

Process Philosophy and Ecological Ethics

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Abstract: Environmental ethics has been compared to a bicycle brake on an international jet airliner; it is ineffective. Here I show how and why an ecological ethics based on process philosophy could be effective against the forces driving global environmental destruction. However, this will involve a radical transformation in what are taken to be the problems of ethics and how ethical philosophy is understood. Ethics needs to be centrally concerned with the virtues required to develop and sustain desirable social forms. To address global environmental problems ecological ethics must concern itself with the virtues required to develop and sustain democracy. Developing these virtues, it is argued, will involve reversing the growing fragmentation of work to revive a feeling of responsibility for creating a better world. Such an ethics must not only provide guidance for action, but also provide people with a sense of their place in and role in history and nature and an inspiring vision to motivate them to work for a better world. Process philosophy can provide such an ecological ethics not only because it can justify respect for all living beings, but also because it is a revolt against the fragmentation of intellectual, cultural, and social life which led to the trivialization of philosophy in the first place.

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Our Predicament

We have now reached a peculiar state in the debate on ethics and ecology. In one sense the environmentalists are winning. Although there are powerful dissidents, there is now a general consensus that ecological destruction on a global scale is a major threat to the future of civilization, if not of humanity. While this has been brought home by global warming and its effects, there is a growing awareness that this is only the most threatening symptom of the destructive trajectory we are on. It is also appreciated as never before that it will be poorer people who will suffer most from this destruction, at least to begin with, and that any ethics which does not take this into account is defective, if for no other reason than that the poor of the world will respond to environmental problems in ways that will threaten the lifestyles of the affluent. Finally, it is being recognized that our present crisis has been brought about by a failure to comprehend the dynamics and intrinsic significance of life, both human and non-human.

In a more fundamental sense, however, environmentalists are losing. Despite growing awareness and concern with environmental problems, the rate of environmental destruction is increasing. Environmentalists have less influence on government policies than ever. As Michael Shellenberger and Ted Nordhaus argued in *The Death of Environmentalism*, environmentalists have been reduced

to being one relatively ineffectual pressure group among others.¹ More worrying, it is evident that despite people's conformity to what is now regarded as the politically correct attitude, that problems of the environment are of immense importance, in practice most people's actions are diametrically opposed to what is required if environmental problems are to be addressed. As Thomas Prugh, Robert Costanza and Herman Daly noted (referring to USA) 'popular environmentalism is a mile wide and an inch deep.'² There is in general little effort by people to relate their own activities to the problems we collectively face. There is an almost complete failure of ethics.

There are a number of reasons why this should be the case. The most important is the power structure of the global economic and political order. This has disempowered the vast majority of the world's population while massively concentrating power in the hands of people who have a vested interest in perpetuating the existing order, along with its destructive dynamics. This is an order in which the dominant States vie with each other for power within the world system to control resources by promoting the growth of their economies, most importantly, by promoting free markets and allowing these to determine the direction society takes. It is supported by the transnational corporations which have flourished within this system. Increasingly these corporations have used their power to free themselves from control by democratic States and then to manipulate and control these States, undermining remnants of democracy, forcing them to compete with each other for their investment, extracting their wealth and turning their institutions into instruments of their own expansion. This has involved privatizing public assets and removing barriers to forces of the global market. The majority of the world's population is struggling to survive and is in no position to concern itself with the environmental sustainability of civilization. The more affluent have lost their economic security. The only freedom most of them have is in what they choose to buy and consume. And since the role through which they now define themselves is that of consumers, they also have a vested interest in furthering the expansion of the economy to augment their buying power. With enormous amounts of money spent on advertising and public relations promoting more consumption and celebrating this social order and the benefits it promises, it is hardly surprising that there is little effective opposition to it. The managers of transnational corporations have more power, but holding their positions is dependent upon their capacity to increase the profitability of the companies they manage. Even if they were concerned with the environment, there is little room for them to do anything but contribute to the current direction society is taking. It would seem that humans have created a global system of power that is outside anyone's control, which constrains people to act so as to augment the power of this system in such a way it will continue its expansion until it destroys the conditions of its existence.

The Failure of Environmentalists

Yet those concerned to promote environmental sustainability, including ecological ethicists, cannot be let off the hook so lightly. The weakness of the environmental movement still has to be explained. To begin with there is their lack of imagination, their inability to present an inspiring vision of a better future which is environmentally sustainable. As Prugh et. al. put it:

¹ Michael Shellenberger and Ted Nordhaus, *The Death of Environmentalism: Global Warming Politics in a Post-Environmental World*, 2004.

² Thomas Prugh, Robert Costanza, and Herman Daly, *The Local Politics of Global Sustainability*, Washington D.C., Island Press, 2000, p.90.

