1940: 405). Such a system "carries the connotations of volition and purpose" (p. 349), but the present state of human society constitutes only an "undeveloped mind" (p. 407).

Most panpsychists prescribe to some form of group mind concept, but not all. Hartshorne is a notable case in point. For reasons that are less than compelling, he

believes that "there are no good indications that human groups are organisms which could think and feel as individuals." (1942b: 128). Even so, he grants that "there is some hidden truth in the group mind concept" (ibid) – he makes allowances for a world-soul[5]. More recently Rene Thom has made a similar observation from the standpoint of 'catastrophe theory', a variant of chaos theory. He wrote:

> [W]e might ask whether a social group acquires a 'mind' that could have an autonomous existence. It seems that the social mind [i.e. group mind] has a fragmentary character very similar to that of the animal mind. (1975: 319-20)

It is interesting that Thom's analysis of structure using concepts of chaos led him to likewise see the presence of mind in the social phenomenon, though he did not develop this idea at all.

Probably no thinker has developed the philosophical implications of the group mind more than Teilhard. His Phenomenon of Man lays out a clear and cohesive picture of humanity as a threshold point in the universal evolution of mind. The human as an individual, emerging some million years ago, was a watershed development because he had the capacity for reflective thought, i.e. he 'knows that he knows'. Now the development of human society constitutes the next great phase of "hominisation", and like the first phase it too is an emergence of new psychic qualities:

> [T]here is really developing above us another hominisation, a collective one of the whole species, [and] it is quite natural to observe, parallel with the socialization of humanity, the same…psycho-biological properties rising upwards on the earth that the individual step to reflection originally produced. (1959: 306)

This second phase of hominisation is to be conceived of as the "spirit of the earth", the central element of the mind of a sentient planet. "We are faced with a harmonized collectivity of consciousnesses equivalent to a sort of super-consciousness." (p. 251).

It is enlightening to examine Teilhard's theory of how this process of hominisation comes about, especially in the second phase of human society. Rather than simply describe it as the next logical step in universal evolution, he points to a specific phenomenon that drives this process forward. This phenomenon he calls 'super-abundance'; it is the subject of my next two sections.

2) Social Mind as a System of Exchange

Early in this thesis I noted that participation, conceived as a process of exchange, is a universal phenomenon. Furthermore I argued that exchange coexists with mind. Thus the theory of hylonoism is conceived as a participatory theory of mind. It was founded on the energy exchange within the human brain. I claimed that the stable system of exchange allowed us to view the brain as a cohesive, relatively intense feedback system definable in terms of the hylon moving in phase space, within the bounds of a stable quasi-attractor. The 'society of neurons' results in a unitary experience of mind, because it is a relatively stable and relatively intense system of energy exchange between like structures. Each structure, each neuron, gives something of itself (i.e. some bit of energy contained within it), receives energy from other structures, and incorporates this energy into itself.

As a general phenomenon, I claim that it can be found in all situations that are 'social' in the broadest sense. A society of neurons yields mind, and so in a like fashion does a society of people, a society of plants, or a society of atoms. Any aggregate or collection of interacting structures may be termed a 'society'. Any such society is based in a process of exchange, as I explain below. Exchange is the basis of society, and following hylonoism, this system of exchange must result in a generalized kind of 'group mind' that I will call *social mind*[6]. In what follows I will be addressing the particular case of human society, but the general principles, I claim, hold universally.

In the latter part of the 19th century, Georg Simmel was perhaps the first to recognize the fact that exchange is the basis of human society, and that this notion is of central importance. Simmel is considered one of the founders of modern sociology (along with

Durkheim), but his most important book, The Philosophy of Money (1900/1907), examined the philosophical nature of 'pure exchange'.

A number of his points are important to this discussion. First is his basic observation that society is fundamentally 'interaction between people'. Social interaction has a specific structure, namely, that of *exchange*: "[R]elationships between people can be interpreted as forms of exchange... Every interaction has to be regarded as an exchange." (p. 82) -- where 'exchange' is understood to mean a two-way action or effect. This is a completely general statement. It applies in all social situations, whether the interaction is one of feelings, ideas, or economic goods. As he says, "every conversation, every affection, every game, every glance at another person" (ibid) must be regarded as exchanges.

A question naturally arises (which Simmel does not address) regarding the nature of *that which is exchanged*. In the physical realm this can only be either a form of *matter ('goods')* or a form of *energy ('services')*. More generally we can say that *the objects of exchange are forms of mass/energy*, or, following the energeticist interpretation of Einstein, Russell, and Popper, simply forms of energy in its most general sense. Even purely monetary exchanges are of this nature, as they involve either the physical exchange of paper or metal, or of energy in the form of information that signifies these. All exchanges involve exchanges of energy.

I will distinguish three categories of exchange: (1) voluntary economic, (2) voluntary non-economic, and (3) autonomic. The first two of these Simmel discusses, and the third is my addition. The first category consists of the usual type of business exchange, i.e. goods/services for goods/services (barter) or goods/services for money (purchase) -- in any case, one form of energy for another. Second, voluntary non-economic exchanges involve non-economic entities: A person speaking to another sends sound energy. If a word comes to his mind, and he translates it through effort into sound, this sound is received and decoded by all who hear it and the same (or similar) meaning recovers. Simple acts, like giving a book to someone, or throwing a ball, constitute exchanges of mass/energy that carry no economic implications. Even a touch of the hand – or slap in the face – constitute basic non-economic exchanges.

Third is the class of exchanges that I call *autonomic*. These are the involuntary exchanges that occur without effort per se, but result in a loss of 'personal energy' (to use Simmel's phrase) nonetheless. The human body is continuously giving off material, ranging from carbon dioxide to water vapor, to flecks of dried skin, to body odor, to waste products. All these things are exchanges with the surrounding environment, and they mark our presence. We continuously emit not only matter but also photons of light, of varying energies. For example, consider the visual image of a person as it appears to the naked eye. Light energy is emitted by the atoms of the skin, hair, clothes, etc, and reaches the eye of the recipient. This is, in a very concrete sense, a transfer of energy. Granted that this light originated elsewhere (say, the sun), but that is a different exchange. Light is absorbed by the skin, integrated into the person's 'personal energy', and then partially re-emitted at different frequencies, to become received by some viewing eye, and hence part of a new exchange. And it is not just visible light. The human body is always radiating heat energy in the form of infrared photons (electromagnetic field) and gravitons (gravitational field), and perhaps of other fundamental forces as well.

As with sound, the 'meaning' in the pattern of photons arriving at the eye, or the pattern of tactile forces from a touch, is a function of both the energy itself and the context in which it is received. Because of our common physiology and worldview, we attribute a common meaning to these various forms of mass/energy. Meaning is found both in the *form* of energy exchanged, and in the *context* in which that exchange occurs. But here I want to focus not on the meaning itself but rather nature of the energy exchange, because 'meaning' is more of an individual phenomenon; it relates to the effect on the person. I prefer to explore the exchanges between people, as this is the process that co-exists with the social mind.

So to paraphrase and expand on Simmel's insight: *all interaction is the exchange of energy.*

From the above, it should be clear that there are *two forms of energy* 'expended' in any exchange: the (mass/)energy of the object exchanged, and the personal energy involved

on behalf of each participant. Simmel emphasizes the importance of this latter component: "it is always personal energy...that is involved in interaction" (p. 82). In the case of voluntary exchanges, this personal energy takes the form of effort or work, e.g. muscle power. For an involuntary, autonomic exchange, it may be more subtle, like the heat given off by the skin.

There is a further articulation that can be made on the nature of exchange. The ordinary situation is when two different goods/services are exchanged for each other, as in a loaf of bread for a dozen eggs, or one dollar for a bag of flour. But there is a special case of exchange in which *only one party gives*: this is the '*gift'*. The folk notion of a gift is something given without exchange, benefit, or even effect, to the giver. More specifically we may say that a gift involves the transfer of something or some object that one possesses – i.e. strongly participates with – to some other person or being. A somewhat more philosophical notion of the gift may be: *something given 'of oneself' to another*.

However, I argue (following and expanding upon Mauss – see below) that there is no such thing as a true gift. A one-sided transfer of goods always results, at least, in an *effect upon the giver* -- even though this return action may not be in the form of goods or services.

There are at least three senses in which the giver is affected by the gift: first, in the satisfaction the giver receives in giving; second, in that the giver has undergone some kind of loss; and third, in that the giver may receive some future effect based on actions of the recipient. Such giving may be voluntary (economic or non-economic) or autonomic. When given voluntarily, there is expectation of gain; when given autonomically, there is an 'implicit expectation' of reciprocity. Simmel mentions the gift in passing, but does not attempt to make clear these effects.

With the notion of the gift in hand, I make one further observation on exchange: it may also be construed as a *sequence of two 'one-sided gifts'*[7]. In ordinary economic exchanges, the initial gift carries with it the immediate obligation for a specific reciprocated gift. I give the grocer a gift of one dollar, and he reciprocates with a gift of a

loaf of bread. The initial gift carries with it an obligation, and the reciprocating gift carries the closure of obligation. The reciprocated gift may happen more or less immediately, as when purchasing something with cash, or it may be delayed by some amount of time.

Viewing exchange as a sequence of two one-sided gifts is helpful because it emphasizes the *element of loss*. Every act of giving represents the surrender of something. It requires effort, expenditure, loss — generally, *sacrifice*. To purchase a loaf of bread, I must surrender some of my money. To speak to someone, I must exert myself physically and mentally, and consume a small piece of my bodily energy. The gift thus appears initially as a pure loss, as the giver sacrifices something 'of himself'. Granted, it may be a material loss, but as I have explained, this loss is offset by at least three degrees of effect upon the giver. The element of sacrifice is central to every exchange, and hence every interaction.

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In Simmel's view, interaction is motivated by desire. People interact because they want or need something -- a loaf of bread, cash, security, knowledge, love. Given that people act of their own 'volition', they seek to ameliorate their desires through exchanges. More generally, we might say that people act in their own (perceived) best interests, and essentially seek to maintain or enhance their overall well-being. This is true not only for humans; all forms of life act in this way, even if we are unwilling, say, to ascribe freedom of will to a plant. All life, when unimpeded, acts to enhance its own well-being.

The act of exchange can thus be described as a sacrifice of something in order to gain something else: something of *greater value*. Simmel informs us that people interact, and thus exchange, for a specific reason: *to increase their quantity of value*. I sacrifice money for bread because the bread has greater value to me than the money spent. I expend some amount of effort, money, energy to travel to visit a relative because it makes me feel better, both for my own sake and because I enjoy the pleasure of my relative. The desire for increasing personal value drives social interaction.

Note that *on this view, there is no such thing as altruism* — if altruism is to be conventionally defined as accepting personal loss for the benefit of others with no compensation[8]. Any action for another is undertaken *because I gain value*[9], even if this gain is only pleasure in seeing another prosper. Such a view is more complex than 'enlightened self-interest' (which seeks maximal personal gain while allowing others to benefit), because one significant source of 'gain' is the very pleasure and satisfaction of others, i.e. it accepts non-material gains as much as material ones. So it may be called egoistic, but only in a very limited sense.

So I exchange money for goods (e.g. cash for bread) because I realize a gain in value. Simmel recognized the inherent reciprocity in this situation. The same holds of course for the baker: the money to him is of more value than the loaf of bread (because he has a relative bread surplus). This leads to an important conclusion: *every 'voluntary' exchange increases the total value for both parties*. What this means is that value is a non-zero entity; it may, and in fact always does, increase bilaterally in all willing exchanges. As Simmel says, "It is the object of exchange to increase the sum of value; each party offers to the other more than he possessed before." (p. 82). *Exchange yields a net increase in value*. He saw exchange as 'producing' value in the same sense of the production of an economic good: "exchange is just as productive and value-creating as is production itself." (p. 84).

This is a somewhat surprising and paradoxical outcome. The normal perception of exchange is one of *equality*, of a 'fair trade', of both sides getting an item of equivalent value -- by definition. There is of course a kind of equality in such exchange, in that one loaf of bread 'equals' (say) one dollar. But this overlooks the point that the bread is *more valuable* to the purchaser, and the dollar *more valuable* to the baker, than previously. Value is produced *ex nihilo*; it is a non-conservative quantity.

So the common view of an equal exchange is not true with respect to value. But even this common view, which underestimates the effect of value increase, is seen as overly optimistic from the scientific standpoint. Science tells us that in all exchanges *something is lost*, due to entropic and frictional forces that dissipate energy. Any physical system in which energy is exchanged or transformed will gradually lose usable energy, in the form

of heat -- this I take as true. So all exchanges must, physically, result in a *net loss* of energy. And yet in the social sphere they result in a *net gain* in value. So the energy lost in the exchange seems to go in part to entropic heat loss, but also in part as a conversion into value gain. In a voluntary economic transaction, we may presume that *exchange converts energy into value.*

There is another related argument for this conjecture that energy is convertible into value. Recognize that in an economic system, which is the exchange of goods and services, *goods are matter* and *services are energy*. Matter and energy are convertible, and more generally defined as manifestations of the single entity mass/energy. Goods and services are unified, economically, in the concept of *money*. Simmel observes that "money represents pure interaction [i.e. exchange] in its purest form" (p. 129). As a result, he argues that money in turn is pure value. He says, "[money is] the incarnation and purest expression of the concept of economic value" (p. 101); and, it is the "purest expression and embodiment" of "the value of things" (p. 119). Goods and services are unified in the concept of value, and mass and energy are unified in the concept of mass/energy, which is physically describable simply in terms of energy itself. So we achieve a parallel reduction, wherein the initial equation of goods to matter and services to energy results in the equation of energy (generally) with value.

In one sense, this equation of energy with value is simply a recognition of the basic physical facts that (A) all things 'are' energy, and (B) all dynamic living systems dissipate energy and hence need a continuous infusion of energy to sustain their being. Energy, in various forms, is of the deepest inherent value to life. We should thus expect a connection between our units of exchange and the basic units of energy. Beyond this, higher order structures are 'built' out of lower order ones via exchanges of energy. The social organism 'values' energy because it is an essential part of its being, and it serves as the physical basis for the social mind.

Of course, not all social exchanges are beneficial. The above pertains only to 'voluntary' exchange, to that which increases individual well-being. Certain involuntary or unwanted exchanges can produce negative value. A punch in the face is a kind of exchange, and one that is probably not beneficial to the recipient; but it is received

involuntarily, and hence not in one's best interest. (Unless I am in a prize fight, and accept the punches in exchange for pay). Nor is all this to say that an exchange that seems beneficial at the moment cannot turn out later to be bad. The very notion of 'voluntary exchange' presupposes that one receives (and gives) what one believes. I may buy an apple only to find it rotten inside; my initial value gain turns out to be a loss, but then the voluntary exchange turns out in fact to have been effectively involuntary.

This much must suffice as an outline and elaboration of Simmel's theory of exchange. Society fundamentally is interaction, where all interaction is an exchange of energy. Exchange involves reciprocal acts of 'gifts', of transfers of energy from giver to recipient. Additionally, there is the 'personal energy' expended on the part of each participant. So to deliver a gift requires two aspects of energy expenditure or loss: the mass/energy of the gift, and the personal, bodily energy expended. This act of giving may be voluntary, or autonomic.

The loss experienced represents a sacrifice. This sacrifice, when voluntary, results in a net increase in value. The increase in value comes from the energy sacrificed, which is partially converted into value and partially lost (sacrificed!) to the environment.

If I may speak of the metaphysics of exchange, I note that the sacrifice of energy for gain in value is *literally a sacred process*. To 'sacrifice' something is to literally 'make sacred' that thing (*sacrificium*, from *sacer* + *ficium*). From the standpoint of society, sacrifice to gain value is a reverential act. It not only confers gain upon the participant; it also literally *brings society into a more intense form of being*. The background social system into which we are all born has always existed, as long as humans have. But the process of sacrifice and exchange intensifies the social being, intensifies the social mind, and gives it greater power in the world.

This is why I have gone into a lengthy discussion of exchange. It is the process by which society becomes more fully realized. The exchange of energy in various forms serves to strengthen the pre-existing participatory bonds, and knit together individuals into a relatively cohesive whole. The more strongly people interact and exchange, the more intensely does the social organization and social mind exist[10].

This system of social exchange is, in at least one important sense, not unlike all other systems of physical exchange, whether in a crystal, a human brain, or a galaxy: it can be described in terms of a vast-dimensional phase space. The 'state' of any social system is representable by a single point, a *social hylon,* and the evolution of that society by a trajectory through phase space. Following the suggestion of hylonoism, this point constitutes a 'unity of social mind'. And the dynamics of the exchange, governed by nonlinear factors, is necessarily chaotic -- and describable as a virtual attractor. The overall pattern of the social attractor, developed over time, may be considered the 'personality' or character of the given social group.

How one might represent this space in practical terms is a hugely complex problem, but one with which I believe we need not be concerned. Whether we focus on the 'information' exchanged (in the form of written or spoken language), *or* on the economic system (in the form of goods and services), *or* on the quantum state of every particle in the system, is perhaps irrelevant. Each particular representation would give us one perspective on the unitary being of the social organism, and one perspective on its unity of mind.

What is important, though, is that we realize that the social system and the social hylon necessarily requires an accounting of *that which is exchanged*. The matter and energy moving between individuals is an inherent part of the social being. We can envision, for example, a phase space for people separated by vast distances, who exchange nothing at all in ordinary economic or communicative terms[11]. But this 'social system', though it exists, is of such low intensity that it pales with respect to the more intense forms of social being. Degree of participation determines degree of being. Society co-exists with the processes of interaction and participation, and the forms of exchange determine much about its power and intensity.

* * * * *

Simmel only touched upon the idea of the gift. In 1925, Marcel Mauss made it the central theme of his book *Essai sur le Don* (The Gift). Mauss was primarily a sociologist and anthropologist, but like Simmel he addressed philosophical concepts as they pertained to his area of expertise. Mauss, like Levy-Bruhl, studied 'primitive' cultures for clues about the general nature of human society. In the concept of the gift Mauss found not merely some special case of exchange, but the very basis of primitive society. He argues that the gift is the primary means for circulation of goods in such societies, and draws all members into a system of reciprocating obligations. The gift system acts as a central force of social cohesion; numerous social norms and customs are shown to have evolved around it. Mauss was among the first anthropologists to demonstrate the important social role played by the 'economics' of gift exchange.

Mauss argued, as I have above, that the system of gift exchange is the core of the social structure. Though he does not cite Simmel, Mauss reaches a similar conclusion -- that exchange brings society into being. Writing in the Foreword to the 1990 English translation of The Gift, Douglas explains Mauss' view:

> [E]ach gift is part of a system of reciprocity in which the honor of giver and recipient are engaged. It is a total system in that every item of status or of spiritual or material possession is implicated for everyone in the whole community. ... The whole society can be described by the catalogue of transfers that map all the obligations between its members. *The cycling system is the society*. (1990: viii-ix; my italics)

This recalls my description of the social hylon as the instantaneous state of the system of exchange, which takes on characteristics of mind.