There seem to be only two visions on the table. In the conventional vision, the human economy and population keep growing vigorously, and everyone eagerly chases the dream of greater consumption. The environmentalist point of view rightly denies the workability of this vision but offers in its place a kind of global celery diet. It is hardly surprising that most people choose the first path.³

But then why should there be such a lack of imagination? Something deeper is involved. What Shellenberger and Nordhaus complained about was the tendency of environmentalists to fit into the system, taking up positions which, while rewarding to them personally, do not allow them to really grapple effectively with the larger problems while appropriating for themselves the role of dealing with environmental issues. In this socially sanctioned role they are not only far less effective than the environmentalists of the 1970s, but exclude others from being environmentalists. Referring to attitudes towards the labour movement, Shellenberger and Nordhaus noted: "The problem is that environmental leaders have persuaded themselves that it's their job to worry about "environmental" problems and that it's the labour movement's job to worry about "labor" problems."⁴ Environmentalists have positioned themselves as part of the established order, although in very subordinate positions, and therefore have no real interest in imagining a radically different social order.

This mindset also permeates academia. Most academics accept the existence of 4000 discipline areas, and are happy to carve out new subdisciplines alongside these on the basis of which they can forge their academic careers. So we have ecological ethics as a sub-discipline of ethics, which is a sub-discipline of philosophy, and as such, is dissociated from political and social philosophy, which in turn have largely ignored the rise of economics and the new 'discipline' of public policy studies which have displaced them when it comes to influencing how politics actually works. So ecological ethicists are setting themselves up as custodians of ethical thought on the environment, but are doing so in such a way that not only devalues the ideas of those who are not academics in this field, but also severs reflection on the proper way to act towards the environment from the more influential disciplines such as economics and public policy studies. Still, ecological ethics purports to be relevant to everyone. Even this limited universality is being challenged, however. Increasingly, as universities are being transformed into transnational business enterprises selling services to customers, disciplines and sub-disciplines are selling themselves as providers of training for careers. So, environmental management is succeeding ecological ethics and emerging as a new discipline offering training for a career in managing the environment. Environmental managers will then stake out this field as their area of expertise, excluding others from the field and reinforcing the division of roles, allowing the general public to leave environmental issues to the experts.

Fragmentation of Work and the Decay of Ethics

The pathology with which Shellenberger and Nordhaus were concerned is a manifestation of a more general problem identified by the nuclear physicist, Max Born. Reflecting on the First and Second World Wars, the holocaust and the Cold War, Born was striving to understand the paradox that technological progress had led to greater brutality and greater threats to humanity. He argued that this was due to the fragmentation of work undermining people's capacity to think about their relationship to the rest of society or to put themselves and their

³ Ibid., p.41.

⁴ Shellenberger and Nordhaus, p.29

actions in broader perspective. Reflecting on the past, Born noted how there was a sameness to human history, with peace alternating with war, construction with destruction, growth with decline. Then suddenly, three hundred years ago, modern science and technology were born. While due to the mind, the advance of science and technology is not controlled by the mind. Advances in medicine have extended life, but resulted in catastrophic overpopulation. People crowded in cities have lost all contact with nature. Wild life is vanishing. Advances in communications technology have resulted in every little crisis in the world affecting everywhere else, making reasonable politics impossible. However, these, Born argued, are problems that could be addressed. He continued:

The real disease lies deeper. It consists in the breakdown of all ethical principles which have evolved in the course of history and preserved a way of life worth living even through periods of ferocious warfare and wholesale destruction. ... In peace, hard work was the foundation of society. A man was proud of what he had learned to do and of the things he produced with his hands. Skill and application were highly valued. Today there is little left of this. Machines and automation have degraded human work and destroyed dignity. Today its purpose and reward are money. The money is wanted for buying technical products produced by others for the sake of money. ... Modern weapons of mass destruction leave no place for ethical restrictions and reduce the soldier to a technical killer. The devaluation of ethics is due to the length and complication of the path between a human action and its final effect. Most workmen know only their special tiny manipulation in a special section of the production process and hardly ever see the complete product. Naturally they do not feel responsible for this product, or for its use. ... The most horrid result of this separation of action and effect was the annihilation of millions of human beings during the Nazi regime in Germany: the Eichmann type of killers pleaded not guilty because they "did their job" and had nothing to do with its ultimate purpose.⁵

This is what underlies the global ecological crisis. Just as individuals who were involved in each small step of the process by which millions of people were exterminated in death camps during the Second World War saw themselves as merely doing their job, myriads of people leading their normal daily lives are taking the small steps which are leading inexorably to global environmental destruction.

The fact that there are environmentalists devoting their lives to addressing environmental problems suggests things are otherwise. But if Shellenberger and Nordhaus are right, this is a further development in the fragmentation of work, the loss of responsibility and the corrosion of ethics. Environmentalists are doing their job without really facing up to whether their actions will generate the required outcomes. By simply laying claim to then playing their role and appearing to be addressing environmental problems, they are in fact furthering the fragmentation of people's lives. By claiming to be the experts they are allowing people to divest themselves of responsibility for the effects of their actions and ways of life, while being incapable of doing what is required to redress the problems created by this lack of responsibility.

If ecological ethics is to be efficacious, this is the problem that must be addressed. But ethical philosophy, either in general or in the form of ecological ethics, has scarcely begun to address this problem.

Process Philosophy and Ecological Ethics

To provide the means for people to comprehend the effects of their actions is a minimum condition for overcome this malaise. To begin with, this would

⁵ Max Born, *My Life and Views*, New York: Charles Scribner's Sons, 1968, p.52f.

require a transcendence of fragmenting perspectives, a re-linking of ethics and political philosophy, of philosophy with the rest of culture: the arts, the humanities, the sciences, technology and the culture of everyday life, and of each of these with each other in a way that would be easily comprehensible to ordinary people. Is this even possible? If it is, then process philosophy is the most likely basis for achieving it. Only process philosophy provides the basis for conceiving humans as conscious beings and agents within the context of the autonomous dynamics of society and of nature, while revealing the intrinsic value of all beings, human and non-human.

Perhaps most importantly, process philosophy provides the basis for overcoming the opposition between the humanities and the sciences. It can uphold the cognitive claims of narratives while providing the metaphysical foundations for a form of science that makes intelligible the emergence of human beings who can understand and orient themselves through narratives. The importance of this for ethics is immense. As Alasdair MacIntyre, David Carr and others have argued, life is lived as stories, before stories are told. It is through stories that we learn how to live. As MacIntyre put it,

I can only answer the question 'What am I to do?' if I can answer the prior question 'Of what story or stories do I find myself a part?' We enter human society, that is, with one or more imputed characters - roles into which we have been drafted - and we have to learn what they are in order to be able to understand how others respond to us and how our responses to them are apt to be construed. It is through hearing stories ... that children learn or mislearn what a child and what a parent is, what the caste of characters may be in the drama into which they have been born and what the ways of the world are. Deprive children of stories and you leave them unscripted, anxious stutterers in their actions and in their words.⁶

Particular actions, individuals, roles, institutions, communities and civilizations are related to each other through stories. It is by refiguring the stories that people are living out that they change the way they live and transform their institutions, their societies and their civilizations.

The provision of a metaphysics which can reconcile the sciences and the humanities and legitimate this role of stories provides in turn a justification for the construction of a narrative of human history based on the perspective provided by process philosophy. In this way the achievements, failures, tendencies and potentialities of humanity, ranging from its civilizations and nations to its specific institutions and individuals, can be comprehended and re-evaluated. Such a grand narrative could orient people to interrogate and reconfigure the stories that are being lived out by civilizations, societies, communities, institutions and individuals, thereby orienting them to take their place in history and to take responsibility for their own participation in creating the future. As I have argued elsewhere, this is an essential condition for mobilizing people to effectively confront the environmental problems facing humanity and for providing the concepts to create a social, political and economic order that in practice does augment rather than undermine the environmental conditions of humanity's existence.⁷

However, something more is required. It is necessary to mobilize people to aspire to achieve such a comprehensive understanding of their place in history and in nature. The corrosion of ethics that Born diagnosed has advanced considerably since he wrote in the 1960s. Born wrote before the triumph and domination of the world by neo-liberalism, or more accurately, managerialist

⁶ Alasdair MacIntyre, *After Virtue*, Notre Dame, Notre Dame University Press, 2nd ed. 1984, p.216.

⁷ Arran Gare, 'Narratives and the Ethics and Politics of Environmentalism: The Transformative Power of Stories', *Theory & Science*, Vol.1.2, No.1, Spring, 2001, <http://theoryandscience.icaap.org/>.

market fundamentalism. The idea that the end of life is getting more money so as to be able to buy and consume more is now all pervasive and has come to be identified with freedom and democracy. Concomitantly, there has been a decay of interest in any other form of knowledge than how to control things and gain more money. This has led to a transformation in how education is understood and a transformation of educational institutions.⁸ As noted, education is now an investment and universities are run as transnational business enterprises selling training and credentials promising to augment their customers' earning power. How can this trend be reversed?

Ecological Ethics and Democracy

Essentially, what we are seeing with the corrosion of ethics and the rise of consumerism is a decay of genuine democracy. This itself is partly a result of the tendencies identified by Born towards more specialization and greater global interconnectedness, rendering reasonable politics impossible. As people feel powerless they take less interest in politics, less interest in history and less interest in cosmology. As Cornelius Castoriadis noted, it is only with democracy where people begin to take responsibility for their society and for the creation of the future that history and philosophy become centrally important.⁹ However, the loss of interest in these by the general public renders them more powerlessness. It is in these circumstances that people have come to define and identify themselves almost completely though what they consume. And if people see themselves primarily as consumers, then, as noted earlier, what they are most interested in is getting more money and getting more for their money. Such an identity is inimical to facing up to the broader problems of society and humanity and the means to do so. This was the conclusion that has been reached by Pruh, Costanza and Daly, who drew the further conclusion that the notion of what it is to be a citizen has to be strengthened in order to get people to think about the broader problems of their societies. As they noted:

The citizen preference orientation is currently attenuated to the point of invisibility. Yet strengthening it would ineluctably bring people face-to-face with the problems of governance, including those of sustainability. Citizens brought into confrontation with the stark problems of governing their communities through hands-on participation ... would be educated in the sources of community troubles, in the origins of their way of life, and in the trade-offs that must be accepted in any collective choice. With regard to sustainability issues in particular, self-governing citizens would more likely learn the ecological costs of their community's lifestyle and socioeconomic character.¹⁰

Pruh, Costanza and Daly argued that 'strong' democracy, with active involvement by the population in politics, is required to augment responsible citizenship. Following Benjamin Barber, they saw this being achieved through an augmentation of the representative democracy of nation-states with more direct, participatory forms of local democracy, although they noted that Murray Bookchin had offered an alternative form of strong democracy based on confederated municipalities organized to undermine and then eventually to take the place of nation states. However, what has been offered so far by such authors is exploratory, designed to show that achieving such strong democracy is a

⁸ See Bill Readings, *The University in Ruins*, Cambridge, Mass., Harvard University Press, 1996.

⁹ Cornelius Castoriadis, 'The Greek *Polis* and the Creation of Democracy' in *Philosophy, Politics, Autonomy: Essays in Political Philosophy*. New York: Oxford University Press, 1991.

¹⁰ Prugh, Costanza and Daly, *The Local Politics of Global Sustainability*, 2000, p.99.

plausible goal, and to showing why it is very unlikely that environmental problems will be addressed without such strong democracy. And it does seem unlikely that the struggle against the fragmentation which has led to the corrosion of ethics is only likely to be successful if it is simultaneously part of the struggle for democracy.

Again process philosophy is of major importance. Democracy implies power in the hands of the people capable of collective will formation. It assumes that people are free agents, or are at least capable of becoming free agents, able to deliberate to reach a consensus on how to act collectively, and then to commit themselves to such collective action. All this is unintelligible from the perspective of scientific materialism. While there are other philosophies that uphold the notion of free human agency, most of these are associated with some form of idealism broadly understood. Only process philosophy (again broadly understood) has defended free agency by questioning scientific materialism at its foundations and defending an alternative form of science compatible with conceiving humans as free agents. Beyond this, process philosophy provides the reference point for considering and choosing what to aim at and how to act. It upholds a notion of rationality (in opposition to that of logical positivism and related intellectual movements) that can encompass both the development of scientific ideas and the development of ethical and political ideas, thereby undermining the claims of those who would dismiss ethics and politics as irrational because they do not conform to 'scientific' reasoning. And it upholds a view of life, both human and non-human, which is not nihilistic and which enables people to value both human and non-human life and work out how life and the conditions for it can be augmented. Finally, and this a dimension that has been little explored, by upholding on naturalistic foundations the status of narratives as the core of action, individual and collective, process philosophy provides a way of forming a collective will without reducing people to instruments. Scientific materialism, by denying the validity of narratives, has served to uphold hidden, monologic narratives which reduce people to instruments of power elites, while process philosophy cultivates self-reflective subjects able to form themselves through explicitly formulated, polyphonic narratives. Polyphonic narratives give a place to competing perspectives, competing versions of themselves, and a place for their continual questioning and reformulation by those who are living them out. The practice of democracy involves making these narratives and their different versions explicit, socializing people to understand, choose between and commit themselves to these narratives, and then providing them with the knowledge and means to participate in questioning and revising them.

Overcoming managerialism

The problem still remains, however, that such strong democracy is not yet seen as attractive enough to the general population for it to really challenge the consumerism of neo-liberal capitalism. Furthermore, the conditions of sustaining democracy have not been fully considered. Traditionally, democracy has been criticized, and what democracies there have been have decayed, because people generally are not sufficiently committed to the common good. Democratic societies have had a tendency to tear themselves apart through internal dissension or simply decay through excessive egoism. What seems to be lacking is a compelling ethics to make democracy both possible and sustainable. This is clearly a major problem at present. Born's point, that the lack of ethics associated with the fragmentation of people's work, still needs to be addressed in order to develop the forms of thinking and motivation required if people are going to struggle for and then sustain democracy. How can this be done?

Guidance in this regard is provided by the theorist of architecture and town planning, Christopher Alexander. Alexander has been concerned to diagnose the failure of modernist and postmodernist architecture to produce beautiful buildings, beautiful built-up environments and vibrant communities. He came to the conclusion that the problem lies in the conception of the world or world-picture assumed by architects, a world-picture 'that essentially makes it impossible to make buildings well.' As he put it:

I believe that we have a residue of a world-picture which is essentially mechanical in nature – what we might call the mechanistic-rationalist world-picture. ... Like an infection it has entered us, it affects our actions, it affects our morals, it affects our sense of beauty. It controls the way we think when we try to make buildings and – in my view – it has made the making of beautiful buildings all but impossible.¹¹

To diagnose the failures and overcome the influence of this world-picture, Alexander argued for an alternative view of the world, one centering on the concept of order. This view allows that there are different degrees of life in various wholes such that '*statements about relative degree of harmony, or life, or wholeness – basic aspects of order – are understood as potentially true or false.*'¹²