The notion of mind or spirit is central to the gift. In this sense Mauss develops an almost animistic interpretation of exchange. He observes that the gift has the power to compel reciprocity precisely because it becomes *ensouled* in the process of giving. This soul or spirit of the object has some essential connection to the giver, and so the recipient is bound to return the gift and thus placate the spirit that he has acquired. In his examination of the Maori society, Mauss notes this fact:

> What imposes obligation in the present [i.e. gift] received and exchanged, is the fact that the thing received is not inactive. Even when it has been abandoned by the giver, it still possesses something of him. … This is because the *taonga* [gift] is animated by the *hau* [spirit] of…its native heath and soil. (1925/1990: 12)

Mauss goes on to describe this process in terms sounding very much like participatory panpsychism:

> [I]n Maori law, the legal tie, a tie occurring through things, is one between souls, because the thing itself possesses a soul, is of the soul. Hence it follows that to make a gift of something is to make a present of some part of oneself. … [T]o accept something from somebody is to accept some part of his spiritual essence, of his soul. (ibid)

A bit later he notes that all objects in the human sphere, not just those exchanged, are considered animated. Speaking of the native dwellings, he says: "The houses, the beams, and the decorated walls are also beings. Everything speaks…" (p. 44). More generally, "Things possess a personality, and the personalities are in some way the permanent things of the clan." (p. 46). But ultimately it is the spirit of the things exchanged that has the greatest effect upon the society: "Souls are mixed with things; things with souls. … This is precisely what contract and exchange are." (p. 20).

As Simmel noted, exchange produces a *surplus of value*, an abundance that bestows well-being upon society. Mauss observes the same: "The exchange of presents between men…incite the spirits of the dead, the gods, things, animals, and nature to be 'generous towards them'. The explanation is given that the exchange of gifts produces an abundance of riches." (p. 14). Objects and wealth are actually seen to 'desire' exchange, as they are believed to know that it is beneficial. "The land, the food, and all that one gives are…living creatures with whom one enters into a dialogue, and who share in the contract. They seek to be given away." (p. 56). Mauss mentions the idea of exchange

yielding abundance only in passing; a thorough examination comes later with Bataille and Teilhard.

Mauss concludes The Gift with an ethical analysis of his present-day society. He decries the concentration of wealth and the hoarding of riches. He argues that the primitive form of social interaction had many benefits, primarily that it resulted in greater equity and justice. Society must restrict individual accumulation of wealth; it must "find a way to limit the rewards of speculation and interest." (p. 69). The wealthy must retake a sense of responsibility for society: "the rich must come back to considering themselves…as the financial guardians of their fellow citizens." (ibid). The return to at least some aspects of primitive society is a great imperative: "Thus we can and must return to archaic society and to elements in it." (ibid). Here Mauss implicitly endorses a move toward a participatory, panpsychic social order.

3) Bataille and the Concept of Superabundance

Teilhard, as I explained, saw the growth of intensity of the social mind as deeply connected with a phenomenon he called 'superabundance'. This is an intriguing philosophical concept that has not received much attention, as its importance has been significantly overlooked.

The idea seems to have begun with the Neoplatonists of the early Christian era. In combining Platonic concepts with a virtually monotheistic emphasis on "the One", they began to believe that this ultimate Goodness, or God, must put forth a tremendous outpouring of beneficence and energy to sustain the order of the cosmos. One of the earliest usages of the term came from Iamblichus. He wrote: "The divinities of the highest order have always a superabundance of power, and while it is superior to all, it is at the same time present with them all equally without impediment." (ca. 290/1989: 119; Wilder translation). Gregory of Nyssa refers to the same idea though without using the exact term. His theory of *epectasis* or perpetual growth of the soul leads to the notion of a feedback process (as explained in Chapter 5) resulting in a superabundant outpouring of goodness: "everything that flows in produces an increase in capacity…and the

nourishing Source keeps overflowing as the increased store of goods becomes ever greater." (ca. 375/1961: 63). God is clearly seen as a limitless source of goodness, and this superabundance is capable of being participated by the pious mortal.

Pseudo-Dionysius, though, makes the most use of the concept. His articulation of the qualities of God in the Divine Names frequently employs the term, making it a central theme of his vision. In Chapter 2 of that work he refers to the "generous emanation of the absolute divine unity which, superabundant with goodness, overflows into a multiplicity" (in O'Rourke, 1992: 13). Here is a new application of the same idea: that superabundant goodness is the reason for the creation of the Many out of the One. (This was a major philosophical problem for the Neoplatonists – how to account for the apparent multiplicity and variability of things if all are One?). Later in the same chapter Dionysius comments: "[God] is abundance where there is want and superabundance where there is plenty." (ca. 500/1987: 66).

References continue throughout Divine Names:

> Given that the Good transcends everything, as indeed it does, its nature, unconfined by form, is the creator of all form. … It is not *a* life, but is, rather, superabundant Life. It is not *a* mind, but is superabundant Wisdom. (ibid: 73)

Elsewhere he refers to the Good as "superabundant source in itself of the beauty of every beautiful thing" (ibid: 77), and observes that the Good "loves all things in the superabundance of his goodness" (ibid: 79). As the ultimate Good and ultimate cause of all existence, God's power is unlimited: "[God] is Power insofar as he exceeds all power. He is the cause of all power. … He possesses a superabundance of power" (ibid: 111). Dionysius thus argues that superabundant 'goodness' is manifest in the physical world as a superabundant power, another new articulation. Finally, we see references in his other works to God as a "superabundant light" – cf. Mystical Theology (in O'Rourke, op cit: 12), Celestial Hierarchy (in 1987: 174), and Ecclesiastical Hierarchy (ibid: 223).

The concept of superabundance then seems to have lain dormant until it was taken up by Nietzsche. Among Nietzsche's furious last writings of 1887-88, immediately after Beyond Good and Evil (1886), were the entries that were posthumously published as The Will to Power. Here one finds a scattering of themes centering on '*Der Wille zur Macht'* ("will to power") and, more generally, the 'revaluation of values'. References to exuberance and surplus appear throughout, and they are among the central themes. A few passages refer explicitly to *ueberschuessigheit*, or 'superabundance'[12]. For example: "Superabundant force in *spirituality*, setting *itself* new goals" (note #687, 1967: 366). Elsewhere Nietzsche recalls Iamblichus' and Dionysius' references to superabundant power:

> [T]he essence of "pleasure" has been correctly described as a feeling of more power... [Regarding the sequence of 'resistance' and 'overcoming'], this game of resistance and victory arouses most strongly that general feeling of superabundant, excessive power that constitutes the essence of pleasure. (note #699, ibid: 371)

Nietzsche employed but did not emphasize this particular term, yet it seems to embody one of his more important general concepts – that of an overflowing abundance leading to greatness.

Georges Bataille was fascinated with Nietzsche, read him extensively, and quoted frequently from Will to Power (cf. his book On Nietzsche, 1945). Though he does not credit Nietzsche (or the Neoplatonists), it seems very likely that he appropriated the idea and then developed it into a key element of his philosophical system. As such, Bataille is the only philosopher prior to Teilhard to discuss in detail the notion of superabundance and its philosophical importance.

Bataille was also clearly aware of the work of Mauss. Eight years after The Gift, Bataille wrote one of his first important philosophical essays, "On the notion of expenditure" (1933). He focuses here primarily *on the social surplus, and how it is spent*. Drawing on Mauss, he begins to lay out his ideas regarding the economic surplus generated in the modern Western economy. Bataille accepts Mauss' contention that the system of

exchange plays an essential role in determining the nature of society, and that exchange results in an economic abundance. He differs from Mauss in that he sees the gift as representative of this very surplus, rather than as the basis for a system of exchange.

For Bataille, social exchange produces wealth. This wealth must be accounted for in one of three ways: (1) it can be 'saved' (only to be spent later); (2) it can be spent on productive, 'useful' endeavors, such as manufacturing, food production, purchase of clothing or shelter, and so on; or (3) it can be spent on 'unproductive' items, like luxuries, arts, sports, 'sumptuary monuments', etc. In the 1933 essay Bataille focuses on this third category, as he sees in it the true meaning of 'expenditure', i.e. the sacrifice of the social surplus. The manner in which this surplus is spent characterizes the core of a given society.

This is important because *the surplus of wealth (money or value, or both) is what allows society to develop and grow*. Society develops its most articulate forms and sensitivities through the abundance produced by exchange. Heights of culture, art, philosophy, and music all tended to occur historically in societies that were able to produce an abundance of wealth. A surplus of money and value traditionally allowed certain aspects of human culture to flourish, and for very straightforward reasons: money supported a leisure, artisan, and intellectual class of people who were freed to concentrate on the more refined aspects of civilization.

But this abundance, and the modern cultural benefits that follow, only comes when wealth is circulated and exchanged. On this point Bataille is highly critical of modern society. In his view it deploys its wealth primarily in the first two ways (above), and neglects the sumptuary unproductive expenditure that results in the benign dispersion of excess energy and the true flourishing of culture[13]. "Today the great and free forms of unproductive expenditure have disappeared. … Everything that was generous, orgiastic, and excessive has disappeared" (1933: 124). The wealthy have neglected their "obligation" to freely circulate their money, something that results in the higher good of an elevated society; as it happens, "In so-called civilized societies, the fundamental obligation of wealth disappeared only in a fairly recent period." (ibid: 123). Wealth

today, he says, is exchanged either for the purposes of sheer acquisition, or in order to produce yet more wealth (which has important implications, as I will explain).

Wealth had turned away from the glory of individual human achievement, and toward something new: the *glorification of social achievement*. This was a long and gradual process, and it was not until the 1930's and 40's that thinkers like Bataille could clearly observe what was happening. Intellectuals at that point began to realize that the surplus – the abundance of wealth – furthered social evolution, and that the use of that surplus was the best indicator of the nature and evolutionary status of society.