Alexander considered and rejected Whitehead's metaphysics as inadequate (although he did acknowledge the importance of some of Whitehead's work). Yet he advanced the ideas of scientists associated with process philosophy and influenced by Whitehead, such as C.H. Waddington and David Bohm, and his work can be interpreted as a fruitful effort to go beyond what he took to be the limitations of Whitehead's thought. As such, his work can be understood as a major contribution to themes raised by Whitehead. In opposition to Whitehead's notion of organisms, Alexander argued that what exist are not patterns of entities, but patterns of patterns, denying that any of these patterns can be taken as fundamental. He also argued that what have been taken as entities are 'unbounded centres' of various kinds.¹³ While proposed as an alternative to Whitehead's metaphysics, Alexander's privileging of 'centres' accords with a comment by Whitehead in *Adventures of Ideas* when, pointing out the implications of modern physics, he wrote of physical things: 'there is a focal region, which in common speech is where the thing is. But its influence streams away from it with finite velocity ... The region cannot be separated from the external stream.'¹⁴ More importantly where developing an ecological ethics is concerned, Alexander has argued that 'feeling' is central to the process of building environments which are alive and beautiful and in appreciating beauty and life (which for Alexander are close to being equivalent: what we see as more beautiful is what we see as more alive), a view which accords with Whitehead's mature philosophy.

As Whitehead argued in *Process and Reality*, Kant had produced an inadequate transcendental aesthetic, that is, an inadequate analysis of the most basic forms of experience. Whitehead presented his own work as an attempt to overcome this failure and thereby to provide more adequate solutions to every aspect of philosophy with which Kant had been concerned. Whitehead criticized Kant for failing to consider adequately the most primitive dimension of experience, feeling, which Whitehead took to be central to the concrescence of actual entities. Effectively, Whitehead was claiming that an adequate appreciation and analysis

¹¹ Christopher Alexander, *The Nature of Order: An Essay on the Art of Building and the Nature of the Universe, Book One, The Phenomenon of Life*, Berkeley: The Center for Environmental Structure, 2002, p.7f.

¹² Ibid., p.22.

¹³ Ibid., p.107f. n12.

¹⁴ Alfred North Whitehead, *Adventures of Ideas*, New York: The Free Press, 1933, p.157.

of feeling would provide the basis for characterizing physical existence, life and beauty and provide a foundation for ethics. As he grandly proclaimed:

The philosophy of organism aspires to construct a critique of pure feeling, in the philosophical position in which Kant put his *Critique of Pure Reason*. This should also supersede the remaining *Critiques* required in the Kantian philosophy. Thus in the organic philosophy Kant's 'Transcendental Aesthetic' becomes a distorted fragment of what should have been his main topic.¹⁵

However, Whitehead characterized beauty only briefly in a concluding chapter of *Adventures of Ideas*. Alexander's work can be taken as a vindication and advance of Whitehead's claims that feeling is central to understanding physical existence, life and art and central to ethics. And since for Alexander, building is a process within nature with the same ontological status as any other pattern, he can also be regarded as having contributed to understanding the role of feeling in physical existence conceived primarily as process; that is, as concrescence. In developing his insights into feeling, wholeness, centres, life and beauty in building, in the built environment and in life more generally, Alexander's work can be taken as a major contribution to process philosophy.¹⁶

According to Alexander, one of the most pernicious ways in which the mechanistic world-picture has influenced architecture has been the way architects, financiers, builders, tradesmen and those who will live in the buildings relate to each other. Building has been infected by Taylorism. Taylorism is associated in most people's minds with the Fordist production line. It was a doctrine of the early twentieth century, supported not only by Ford, but also by Lenin, and it led to great advances in productivity in some areas, at the expense of dehumanizing work. It is usually thought to be obsolete as production lines are facilitating the replacement of people by computerized robots, while people are now deployed in more creative, less soul destroying work. But Alexander pointed out that Frederick Taylor, the founder of Taylorism, was arguing for something more basic, and in this regard his ideas are far from dead; they are alive and growing in influence. As he noted:

What we know as modern bureaucracy – American, British, Russian, Swedish, or Chinese – with its system of rules, questions and answers, which make little provision for human actuality or human difference, came from the application of Frederick Taylor's ideas to large human institutions. What we know as modern construction, is the application of Taylorism to the assembly of physical components. What we know as modern agriculture, lies in the application of Taylor's ideas to farms, animals, crops, water resources, fertilizers, and machines on the land.¹⁷

Taylorism involves as much as possible placing knowledge and decision-making in the hands of managers. Workers are to be reduced to mere instruments, to cogs in the machine. It involves undermining not only craftsmanship, but also professionalism in work and all that is involved in this. Taylorism is in fact the apogee of the fragmentation of work which Born diagnosed as the root cause of the decay of ethics.

¹⁵ Alfred North Whitehead, *Process and Reality*, [1929] Corrected Edition, ed. David Ray Griffin and Donald W. Sherburne, New York: The Free Press, 1978, p.113.