Bataille's emphasis shifted from expenditure to surplus and abundance in the mid-1940's, resulting in one of his most important books, *La part maudite* (The Accursed Share)[14]. The 'share' of this title is the social surplus of value/wealth, which must ultimately be expended, willingly or unwillingly. Bataille sees this surplus, as I do, as consisting essentially of *energy*. As such, the storage and confinement of this energy is dangerous. If not circulated and relieved of its pressure this energy threatens to explode within the society in a violent and unpredictable manner – as for example in military aggression (cf. contemporary United States), economic upheavals, *decadent* expressions of luxury (ones that serve no higher purpose), social dislocation, etc. The best way to avoid this danger is to maintain a freely moving and equitable system of exchange, including regular expenditures on 'non-productive' activities that can both drain off the dangerous excess and at the same time allow for a flourishing of both individuals and society.

Bataille then took his analysis one level deeper. He sought the source of the surplus in human society. Simmel argued that this was in the very nature of exchange, a point Bataille seems to have understood even though he did not cite Simmel. In fact, Bataille observed that pure human-to-human exchange could not alone account for wealth and surplus. Humans fundamentally interact and participate with *nature*, and this he saw as the true source of social exuberance.

Simmel also realized this point. He comments that exchange occurs not only in the human-to-human realm but also in the larger natural realm. Human-nature exchanges occur all the time, beginning with the air we breathe, and the food and light energy that

we take into ourselves. As society evolves our forms of participation with nature evolve – as when a farmer raises a crop, or a miner extracts minerals. In these cases the human expenditure, or sacrifice, is *labor* ("all labor is undeniably a sacrifice" (1900/1907: 85). The miner exchanges his labor (energy) for the material (mass) of the Earth. The miner does this 'willingly', the Earth 'unwillingly'. As a result, the miner gains in value, and the Earth decreases in value because the ecosystem is disrupted and natural systems of exchange are disturbed. Whether there is an overall net increase or net decrease, we cannot say, because these values are of a fundamentally different order.

Bataille took this idea and developed it into the starting point and basis of The Accursed Share. His discussion centers on the idea of the 'general economy', a phrase that goes back at least to Priestley, and which was examined briefly by Mauss. The general economy is the total system of exchange between humanity and its surrounding environment. It is a profoundly ecological and holistic concept because it integrates the natural world into the flow of matter and energy in the human realm. Bataille was one of the first thinkers of the 20th century to observe this point. He notes, "Economic phenomena are not easy to isolate", and because of this fact "there [is] a need to study the system of human production and consumption within a much larger framework" (1988: 20). Our limited human economy is only "a particular aspect of terrestrial activity regarded as a cosmic phenomenon" (ibid). The cosmos is the background and source of all our activity, and as such it must be accounted for in the total description of the human condition.

Bataille then states his central thesis about the concept of the abundance, namely, that *all living organisms survive and grow under conditions of a surplus of energy*. In his words:

> The living organism, in a situation determined by the play of energy on the surface of the globe, ordinarily receives more energy than is necessary for maintaining life; the excess energy (wealth) can be used for the growth of the system; if the system can no longer grow, ...it must necessarily be lost without profit; it must be spent, willingly or not, gloriously or catastrophically. (p. 21)

The key idea here is that life in general exists and thrives within an abundance of energy. This is a basic physical fact of the general economy that is often overlooked. The Earth's biosphere has in fact two sources of abundant energy: the light/energy of the sun, and the mass/energy of the Earth[15]. The mass of the Earth, something on the order of 10^{28} g, is a potentially tremendous source of energy, of which life can as yet access only the smallest fraction. The sun likewise transmits to us far more energy than life can absorb. The Earth captures approximately $3x10^{24}$ joules each year, representing about 55% of the energy striking the planet and its atmosphere (the other 45% is reflected back into space). Of the portion absorbed, the vast majority is re-radiated back out into space[16]. This flux of energy continually passes into and out of the biosphere, fueling the metabolism of the life systems. There is far more solar energy available to life than it can at present use, just as there is far more mass/energy in the air, water, and minerals of the Earth[17]. "On the surface of the globe, for *living matter in general*, energy is always in excess." (p. 23).

Thus life exists in a condition of 'glorious abundance'. This is the first principle of the general economy. The abundance is so great, in fact, that it must become 'wasted', or at least go unused. This fact is of preeminent importance to Bataille. To such a condition he assigns the special term *superabundance*. Life has not merely an abundance of energy, it has a superabundance, an exuberant excess that far exceeds its ability to contain or absorb.

Living organisms use this superabundance in very prescribed ways. A growing organism is literally building up its internal store of energy. In this case, a relatively large share of the surplus is captured and retained. As the organism reaches maturity, it approaches a more stable metabolism, and thus is able to use less of the surrounding superabundance; it 'wastes' more. When the organism is nearing the end of its life, it may begin to whither and decay, thus undergoing a net loss of energy. At death, the material of the physical body is completely returned to the biosphere, awaiting new transformations.

Surplus energy is thus used first for growth, and then for maintenance of living systems. This applies both to the individual life form and to the species. As an individual grows, it literally absorbs more energy by becoming physically larger. As a species grows, it too absorbs more energy by becoming more populous. *Homo sapiens* grows first, as

individuals, second as a species (increasing about 1.4% annually), but third, it grows in its capacity to expend energy via its tools, its technology. This latter point is of no small significance, as I shall elaborate.

Bataille's analysis here, as insightful as it is, is limited in a number of ways. First, it views the general economy from the human perspective and thus misses the larger implications -- more on this momentarily. Second, he believes that human growth is limited by the finite size of the Earth's surface, and that upon reaching limits to growth humanity will find itself with an unprecedented surplus to expend. As he says,

> Only the impossibility of continuing growth makes way for squander. Hence the real excess does not begin until the growth of the individual or group has reached its limits. ... [I]t is the size of the terrestrial space that limits overall growth. (p. 29).

But Bataille is thinking in crude terms of human numbers. In one sense of course he is right; the number of people on the face of the Earth must inevitably reach some maximal limit. But two other things can happen: the human species can expand to other planets and outer space, and more importantly, *the terrestrial growth can continue but in a new form*. Growth of the human species, I contend, becomes growth in the complexity, intensity, and distinctness of the social 'organism' and its attendant collective mind. *Superabundance gives rise to new structures, ones that are able to gather and use the excess of energy*. Social structures are one such example, but there are many others. Bataille hints at some such understanding when he says, "the dominant event [on Earth] is...the production of increasingly burdensome [i.e. consumptive] forms of life." (p. 33). But he fails to draw out the consequences.

Bataille's thinking has other weaknesses. Some of these were already mentioned: he does not acknowledge the work of Simmel in articulating the importance of exchange; he lacks an understanding of the new physics; and he suffers from the dual limitations of anthropocentrism and crude demographism. Furthermore, he underestimates the role of technology in the growth of the social organism. And his analysis of the gift fails to grasp the inherent reciprocal nature. Yet his central insights are of vital importance: The

general economy is chiefly characterized by luxurious abundance, and it is in such an environment that life evolved. Society creates its own element of abundance in its restricted human economy, and this 'accursed' excess[18] will be expended in a manner that defines each given society. What is central is "the *general* point of view based on the exuberance of living matter as a whole. Anguish is meaningless for someone who overflows with life, and for life as a whole, which is an overflowing by its very nature." (p. 39).

So to complete this line of thought: I return finally to Teilhard and his philosophical development of the concept of superabundance. Recall that Teilhard holds that the emergence of society is the second great wave of 'hominisation', of new psychic or mental qualities emerging on Earth. The collective consciousness or group mind of humanity is the next phase of evolution. The cause of this phenomenon is something he describes both implicitly and explicitly as superabundance.

It is clear that the concept of energy plays a central role in Teilhard's philosophy. With his scientific training and general awareness of the importance of energy in the new physics, it is not surprising that the idea of abundant energy should be seen by him as a driving force in evolution, as a source of creative transcendence. This cosmic energy resulted first of all in an expansion of the human species, with concomitant increases in interaction and exchange. Eventually interaction reaches a point where, in the words of Teilhard,

> [W]e are witnessing a *formidable upsurge of unused powers*. Modern man no longer knows what to do with the time and the potentialities he has unleashed. We groan under the burden of this wealth. ... Sometimes we are tempted to trample this super-abundance back into the matter from which it sprang without stopping to think how impossible and monstrous such an act against nature would be. (1959: 252-3).

Shortly afterward he notes that this super-abundance is not only an energetic quantity, but also *mental*: "the great human [social] machine is designed to work and must work -- by producing a super-abundance of mind." (ibid: 257).

Teilhard noted that the 'superabundance of mind' was important, but the idea was not fully addressed by him. This is perhaps not surprising, since he wrote the bulk of the manuscript for Phenomenon of Man in the late 1930's[19], nearly 10 years before Bataille wrote The Accursed Share[20].

4) On the Relationship between Capitalism and Technology

Bataille's underlying objective in The Accursed Share is a new and fundamental critique of capitalism[21]. He sees capitalism as inherently deficient because it is based on *accumulation* rather than *expenditure*[22]. Accumulation is achieved through production, but especially on accelerated and continuous production. Capitalist organizations achieve this in a novel way, by *funneling the economic surplus back into the process of production*. This has the effect of producing a system with *positive feedback*, and hence rapid growth. Such a process is destructive to the social order because it rapidly transforms the nature of society and leads to dangerous instabilities; commenting on The Accursed Share, Richardson notes that the capitalist surplus "assumes uncontrollable and potentially catastrophic forms in the shape of conflict of interest, global warfare, massacres, pollution and nuclear explosion" (1994: 94). He adds that, "For Bataille this process is inherent to capitalism and cannot be reformed." (ibid).

This danger to society was recognized historically in the prohibition of *usury*, which was seen as a moral wrong precisely because it used wealth to create wealth. But usury has long since metamorphosized from a sin into a virtue. Since the time of Adam Smith capitalist organizations have relied extensively on their surplus -- their profit -- as a means of creating yet more wealth. As a result of this distortion of the general economy, capitalism manages to create an artificial scarcity and corresponding inequities in wealth, as rich individuals and powerful corporations seek to monopolize for themselves the economic surplus created by all people. Richardson puts the matter concisely:

> The ideological thrust of a restricted economy based on production has served to hide from us the fact that our natural propensity in itself creates a

> surplus of wealth. In so far as there is poverty in the world, it is not caused by a scarcity of economic means but by the fact that one person's surplus has been appropriated by another. (ibid: 95)

Whatever the weaknesses of capitalism, it succeeds spectacularly in growing the (restricted) economy, creating wealth, complexifying society, and drawing in energy from the natural world -- factors which are intimately related.

In Western capitalism we have found the most efficient means for growing the restricted economy, and for rapidly evolving the social mind. The surplus of human-to-human exchange, and the surplus of human-to-nature exchange, are collected, focused, and channeled back into the production of yet more surpluses. No other socio-economic system has been able to exceed free-market, 'democratic' capitalism at this process. No other system has as effectively produced the positive feedback necessary to grow the system so rapidly. This, I believe, accounts in part for the 'victory' of Western-style capitalism in the battleground of global ideologies.

In such a picture we can see the critical role played by *technology*. Capitalism requires tools to achieve its growth, and these technological tools work both within the human-to-human and the human-to-nature spheres. The larger that a system of exchange becomes, the more communication and coordination that is required. Global enterprises require rapid exchange of information and must process large amounts of data on a regular basis. This is simply not possible without advanced electronic technology. From globalized business networks to the local neighborhood 'superstore', large commercial operations are completely reliant on advanced technology.

In the human-to-nature realm, technology is required to access the natural energy surplus, and to convert it into usable form. Whether it is the extraction of deep-sea oil, construction of electric solar panels, or the nuclear fusion of hydrogen, new energy production methods are intimately tied to advancing technology.

This implies a new definition of the basic nature and purpose of technology. *Technology is the means for extracting and circulating energy within the human sphere*. This is its primary 'purpose'. Technology is the principle mode of participation of the social being. In the era of primitive technology, the social being was weak; its corresponding mind was likewise of low intensity. The evolution of human culture paralleled the evolution of technology. Society grew in numbers and complexity in direct proportion to the development of technology. Cultures that had greater access to energy via technology were the ones that evolved the fastest, and exerted the most power throughout the world. The feedback process of technology accessing materials and energy, yielding new and more powerful technology continued, ultimately finding maximum freedom in modern capitalism. The end result is a high-intensity modern social being, sustained by modern technology, possessing powerful noetic qualities.

5) Qualities of the Social Mind

Throughout this work I have held a basic assumption: *that which unites the human with nature is more important than that which differentiates it.* The past 2,500 years of science and philosophy has emphasized the ways in which mankind is distinct from the rest of reality. A balanced perspective requires that we grasp the elements of continuity. Mind is one such aspect, and participation is another.

We are all intimately familiar with the many varied and subtle qualities of the human mind. The individual mind is a special case of the more general phenomenon of mind that exists in all things. The social mind, as well, is a special case in point. It exists at a different level than the human mind, but since 'mind' is a universal characteristic it must necessarily share certain core qualities with the human mind.

This approach is supported by a number of developments throughout the history of philosophy. Many of the panpsychist philosophers used the human as a guide to understanding the general properties of the cosmos. Campanella proposed that the qualities of power, wisdom, and love (will) were the three primalities of all existence. Fechner explicitly argued on the basis of analogy to the human mind in developing his

panpsychism. Schopenhauer developed his entire philosophy around the idea that the inner essence of things is the same as the inner essence of the human, which he concluded was 'will'.

Here I will propose and discuss eight central qualities of mind: (1) 'power', or *potenza*; (2) noetic unity; (3) small-scale unpredictability combined with large-scale stability; (4) sensitivity to small changes; (5) nested hierarchy; (6) love-of-being; (7) love-of-becoming; (8) participation. In this section I explore these qualities in light of the conditions of the mind of the social organism. However, I emphasize here that these qualities apply not only to the social mind but rather are applicable to *mind in general*, at all levels of being.

For the most part, only two leading thinkers have examined the qualities of the mind of the social organism: Durkheim and Teilhard. Durkheim recognized in it a kind of force, a "coercive power", that steered people in particular directions, and resulted in consistent patterns of social behavior across large populations. Teilhard saw the social mind as the result of a superabundance of mind, as a "formidable upsurge of unused powers" – another association of social mind with power[23]. This is an important insight, shared by these two thinkers: Mind as 'power'.

Hylonoism permits a further articulation. Social mind – that is, the collective mind of the social organism – is to be found in the exchange of matter and energy amongst human beings. It exists in and through this flow of energy. As such, it literally possesses the force of energy, with concomitant effects on the real world. The power of the social mind is closely linked with this process of exchange of energy; in this sense, the 'power' of social mind has an almost literal, physical interpretation. And yet this 'power' has an efficacy in the human realm that is subtler than the simple physical meaning. Hence it calls for a new name. Bruno explored the concept of power as related to being, and he called it *potenza* (recall my discussion in Chapter 5). I will adopt his term, and use it in reference to the unique power-quality of mind – whether social, individual, or any other level of being.

The social *potenza* is a function of at least three quantities. First, the *number of people in the society*. A society gains in strength as its numbers grow. In hylonoetic terms this means greater complexity and greater dimensionality of the phase space of the system. Just as the 'mental power' of a living organism corresponds with the number of neurons in its brain[24], so the 'noetic power' or *potenza* of society corresponds with the number of people.

Second is the *physical (mass)/energy involved in the network of exchange*. Generally speaking, a society that moves more objects, with greater speed, will be a more powerful force than one that does not. Such movement both requires great expenditures of energy, and simultaneously possesses a great energy. Hitler recognized this fact, and it resulted in his successful deployment of *blitzkrieg* warfare. Leopold Kohr understood this, and it figures prominently in his analysis of the 'social size' of a given society[25]. It is recognized in economic terms when we convert the exchange of goods and services into the common denominator, money. The U.S. economy has perhaps the greatest single effect, both positive and negative, of any nation in the world; this is not because the average American exchanges so often or is so productive, but because of the high total energy and total value circulating within the realm of the U.S. economic system. American society has among the greatest *potenza* of any social group, and this is a function of both the large number of people and the large rate at which (mass)/energy is exchanged[26].

The third quantity relates to the complexity and structure (*potenza*) of the 'units' of the social mind, which for human society are human beings (just as neurons are the units of the individual mind). Human minds also possess a *potenza*, and this power is essential to describing the character of the social mind. Hence this third quantity is the *potenza of the individual people themselves*. In this way *potenza* is a recursive quantity, dependent upon the *potenza* of the subsystems within it. This third factor is essential because it is clear that a system of, say, 100 million robots exchanging mass and energy equivalent to a typical human economy would not possess the same complexity or power, because the robotic 'units' don't embody a complexity equal to human beings[27].

Returning to the eight qualities of mind: the second, third, and fourth qualities relate to chaos theory and the interpretation of social mind as a complex, nonlinear dynamic system. A society is like any dynamic physical system: it can be described in terms of phase space. There exists a moving point unity in a phase space description of the social system, and this point describes the instantaneous state of every element in that society. This much is accepted by modern science. *The central insight of hylonoism is that such a point – the social hylon – constitutes a noetic unity, and represents the mental unity of the system*. The ontological structure implied by hylonoism requires that all dynamic systems possess, and co-exist, with something that we may call noetic unity. Hence we may presume that society possesses a unitary, singular mentality. This mentality exists in the same non-physical space as ours, the Partimens, but is of a quantum degree different – thus we cannot perceive it empirically, but rather only rationally (as Plato said, such a supra-human soul is "totally below the level of our bodily senses, and is perceptible *by reason alone*" – Philebus, 898d), or via direct intuition.

The third quality is that social mind acts in a manner corresponding to chaos, i.e. is unpredictable in detail but consistent and quasi-stable in large-scale features. This is virtually self-evident. No one is able to predict the details of social action, whether it is stock market movements, fashion trends, or election results. But we are all aware that a given society has a particular personality that distinguishes it from other societies. Hence social behavior is very much in line with the pattern of the quasi-attractor. The chaotic action of the social hylon represents the unpredictability of society, and the overall quasi-stability of the pattern represents the stable aspects – which include consistent patterns of economics, culture, and even the 'social facts' that Durkheim recognized.

Fourth, the social mind is sensitive, in the manner of chaos, to small variation. Here this means that small changes in individual human actions, or in the flow of energy in the social realm, can have large and unpredictable effects. This is highly counter-intuitive. Particularly in large modern societies, one is struck most often by the impotence of the individual. However, chaos theory points to a hidden but potentially great sensitivity to the actions of every element in the social system. In fact, as I pointed out in Chapter 2, *all* such changes have effects on the social mind, and it is only the magnitude of the change versus time that varies. In a suitably poised system, individual actions can have

immediate and apparent effects. What precisely these effects are may be unpredictable, and which individual caused them we perhaps cannot say. But an understanding of dynamic systems tells us that *all individual actions have an effect*. This fact alone can have great bearing on individual actions.

Interestingly, this even recalls Kant's dictum of the categorical imperative: act as though your actions were a universal maxim. Kant argued that the only rational, ethical course of action was to generalize one's rule for action, and apply it equally to everyone in society. Lying, for example, is immoral because it is irrational to wish that *everyone* would lie (lying only 'works' in a society of truth-tellers). Kant's imperative is thus a general rule for moral action. In a similar vein, an understanding of the dynamics of society informs us that each and every one of our actions has an effect on the whole system, an effect that may be small or great. Rephrased as a 'participatory imperative': *act as though your individual actions have the largest possible effect on society*, such as becoming a universal law. Hylonoism follows Kant's example, and makes this claim on the basis of pure reason. Both claims rely not on empirical evidence, but on a deeper understanding of the principles of action. Ultimately, both are *empowering* visions of human action.