¹⁶ As argued in Arran Gare, 'Architecture and the Global Ecological Crisis: From Heidegger to Christopher Alexander', *The Structurist*, No. 43/44, 2003-2004 – special issue: 'Toward an Ecological Ethos in Art and Architecture'.

¹⁷ Christopher Alexander, *The Nature of Order: An Essay on the Art of Building and the Nature of the Universe, Book Two, The Process of Creating Life*, Berkeley: The Center for Environmental Structure, 2002, p.515.

In architecture the effects of this fragmentation are clear. Instead of workers thinking about how their work will contribute to the building and to the lives of those who will live or use the building, they follow the instructions of the builder who in turn is implementing the design of the architect. The design is produced to impress those who provide finance, with the main concern being how pictures will look in magazines. The ultimate concern is the profitability to the investor. All decisions about the final product are made before the building begins. As a consequence, builders no longer produce beautiful buildings and beautiful built-up environments which are conducive to life and vibrant communities. We now have ugly buildings that are inimical to life and destroy community. By contrasting old and new architecture, Alexander has been able to work out what is missing and has called for a return to the old ways of building.

What would this involve? Building is the generation of form, that is, morphogenesis. Alexander argued that the kind of morphogenesis that produces living structures takes place through a process of structure preserving transformations in which centres are generated in such a way that they augment each other. First and foremost, a return to the old ways would involve developing a feel for the whole and of how its centres relate to each other. That the development of such feeling is essential to good building is a central conclusion of Alexander's work. As he put it: 'I assert, simply, that all living process hinges on the production of deep feeling. And I assert that this one idea encapsulates all the other ideas, and covers all aspects of the living process.'¹⁸ Wholeness and deep structure are enormously difficult to see, Alexander noted, particularly in real world situations, and our current modes of perception are not attuned to seeing the wholeness around us. Yet, to find agreement, it is imperative that we have a workable and practical method of seeing wholeness and assessing the degree to which a proposed 'next step' does increase the life and wholeness of an evolving structure. While this seems to be incredibly difficult, people in traditional societies did manage these tasks. How were they able to do this? Alexander described what is involved:

Each observer is able to judge the whole, to see and experience the whole, by paying attention to the question: Is the emerging building increasing *my own* wholeness? Is it increasing the feeling I experience when I am in touch with that thing? ... [T]he extent to which a building is coming to life can be steered by the extent to which it has deep feeling in it, deep feeling that we experience. This can be done for any emerging entity. ... The living process can therefore be steered, kept on course towards the authentic whole, when the builder consistently uses the emerging feeling of the whole as the origin of his insight, as the guiding light at the end of the tunnel by which he steers.¹⁹

It is important to clarify what Alexander means by 'feeling' here. Because people are dominated by the mechanistic view of the world, language has been contaminated so that feelings tend to be thought of as subjective emotional states, making it difficult to appreciate what this feeling for the whole is. But, Alexander argued, 'feeling' should not be regarded as merely subjective or equated with emotion. 'It is a feeling in the singular, which comes from the whole' he explained. 'It arises in us, but it originates in the wholeness which is actually there. The process of respecting and extending and creating the whole, and the process of using feeling, are one and the same. Real feeling, true feeling, is the *experience* of the whole.'²⁰ Alexander argues that it was because traditional builders worked on the basis of this sense of the whole that they produced

¹⁸ Alexander, *The Nature of Order: Book Two, The Process of Creating Life*, 2002, p.370.

¹⁹ *Ibid.*, p.370f.

²⁰ *Ibid.*, p.371.

beautiful buildings: 'They paid attention to the *feeling* of the emerging structure ... Guided by feeling, they were able to make each small step count in the emergence of a new unfolding whole.'²¹

What I am suggesting here is that this point illuminates the connection between work and ethics alluded to by Born, while at the same time vindicating Whitehead's claims concerning the importance of feeling to ethics and aesthetics. Alexander has shown that something was understood in the past that has now been lost, and he has shown what needs to be recovered. Recovering this will involve cultivating a feeling for the whole and using to this to guide building.

Alexander was not content to merely resurrect architecture and town planning; he believed that work to create beautiful built environments could revive and reinvigorate communities, transform society and promote an ecological ethics. He suggested that this model for acting and building could be taken up throughout society and could then displace Taylorism. This would involve a revival of craftsmanship and professionalism where people were no longer reduced to instruments but would see themselves as participating in the broader processes of form generation or 'morphogenesis'. It would cultivate the ability to feel the whole and to act accordingly. This, he believes, is crucially important for changing our relationship to the land. As he put it:

*... we shall all gradually come to feel a concrete and realistic obligation to make sure that every action taken, by anyone, in any place, always, heals the land. A widespread ethical change begins to appear. Healing the land is understood by more and more people: Throughout society, slowly each person comes to recognize his or her fundamental obligation to make sure that in every act of every kind, each person does what he or she can do to heal the land and to regenerate, shape, form, decorate, and improve the living Earth of which it is part.*²²