The fifth quality, nested hierarchy, recalls my discussion of the total human mind as a 'society of minds'. All levels of the physical body participate, with the organs, cells, and molecules each contributing their own noetic unities. The 'brain-mind' is at a central point in this hierarchy, and acts as the *hegemonikon* or leading part of the total mind. Such a view is inherent in the hylonoetic description of reality. Each level of existence, from atoms to societies and beyond, possesses a noetic unity given by the hylon in phase space. Any higher-order mind is a composite of many sub-orders of mind.

The social organism, like all structures, is hierarchical. It is likewise a 'society of minds'. Each subset of people constitutes a quasi-distinct social organism, with a corresponding noetic unity. Each family, each community, each corporation, each state constitute a fuzzy-yet-discrete entity, each describable in terms of a hylon trajectory in phase space; the sum of these composes the social mind of a given nation. The structure of the national government then serves the central role of *hegemonikon* of the nation. In the

past few hundred years, international interaction has increased to the point where national collectives are blending into continental and global collectives; this is the emergence of the global mind of which Teilhard wrote.

To emphasize: By 'society' (in the human realm) I mean *any interacting group of people*, small or large, temporary or persistent. A family constitutes a social mind, as does a business meeting of a dozen people. Each classroom of students has a social mind, with the instructor serving as the *hegemonikon*. Any large-scale organization, such as a corporation or a nation, is a composite of a large number of nested lower-level social minds, that ebb and flow in varying degrees of intensity.

Sixth: All objects, all systems, seek to maintain their structural integrity. Living systems strive to maintain life in the face of environmental stresses and hazards. But not only life: all systems and structures act to maintain a degree of existence. Even 'inert matter' resists force (by Newton's 3rd law), acts to maintain structural coherence in the face of physical stresses, and generally persists in the presence of continual interaction with the environment. This quality is a fundamental datum of ontology. I will call this tendency 'philontos', *love-of-being*.

The social mind exhibits the quality of philontos. It seeks to preserve and maintain itself, not in the same manner that a living individual seeks self-preservation, but in an analogous sense. Thus it exerts its *potenza* in the physical world such that it maintains existence. As a highly dynamic structure, it continually loses energy to its environment, i.e. it is highly dissipative. The friction generated by exchange wastes energy, and literally heats its surroundings. In order to sustain itself, it continually requires new supplies of energy. This energy renews its structure and sustains its physical and psychic metabolism. And technology, as I explained, is the primary means by which the social organism takes up and circulates this energy.

The social mind imposes its desire for existence on individual people. This is perhaps the most tangible manifestation of the social *potenza*. First, its very existence is based in the process of exchange, as I explained. Exchange has the remarkable property of simultaneously benefiting directly each participant (through the increase in personal

value) *and* of intensifying the social mind, thus bringing it into a condition of greater self-realization. There is a fundamental, built-in incentive for people to intensify the social mind, through the process of exchange. Human benefit and 'social benefit' (i.e. well-being of the social organism) occur simultaneously. Furthermore, the social mind seeks energy through individuals and through technology, *so it effectively confers beneficence upon those who serve it*. This explains in part the highly paid wages of stock traders, oil magnates, and technologists. Anyone who works to increase trade, increase energy extraction or consumption, or provide the means for these, is rewarded by a system whose very existence depends on such activities. They are rewarded *intrinsically*, in the process of exchange, and they are rewarded *extrinsically*, by a social system whose needs they serve.

The nature of philontos is of a striving, or a desiring[28]. The social organism, and all living organisms, possesses a mind that 'seeks' to sustain and grow or reproduce itself. Growth and reproduction require energy. Thus energy is the ground of being for life and mind. The social mind exhibits a will that is manifest in the desire for uptake and circulation/exchange of energy, in various forms. Its means for doing this is technology. The faster it can do this, the more it grows, and the more intensely it exists. This idea suggests a re-articulation of Nietzsche's dictum of 'will to power': it can be more precisely interpreted as a *will to energy*[29].

The will to energy is a corollary to the social *potenza*. This *potenza* cuts across both the physical and mental aspects of reality. It is grounded in the flow of mass and energy, but it exerts a psycho-social force upon individual people in society. Therefore it is a total phenomenon, and a fundamental quality of existence. The dynamic and persistent nature of the social being yields behavior consistent with philontos; it persists, and acts to prolong this persistence through the exertion of its *potenza*.

Seventh: I have described philontos as a fundamental ontological quality, as a will or love-of-being. In the case of society, we find a highly dynamic system that persists only through the continual up-take and circulation of energy. However, *this very process changes something of the social being*. The state of the components of mass and energy is continuously changing, as are the locations and actions of the individual people. In

phase space we can describe this as a quasi-attractor pattern that (like all strange attractors) never identically repeats itself, that always moves to a 'new state of being', all while staying within the generally stable pattern of the social attractor. The personality of a social system persists, even as that system evolves through different states. Strange attractors never repeat the same identical state; this fact corresponds to our intuitive feeling that a complex dynamic entity like a society never exactly repeats itself, even if certain large-scale themes seem to persist.

Beyond this normal 'steady-state' mode of change, there are at least two other senses in which a social system can undergo more dramatic and fundamental change. First, the system may reach a threshold point of energy intake that causes a deep restructuring of the system – recall my discussion in Chapter 3 of the 'critical threshold' of energy. A highly complex system like a modern human society likely has numerous thresholds of energy intake, which, when reached, result in radical restructuring of at least parts of the society. A nation or a corporation cannot continually increase its energy metabolism without undergoing substantial and unpredictable change in its organization. Second, the system may grow in intrinsic complexity, such as through an increase in numbers of people or an increase in the modes of communication (witness the internet) that again substantially increases its *potenza*, and thus causes deep levels of change.

Love-of-being necessitates intake of energy, and this very process necessitates change. This process of change is more appropriately seen as a process of *becoming*. Thus being and becoming co-exist, and co-define one another. Love-of-being, philontos, cannot exist without a *love-of-becoming*, a condition I call *amascens*[30]. Amascens is part of a *process of perpetual becoming*, or *perpetual emergence.* Both being and becoming are ever-present aspects of all that is. T*he love-of-being necessarily involves a love-of-becoming*: Philontos implies amascens. Being implies transformation. Love-of-being and love-of-becoming are equi-primordial aspects of existence.

Eighth: Both of the above conditions are manifest through the up-take, circulation, and expenditure of energy. The social organism takes energy from the superabundance in its environment, makes it 'its own', and thereby sustains and transforms itself. This whole

process is *deeply participatory*[31]. Participation is the underlying nature that encompasses the two processes of being and becoming – see Figure 1.

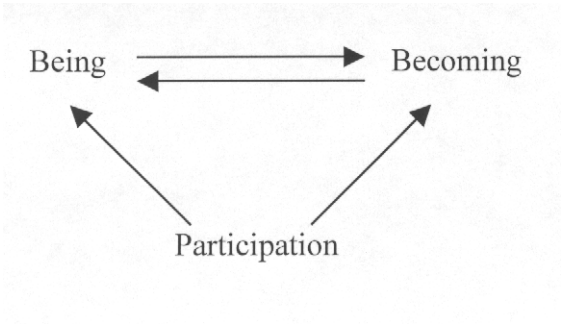

Figure 1 – Participation as the ground of Being and Becoming

This tripartite relationship may be seen from two sides, that of the Partimater and that of the Partimens. From the material perspective, it represents a dynamic, process view of mass and energy. The means by which participation is physically embodied is in the manifold forms, structures, and systems of the universe. From the noetic perspective, it represents a panpsychic vision of mind, of mind as immanent in all levels of being. Thus participation is the unifying factor of a Participatory Reality. *In this sense participation is the single most fundamental fact of existence*[32]. It underlies being and becoming, mind and matter.

The social mind exists in and through participation. As such, it exhibits the fundamental qualities of love-of-being (philontos) and love-of-becoming (amascens). These two qualities are unique among the eight that I listed above, in that they constitute the *core values* of the social being. We can say that the social mind 'loves to be' and 'loves to become', and that all its actions are centered on, and derive from, these core values.

The human mind, like the social mind, is a living aggregate mind. It too shares the eight central qualities that I described above. Many aspects of the first five qualities I have examined in previous chapters. As with society, *all human values center on the two core values of philontos and amascens*. (This statement has many implications for the study of ethics, and for the most part I leave this to future inquiries.) And like society, human 'being' – and human 'becoming' – are fundamentally grounded in the process of

participation. *Participation is the core of human existence, social existence, and all existence*.

6) Conclusions and Summary of the Thesis

All living systems possess a mind, one that is a consequence of the participatory nature of reality. Living systems are aggregates or collections of like 'units', that exist in a feedback network of exchange. The mammalian brain is an aggregate of neurons; their interaction and exchange of energy yields the 'brain-mind'. Organisms are multi-level aggregates: atoms structured into molecules, cells structured into organs. The interactions of all these levels yield the 'total mind' of the organism – of which the 'brain-mind' is the dominant part.

Human societies, or more generally any collection of interacting individuals, constitutes a 'group mind' or *conscience collective*. Perceptive individuals, including Fechner, Pierce, Durkheim, Royce, James, and Teilhard, have long recognized the existence of such a mind in human society. As it happens, they lacked the conceptual tools to formulate a precise picture of it.