Work, Democracy and the Environment

The feel for the whole required by and engendered by work as Alexander described it in the case of building is, I am suggesting, the core of the ethics associated with work that Born claimed previously existed and which has since been eroded. Alexander is charting a course to reverse this erosion. In this, Alexander's ideas concur with and provide support for Robert Solomon's defence of holism in business ethics. 'The ultimate aim of the Aristotelian approach to business' Solomon argued 'is to cultivate whole human beings.' 'This search for wholeness in the individual employee or manager extends to the corporation itself' he continued. 'Holism ... is concern for the whole rather than some of its parts, and emphasis on the big picture rather than the analysis of narrowly circumscribed details such as profits.' This leads to a different understanding of ethics. 'We have to reject all those false dichotomies and antagonisms between business and ethics, between profit and doing good, between personal and corporate values and virtues.'²³

Such holism could provide the conditions for the struggle for freedom and democracy. As Alexander argued, morphogenesis in society which augments life and the community both requires people who are free to participate in this morphogenesis and provides the conditions for this freedom. Freedom, it could be argued, is the condition for people being able to live and act in accordance with what they feel to be right. It is the condition for them to be able to live a fully human life, a life in which they can gain a sense of themselves through their

²¹ Ibid., p.371.

²² Ibid., p.548.

²³ Robert C. Solomon, *Ethics and Excellence: Cooperation and Integrity in Business*, Oxford: Oxford University Press, 1992, p.180.

participation in creating and augmenting the life of their community and society, and participating in the formation of and augmenting the life of humanity and the rest of nature. Only with such freedom or liberty, Alexander pointed out, can we have an unfolding of the creative process of generating form guided by feeling for the whole:

Why is freedom associated with the morphogenetic character of social processes? Because it is the shape-creating, organization-generating, aspect of process which ultimately allows people to do what they want, what they desire, what they need, and what is deeply adapted to life as it is lived and to experience as it is felt. The *humanity* of the environment comes about only when the processes are morphogenetic, are whole seeking, are placed in a context that gradually allows people to work towards a living whole in which each person plays a part.²⁴

Participation in morphogenesis and freedom presuppose and augment each other. A feeling for particular wholes tends to generate feeling for ever broader wholes, from local communities to society, to humanity and to the rest of nature. The feeling for these wholes in turn would engender an appreciation of the value of liberty to participate in creating and participating in these living wholes. This is a freedom oriented towards the common good. It is this feeling for and commitment to the common good which is required for people to be able to understand each other's points of view and reach a consensus on what goals are worth aiming at.

An ethics grounded in unfragmented, creative forms of work would then augment other virtues required for upholding and sustaining democracy. Earlier I suggested that democracy requires explicitly formulated, polyphonic stories to orient people for action and provide a reference point for questioning and interrogating institutions and social goals. In recent years, associated with the postmodern condition, people's capacity to entertain, let alone produce, complex narratives has decayed.²⁵ Consequently, people are less and less able to orient themselves through narratives, to relate their own lives to the lives of others, to traditions and to the goals of institutions and broader communities of which they are part. They are also less able to see their own stories from the perspective of others and less able to bring the stories they are living out into question. The decay of narrative, particularly historical narrative, appears to be connected to the disempowerment of people; but the influence is mutual since the inability of people to formulate stories to define their place in history also severely limits their capacity to unite and mobilize to achieve common goals, thus weakening democracy. What I am suggesting is that the decay in the capacity to produce narratives is at least partly a consequence of the fragmentation of work and the associated loss of the ability to achieve a feeling for the whole. The development of this feeling would at the same time facilitate people's capacity to understand and participate in the production of stories.

In particular, feeling for diverse wholes should make it easier for people to formulate stories which allow for a multiplicity of centres of action, thereby making it easier for people to comprehend and engage with multi-levelled democracy. Pruh, Costanza and Daly in promoting strong democracy were supporting democracy at more than one level. In this work, however, they focused mostly on USA and its problems, and did not consider the relationship between local democracy and the global system. As I noted in the introduction, the present global system is dominated by an immanent logic which threatens

²⁴ Alexander, *The Nature of Order: Book Two, The Process of Creating Life*, 2002, p.509.

²⁵ See Arran Gare, 'Narratives and Culture: The Role of Stories in Self-Creation', *Telos*, Issue 121, Winter, 2002, pp.80-101: 80f.

environmental destruction on a massive scale. This is a problem that has to be addressed if we are to create a sustainable world-order. Daly, along with John Cobb, has addressed this problem more adequately elsewhere, arguing for a new world-order organized into 'communities of communities'.²⁶ As noted, Alexander defended an ontology which took centres of patterns rather than entities as basic. He also argued that life is characterized by the development of mutually enhancing centres at multiple scales. Although he was primarily concerned with buildings, Alexander believed this analysis to be generalisable. It can be generalized to human communities and ecosystems. It would follow that a vibrant human community or a vibrant ecosystem would also consist of multiple reinforcing centres and multiple levels. The cultivation of a feeling for wholes in work involves a feeling not only for the whole but also for centres and how they augment each other. Developing this would greatly facilitate the ability to recognize and appreciate multiple mutually augmenting centres in society and in the world, and the need to support such centres. A feeling for the whole which augments people's appreciation of multiple centres would facilitate the kind of thinking required to comprehend and support such a global order.