The social mind has eight important qualities. Like all dynamic systems, it exhibits properties of nonlinear feedback systems: a noetic unity (hylon), small scale unpredictability (chaos) within a larger framework of a quasi-stable pattern of behavior (virtual strange attractor), and extreme sensitivity to small change. The social mind has a hierarchical substructure that mirrors its physical hierarchy. It possesses a force or power, that I call the *potenza*, over both its 'units' (the individual people) and over the other species and the ecosystems with which it interacts. Ontologically, social mind is fundamentally a process of participation. Both its being and its becoming are a direct consequence of this. Like all systems, it displays core values of philontos (love-of-being) and amascens (love-of-becoming), and acts thereby to preserve and enhance itself.

The key process that draws individuals into something that can meaningfully be called a society is that of exchange. Simmel was the first to acknowledge the philosophical

significance of this. His study of society as a system of interactive exchanges illuminated the importance of exchange, and its role in the production of value. In modern terms we can now envision this process as a virtual conversion of energy into value, and consequently into the social being.

Mauss saw that the process of exchange was intimately tied up with that of mind. He found this in native cultures, where the gift was the basis of exchange. The gift has both a material aspect and a spiritual, noetic quality. Whereas native people saw mind in the gift itself, hylonoism sees it in the *process* of participation and exchange. Mauss argued that society must return to such an 'archaic', ensouled vision of interaction. I claim that we are in the midst of this very return, though at a level of greater evolutionary perspective.

Exchange necessarily involves a loss, both of the 'thing given' and of the energy lost in the transaction. Any system of continual exchange requires continual replenishment. Under appropriate conditions, where both matter and energy are not merely abundant but superabundant, structures will evolve that 'make use' of this abundance. Life on Earth thrives under conditions of superabundance. The condition of the general economy, as Bataille observed, is not one of scarcity and want but of surplus, excess, and exuberance. Humanity taps into this superabundance and evolves itself.

For thousands of years the focal point of human evolution was the individual and small collections of individuals. When humanity reached certain critical milestones in its ability to tap into the natural superabundance, the evolution of the social being accelerated beyond the scale of the individual. This resulted in a new order of human existence, with the social being thriving as a quasi-independent entity. Thus we find ourselves today in the midst of a fundamental tension between the human-scale level of existence and large-scale society.

Both of these levels exhibit love-of-being and love-of-becoming. Increasingly these values conflict, as the social being channels and absorbs the natural superabundance. This necessarily impacts people in society, as well as the surrounding environment. The coercive power of the social mind causes most people at most times to adapt and modify

their personal values in support of the social values. Other times people continue to hold human-scale values, or ecological values, in priority. Many social conflicts are rooted in these divergent systems of values. Only a deep comprehension of the nature of the conflict can result in adequate solutions.

* * * * *

The participatory approach to thought and action has been present in various manifestations for over 2500 years. I have traced much of this legacy, and noted the many correspondences with panpsychism and hylonoism. My extensive historical recounts have been necessary because the roots of participatory philosophy run very deep in Western civilization; and any thorough attempt to construct a new worldview must have a deep sense of the history of the human project. Only in the past 30 or so years has participation taken on a fuller meaning, and demonstrated the potential to provide an alternative worldview to the dominant Mechanism. The recent works of Wheeler, Skolimowski, Bohm, Abram and Berman have all brought the philosophical concept of participation into the public realm. In the present thesis I have sought to extend their insights and further articulate a philosophy of participation.

My outline of a Participatory Worldview is based on seeing participation as the central quality of existence. Being and becoming are seen as universal consequences of the varied participations of matter and energy. Mind co-exists with participation, and resides in all structures. Chaos theory gives us a new vocabulary in which to describe the qualities of mind and existence, and points to deep unities throughout the universe. Due to its participatory nature, all mind possesses the ability to co-create, and thus 'make', reality. The nature of this co-creation is proportional to the *potenza* of the mind. The two-way physical interaction of material objects co-exists with a two-way noetic interaction, resulting in mutual transformation.

Of particular relevance is the meaning of participation in the human realm. I have argued that we ourselves are participations, both from within and without. Participation with other people results in a collective social being, which has important consequences for individuals. The social being possesses a group mind with qualities comparable to the

human mind. It acts to express its core values of love-of-being and love-of-becoming, often to the detriment of smaller- and larger-scale structures, such as individual people, indigenous communities, or eco-systems.

Following most contemporary physicists, I see *energy* as the central physical quantity, and its movements and exchanges in various forms (including the form of matter) comprise the most tangible and visible aspect of participatory structures. All structures are composed of energy. Since all are dynamic at some level, all must necessarily dissipate energy in one form or another. Therefore, all structures require a source of replenishment to prolong their existence: animals require food; plants require sunlight; the social being requires human interaction and exchange through the use of technology.

In the largest sense, participatory panpsychism suggests a new, more integrated view of the natural world. It places humanity, and the human *mind*, firmly within a rational, natural order, one that does not deny or minimize our uniqueness. The hylonoetic theory of participatory mind helps to resolve a number of long-standing philosophical problems, including unity of consciousness, emergence of mind, the 'combination problem', and certain issues surrounding the evolution of structure. Perhaps most importantly, participatory panpsychism *engenders a new feeling for the world*; it points toward compassionate and sympathetic values, toward a sensitivity to subtlety, toward a sense of belonging.

Participation is at the heart of all existence. It is the foundation for all modes of being, and all modes of becoming. It is the basis for both the hierarchy of physical structures and the corresponding hierarchy of mental structures that exist throughout Participatory Reality. Each person, each being, participates in the cosmic reality, just as the cosmos participates in each of us. We form a co-evolutionary totality, maintaining both individuality and interconnection throughout our existence. That which is outside also dwells within, and one's innermost subtleties affect the entire universe. In an era of atrophied vision, such a Participatory Worldview holds out perhaps the greatest promise for the future.

NOTES:

[1] Followers of Durkheim, including Mead and the more recent sociologists and social psychologists, have tended to emphasize the effect of society on the *individual* rather than the 'mind of collective' as such. These matters are less relevant to my thesis, so I will leave them aside.

[2] I exclude here the idea of the cosmos as a 'living creature', an idea that goes back at least to Plato and the *Timaeus*. This is the extreme case of the phenomenon of an aggregate mind, but is not particularly helpful in this discussion, for two reasons: First, because the universe is so vast and difficult to comprehend, it is of less value in understanding ordinary-scale events. Second, because this idea and the related concept of the 'world-soul' have a strong overlap with theological ideas about the nature of God; this religious influence tends to distort the deeper philosophical significance.

[3] I hold to a different conclusion, namely, that social cohesion and 'intensity of group mind' is increasing, but that this occurs concurrently with a *decrease*, or rather *restriction*, in the individual consciousness and individual autonomy.

The modern person is *both more and less constrained* than his predecessors. First of all, we are in a poor position to judge the subtleties of individual freedoms in foreign societies; activities that to us look uniform may contain a rich diversity of innuendo and meaning that we find imperceptible. The indigenous tribes that first encountered Europeans likely saw in them a large measure of conformity and homogeneity. Second, Durkheim fails to realize that as society grows in size and technological capability, *it simultaneously empowers and restricts individual freedom*. The key parameter is the social 'power' (something that I will later call the '*potenza*') of the group in question.

Consider a spectrum of increasing social complexity. The lone individual has nearly complete autonomy, but none of the empowerment that comes with social participation (including the means supplied by technology). A small, 'primitive' society of low social power sacrifices a small amount of individual autonomy for the collective good. The members are relatively homogeneous in that each retains a large degree of self-autonomy,

but they receive some social benefit via the group participation. A society of moderate power offers growing specialization and division of labor, and the social surplus provides an increase in personal wealth to the members of that society. Technology grows in complexity, and is able to mobilize greater amounts of energy. Decisions are made that are increasingly group decisions, in which no one person is responsible or accountable. Individuals gain in personal wealth and technological power, but they are subject to growing constraints. The social being imposes its values and makes increasing demands upon individuals. But people generally accept this, because they enjoy the growing personal wealth and power.

In a modern, high-power society, the social being comes to act with ever-greater autonomy. Decisions are made in which no one person, or even definable *group* of people, is responsible or accountable. It imposes its values on individuals, and increasingly supplants human-scale and ecological-scale values. Its intense modes of participation cause a growing homogenization in individual action, even as it offers unprecedented power and wealth to the individual. *Individual power expands, but only in the directions that favor the large-scale society*. People have less autonomy than ever, and are totally dependent upon the actions of society to supply even basic needs. And yet superficially they appear 'freer', and able to do more than in lower-power societies.

Consider a simple analogy of a highway system. The common view is that 'highways are good' because they allow people to travel faster and farther than ever before. It is true, highways give more mobility, but *only over a very narrow path of the landscape*. You have greater personal power, but only if you go where the highway lets you go. By becoming automobile-dependent, the modern person has tied himself to a restricted network of one-dimensional paths. In former times, a man could walk or ride in any direction he pleased. Cars go only where the roads allow. Which has greater freedom?

This subtle yet powerful coercion by the social mind causes most members of society to willingly surrender individual autonomy for power and wealth. Even the flow of ideas is carefully selected and chiseled such that this mindset is strictly reinforced.

Human autonomy is multi-dimensional. Modern social structures act to compress certain dimensions even as it expands others. The compressed dimensions involve human-scale values, human concern for ecological values, expressions of fundamental social criticism, expressions of technological criticism, desires for self-determination, spirituality, frugality, simplicity, human dignity. The expanded dimensions include technological power, wealth, narrowly-defined mobility, and narrowly-defined consumerism. Depending on one's perspective, such a tradeoff may be seen as beneficial and progressive, or regressive and tragic.

[4] Already in 1893 Durkheim wrote of "the well-worn expression, collective or common consciousness" (1893: 80).

[5] See also his (1942a), "Elements of truth in the group-mind concept".

[6] Let me emphasize here that by the term 'social mind' I do *not* mean it in the sense of the linguistic constructivists, i.e. 'individual mind as determined by the social conditions' (as was articulated, for example, by Mead (1934), or more recently by Berger and Luckmann (1966)). They focus on the mind of the individual person; I deal with the mind of the social group as a whole. My 'social mind' is strictly the mind of the collective, of the social organism.

There is an important linguistic connection to my conception of the social mind that I want to acknowledge. Social mind is based in exchange, and a dominant mode of exchange is clearly language, both verbal and written. Language is a subtle form of energy exchange that utilizes our unique human abilities. It is clearly an important component in the total social mind. However, I am exploring the nature of exchange in general; to focus on the linguistic component would be too detailed for this thesis.

[7] In this example I emphasize the temporary relationship between two individuals as they exchange goods. This is a particularly intense form of participation, compared with the normal, on-going relationship between, say, a customer and a baker. All people in a given community exist in a continuous mode of participatory interaction, as defined by the larger social community. This larger participatory relationship is a continuous and

essential element in the lives of individual people. Within this larger framework there arises smaller temporal exchanges and participations, based on our numerous day-to-day interactions. Here I focus on the nature of these local, more intense forms of participation, in order to better illuminate the general phenomenon of exchange.

[8] Altruism is a problematic concept in any case. If I, in any sense, identify with my fellow humans, and then I do something 'altruistically' to help them, I am in some sense benefiting myself -- both in the pleasure of knowing I helped, and more directly, in that I am part of the larger social body, so that helping that body is helping myself. The same argument holds for assisting wild animals, protecting trees, etc.

[9] The concept of value is also contentious, if only because it defies conventional definition. I wish not to make too much of this point here; I will use the term in the loose, subjective sense.

[10] Again, this is not to exclude the larger framework of participations with the natural world. These are of course more fundamental than the social network into which we are all born. The general concepts of exchange that I have outlined here in reference to human society apply as well to our participations with nature.

[11] Of course, as I explained in Chapter 7 all things are to some degree in contact with one another, so it is technically not possible to have 'no communication at all'. The issue is one of degree. Certain modes of social exchange are more forceful and dominant than others.

[12] A more contemporary German word for 'superabundant' would be *ueberreichlich*. Nietzsche did not use this word, to my knowledge.

[13] Certain indigenous societies, even including the more ancient hunter-gatherer ones, had their own, different forms of surplus that allowed their indigenous cultures to flourish. It seems clear that even in a low-technology society humanity can tap into the natural abundance of the environment and, when freed from the scourges of overpopulation, colonization, etc, develop sophisticated and articulated cultural systems.

[14] First published in France posthumously (1967); first English translation in 1988.

[15] Bataille acknowledges only the solar source of energy. He seems generally lacking in knowledge of the philosophical implications of relativity physics.

Furthermore, there are actually three sources of energy, if we count the zero-point energy. But it is not clear that life actually has a tangible access to this, so I will leave it aside here.

[16] The phenomenon of global warming is a condition wherein human activity modifies the Earth so that it retains a greater percentage of received solar energy. Retained energy must go to one of three sources: greater mass of the Earth (i.e. greater plant mass), increased temperature, or greater 'kinetic energy' in the circulation of the Earth's general economy.

Penrose (1989) points out that the Earth absorbs 'low entropy' visible light, and emits 'high entropy' infrared radiation (heat). The total energy is the same, but it changes from low entropy form to high entropy form, due to the actions of the air, water, land, and living organisms.

[17] This point begs the question of the evolution of life and complexity on other planets. On my view, there is no fundamental reason why complex structures should not evolve anywhere that there is a surplus of energy, matter, and perhaps most importantly, *mobility*. Mars seems to have had proper conditions at one time, but the absence of liquid seas and any substantial atmosphere would suggest a strong limitation to the evolution of complexity (at least on the surface). Water seems to be an *ideal medium of exchange*, allowing forms of energy to interact and become more complex. Without the ability to mobilize matter and energy, exchange is restricted and thus unable to support complex structures. Certainly other liquids or gases could fill this role, and it is an open question whether non-water based 'life' will be found somewhere.

Mercury has an abundance of energy and matter, but like a desert, has been baked dry of the means for mobility; therefore complex structure is highly unlikely. Venus is a more promising prospect, with its relatively dense atmosphere providing at least a gaseous, if not liquid, means of exchange. Unfortunately its surface, too, appears devoid of mechanisms of exchange, and its high surface temperature (in excess of 400 deg C) clearly rules out Earth-like processes. However, Jupiter and Saturn, and a number of their moons, seem to have both superabundant energy and the means for exchange; complex structure, perhaps including life, is certainly possible. The three outermost planets also have abundant energy, though at a much lower intensity than elsewhere in the solar system; with very little internal heat energy, nor substantial atmospheres, one would expect a vastly slower rate of evolution on these planets.

[18] Bataille saw the social surplus as accursed because it resulted, in modern society, in decadent expenditures. I attempt to refine and extend the reasons for the accursedness of the surplus. For me, the surplus of wealth and energy necessarily gives rise to a social system and social organism that is fundamentally anti-human scale. The surplus is beneficent to the society as a whole but destructive to human-scale structures and values.

[19] Per Julian Huxley, in the Introduction to Phenomenon of Man (1959: 24).

[20] Both books were published significantly later than they were written: Phenomenon in French in 1955 (the year of Teilhard's death), and The Accursed Share in French in 1967. By this measure, neither work influenced the other writer. To my knowledge no other writer has addressed these themes, so I can only assume that Bataille and Teilhard developed them relatively independently.

[21] For an outstanding discussion of this point, see Richardson (1994: 67-96).

[22] This makes an interesting counterpoint to the modern critique of capitalism as deficient because it emphasizes *consumption*. There is, of course, a connection between these ideas, and Bataille recognized this. Any accumulation is only temporary and must ultimately be spent on some 'consumables'. An accumulation is a consumption deferred.

The issues are rather the magnitude of accumulation, and the mode of expenditure/consumption.

[23] I note in passing that Marx also explored the relationship between mind and power. Cf. Lukes (1974).

[24] Not all mental capabilities are tied directly to number of neurons. There are controversial case studies on humans in which the loss of a large number of neurons appears to leave mental functioning largely intact. But clearly some degree of functioning corresponds to neural count; a 1 million neuron brain will necessarily be less capable in many ways than a 1 billion neuron brain.

[25] Cf. Kohr's analysis in his book Breakdown of Nations (1957: 45-6).

[26] An interesting economic metric would be an assessment of the brute physical energy contained in a given economy. This could be done quite easily in conventional physical terms by calculating the mass x velocity of every economic good that was moved. An economy that moved many massive objects at high speeds would result in a high 'power rating'. An even better assessment might include a true measure of physical power by dividing by average moving time – i.e. moving lots of objects at high speed in one day is more energetic than moving the same objects at the same speed but distributed over one week.

Such a metric would correspond roughly to *total energy consumption* of a given economy, but with a better focus on the exchange process rather than expenditure process. Measuring energy consumption has the advantage, however, of capturing activity related to services and to such exchanges as 'information' – the latter of which requires electrical energy, energy for the production of computers, etc.

[27] This is not to imply some fundamental limitation on the potential complexity of machines. Certainly it is conceivable that a 'robot' may some day achieve a complexity and *potenza* equal or greater than human. I simply mean it in the sense that we understand the term 'robot' today.

[28] As such it can be compared with the notion of *will*. As I noted in Part II in my discussion of panpsychism, the quality of will has been seen as being of central importance by numerous thinkers and philosophers. Even as far back as Empedocles' concepts of Love and Strife, one finds the notion of 'seeking' or 'desiring' as a fundamental ontological truth. Campanella developed the idea of will, or love, as one of his three primalities, present in all objects. Schelling created the concept of 'willing as primal being'. Schopenhauer made a great leap forward, identifying will as the thing-in-itself, the inner being of things. Nietzsche further articulated Schopenhauer, arguing that the will is not simply some nebulous desiring, but rather a very specific will, the *will to power* (*'Der Wille zur Macht'*). I make a few comments regarding Nietzsche in the text that follows, but for the most part I will not pursue this connection in this thesis.

[29] Physicists define 'power' as rate of change of energy production or transformation. The social will to energy is in reality a will to rapidly metabolize energy, and to thus exhibit and expend 'power' in the literal physical sense. Nietzsche understood the term 'power' (*Macht*) in both the social and physical sense. The will to power, in a social sense, is perhaps better interpreted as a will to 'power', in the physical sense – fundamentally, a manifestation of the will to energy.

[30] 'Amascens' is coined from the Latin *amo-* ('love') and *ascens* ('ascend', or 'transcend').

[31] In fact this description fulfills the three-part definition I presented in Chapter 1, in the deepest possible sense.

[32] There has been an interesting development of late that supports this view. Cahill and Klinger (2000) have developed a 'model of reality' that attempts to explain the emergence of all features of the physical world, including the structure of matter, laws of physics, and even the 3-dimensional nature of space. Their self-referential 'boot-strap' model, called the Heraclitean Process System, starts from conditions of intrinsic quantum randomness, and applies the rules of self-organized criticality (cf. Bak and Chen, 1991) in order to build up structure.

Cahill and Klinger's model has the feature that it does not presume the existence of material objects *per se*, but rather results in their emergence based solely on interrelationships between monad-like "pseudo-objects". These monads "are defined only by how strongly they connect with each other" (Chown, 2000: 26). As the model progresses, the initial pseudo-objects disappear, leaving behind a structure of relationships that they call "gebits" (short for 'geometrical bits').

These gebits are inherently participatory. They are the network of relationships between seed particles of quantum randomness, and in the Heraclitean model, they account for all forms of being and becoming in the material universe. Clearly it is too soon to draw significant conclusions from such work, but the initial results suggest a deep connection between participation and structure.