As the ethical corrosion brought about by the fragmentation of work has been associated with and furthered the decay of democracy, overcoming this fragmentation by cultivating a feeling for the whole as the basis for living should facilitate the revival of democracy. Acting in accordance with this feeling for the whole requires freedom and democracy while providing the capacities and virtues needed to uphold, defend and sustain such freedom and democracy. This feeling for the whole is what is required to relate people's individual lives, politics and environmental issues at every level, from the local to the global, to enable people to organize and function within democracies while supporting and augmenting each other's liberty to contribute to rather than undermining the global ecosystem. It is what is required to think globally while acting locally in such a way that acting locally does really incorporate global thinking.

Towards an Ecologically Sustainable World Order

In the introduction to this paper I described briefly the dynamics of the global system which is driving people towards the destruction of their global environment. An ecological ethics needs to consider not only what we should do if the social order in which we are living makes it extremely difficult for us to live in a way that contributes to rather than undermines the ecological processes conducive to human life, but how to change this social order. I have attempted to show through this paper that process philosophy could provide the form of ecological ethics required to effect this transformation. Can this proposal be taken seriously? Ulrich Beck argued that in the face of the global ecological crisis, morality is 'like a bicycle brake on an international jet.'²⁷ Beck's skepticism about ethics is justified if morality is conceived of in its present form as constraint on the self-interest of individuals, examined and sometimes defended by moral philosophy, a subdiscipline of philosophy, which is just one discipline among others. But this is part of the fragmentation of culture, life and work which has undermined ethics in the modern world. If process philosophy can provide the foundations for ecological ethics, it is because it is first and foremost a rebellion against this fragmentation. To carry through this rebellion, process philosophy must do more than provide a unifying discourse which contextualizes ethics. It

²⁶ Herman E. Daly and John B. Cobb, *For the Common Good: Redirecting the Economy Toward Community, the Environment, and the a Sustainable Future*, Boston: Beacon Press, 1994, p.176ff.

²⁷ Ulrich Beck, 'From Industrial Society to Risk Society' in *Cultural Theory and Cultural Change*, Mike Featherstone ed., London: Sage, 1992, p.106.

has to inspire people to act. And to do so it must offer more than 'a global celery diet.' I have suggested that the vision that needs to be upheld is of democracy; genuine democracy, not domination of the world by the forces of the market and those who have wealth. The struggle against environmental destruction should be seen as a struggle for democracy by communities ranging from the local to the global. This will involve the re-figuration of the narratives people, as individuals and communities, are living out on the basis of a new vision of the future, one in which people will no longer be enslaved by market forces and will be able to create ecologically sustainable societies.

But this by itself is unlikely to be a challenge to the consumerism which now dominates people throughout most of the world. Max Born was right, I have suggested; people's ethics in the past were grounded in work, and the fragmentation of work has corroded any effective ethics. Christopher Alexander's ideas on architecture and building were shown to have both offered striking support for Born's observation, while at the same time providing a deeper insight into this relationship between work and ethics and thereby, what would be involved in recreating this ethics. Alexander's analysis was itself shown to be a form of process philosophy, while the way of working and living he is seeking to cultivate is essentially process philosophy in practice. Alexander's proposals have provided a much more concrete goal for people to aim at, to change the nature of the work so that workers are no longer reduced to instruments of Taylorist management structures, becoming instead active participants in producing beautiful natural and social forms.

Could this provide the basis for an ecological ethics that would be effective against the imperatives of the prevailing global system? Alexander suggested that patterns equivalent to small, snippable genes, could spread through society and transform it. His own ideas about building could spread in this way, eventually displacing Taylorism and bringing about a more general social transformation. While this analysis has much to commend it, I think it is possible to be even more optimistic by recognizing that the spreading of new patterns at local levels can result in rapid global changes which will then provide social environments more conducive to such patterns. An ecological ethics that concerns itself with promoting modes of work which cultivate a commitment to creating a more beautiful world would cultivate the kind of people who could organize democratically at local levels. These democratic organizations in turn could support democratic structures at higher levels. What is important here is that ecological ethics not be seen merely in relation to individuals, but in relation to institutions, organizations and communities; that is, in relation to political philosophy. It should be seen in relation to the virtues required to sustain ecologically sustainable social forms. Conversely, politics should not be conceived purely in terms of power and organizing to achieve specific goals, but should be concerned centrally with cultivating the kind of ethics in people needed for democratic organization, an ethics of commitment to creating a more beautiful world. It is in this way that process philosophy, which can integrate all these aspects, could provide an inspiring vision of the future and be the basis for an ecological ethics which could serve to transform civilization and avert an environmental catastrophe.