PHILOSOPHY, CIVILIZATION, AND THE GLOBAL ECOLOGICAL CRISIS

THE CHALLENGE OF PROCESS METAPHYSICS TO SCIENTIFIC MATERIALISM

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In *Science and the Modern World* Alfred North Whitehead proclaimed:

> Philosophy is the most effective of all the intellectual pursuits. . . . It is the architect of the buildings of the spirit, and it is also their solvent:—and the spiritual precedes the material. Philosophy works slowly. Thoughts lie dormant for ages; and then, almost suddenly as it were, mankind finds that they have embodied themselves in institutions.[1]

Whitehead's conviction was based on his analysis of the seventeenth century scientific revolution and its aftermath, and he further defended it through the historical studies described in *Adventures of Ideas*. Such a conviction is encouraging to those involved in developing philosophical ideas who, for whatever reason, have become convinced that civilization requires a radical reorientation in thought. It suggests there is reason for optimism, at least in the long term.

But some of us are becoming impatient. Problems now confronting humanity call for a more immediate response. The global ecological crisis is a crucial case in point. It is this, I believe, that makes the practical success of radical philosophical ideas an imperative rather than an ideal. What would such success involve? What does it mean for thoughts to be embodied in institutions? How did past thoughts come to be so embodied? And how might new philosophical ideas come to be embodied in this way? To this end we need to analyze the relationship between philosophies, individual and collective action, and institutions.

The work of Alasdair MacIntyre provides a useful starting point for such an analysis. MacIntyre has squarely faced the present problematic status of philosophy in Anglophone countries and reflected deeply on the relationship between philosophy and social life. Such reflections have led him to defend systematic philosophy and to consider the relationship between philosophy and narratives. He has argued that narratives are central to adjudicating between fundamentally different ways of thinking, and that narratives are constitutive of social life and are of central importance to ethics. While MacIntyre has not fully developed his ideas on narratives nor sought to integrate his observations on these issues, my contention is that doing so reveals the crucial missing link between systematic philosophies and everyday life. The missing link is narratives; that is, stories.

Systematic Philosophy, Narratives, Practices, and Institutions

Philosophy, MacIntyre argues, is now seen to be:

> a harmless, decorative activity, education in which is widely believed to benefit by exercising and extending the capacities for orderly argument, so qualifying those who study it to join the line of lemmings entering law school or business school. The professor of philosophy, on this view, stands to the contemporary bourgeoisie much as the dancing master stood to the nobility of the *ancien regime*. The dancing master taught the eighteenth-century expensively brought up young how to have supple limbs, the philosophy professor teaches their twentieth-century successors how to have supple minds.[2]

Academic philosophy, with "its piecemeal character, its selective history and its inability to bring any issue of importance to agreed resolution,"[3] provides no basis for opposing this popular view.

But, Macintyre argues, pre-philosophical discourse invariably gives rise to what are essentially philosophical questions. Present day philosophers are not doing their job. They are not providing solutions to these problems but are proliferating arguments which confuse

rather than clarify pre-philosophical discourse. Only systematic philosophies can provide the requisite means to provide determinate solutions to the issues raised by pre-philosophical discourse.

A philosophy is systematic, MacIntyre proposed:

> when as large a range as possible of the problems, incoherencies and partial unintelligibilities of prephilosophical discourse, action and enquiry are made the subject matter of an enquiry in which the questions to be answered are of the form: How are all these to be understood in the light of the best unified and integrated conception of rationally adequate enquiry possessed so far?[4]

But MacIntyre has not adequately characterized what such a unified and integrated conception of rationally adequate enquiry would consist of. My contention is that to be systematic, philosophy should consist of a metaphysical system which, by characterizing the nature of physical existence, can provide the foundations for the natural and human sciences, and by providing a basis for understanding life, humanity and society, provide the foundations for social, political and ethical philosophy.[5]

Since there are very few candidates for this role, the range of different points of view is less problematic than would otherwise be the case; but there is still a problem of how to choose between systematic philosophies. Such choices require the capacity to inhabit and to understand rival, historically developing traditions of thought from the inside. To put these into perspective in relation to each other involves recourse to narratives. It is only when it can be shown through a narrative constructed from the perspective of one systematic philosophy that the achievements and limitations of alternative ways of thinking can be understood, that we can be provisionally satisfied with it.

This is illustrated by the success of early modern science. Based on a radically new philosophy which broke not only with all previous ideas about the world, but also with all previous ideas of knowledge and how it is acquired and validated, its superiority could still be demonstrated. "Wherein lies the superiority of Galileo to his predecessors?" MacIntyre asks.

The answer is that he, for the first time, enables the work of all his predecessors to be evaluated by a common set of standards. The contributions of Plato, Aristotle, the scholars at Merton College, Oxford and Padua, the work of Copernicus himself at last all fall into place. Or to put matters in another and equivalent way: the history of late medieval science can finally be cast into a coherent narrative. . . . What the scientific genius, such as Galileo, achieves in his transitions, then, is not only a new way of understanding nature, but also and inseparably a new way of understanding the old science's way of understanding. . . . It is from the stand-point of the new science that the continuities of narrative history are reestablished.[6]

In this way the tradition of science was reintegrated as a coherent tradition of enquiry.

MacIntyre has not directly addressed the relationship between such narratives of legitimation and social life, but in *After Virtue* he has argued for a further role of narratives. He has argued that narratives constitute social life:

> 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 our responses to them are apt to be construed.[7]

While the claim that stories are lived before they are recounted and that social life consists of stories being lived out, is contentious, an overwhelming case in its favour has been made by David Carr.[8] Carr pointed out that in any complex action, particularly actions involving a number of subordinate actions and a number of people, it is necessary to recount the story of our action to remind ourselves what we are doing, what has been done and what needs doing next. Complex actions, for instance the creation of a community, can transcend the lives of individuals and require generations to bring to fruition, and must involve continual efforts to formulate and reformulate the story of this community in its process of becoming. It is through recounting stories that we orient ourselves as members of such communities, and

more basically, learn how to live: "Deprive children of stories," MacIntyre argued, "and you leave them unscripted, anxious stutterers in their actions and words."[9]

Through stories, individuals not only grasp how to act in specific situations, but what sort of life they should be striving to lead. They come to define themselves as having a particular life history which is evaluated according to the stories which define a good life. Such life histories are embedded in inter-related sets of stories, defining individuals in relation to other individuals and as members of inter-related sets of institutions, each with their associated traditions and practices: a family, a city, a profession, different organizations of which the individual is part, and a nation-state. Although this is not argued by MacIntyre, such narratives tend ultimately to be related, at least loosely, to the grand narratives defining civilization and humanity.[10] The narrative unity of personal identities are defined to different degrees in relation to the narratively constituted traditions associated with such institutions and collectivities.

If MacIntyre's argument on the role of narratives in social life is accepted, it becomes possible to clarify the relationship he claimed between philosophy and pre-philosophical discourse, and to social life generally.[11] All narratives, whether they are being narrated or are being lived out and so constituting social life, construe the world in particular ways—including nature, society and other people with their narratives and their construals of the world. These construals can be challenged and brought into question, and they inevitably are, by the situations people confront and by the narratives being lived out by other people. The most obvious and superficial questions will pertain to particular factual claims and their interpretations. These are associated with further claims about what possibilities are open to people and the relative value ascribed to them, what goods should be aimed at and more fundamentally, what is the good life. These construals in turn are based on even deeper claims about the nature of social relations, of society, of human existence, of life, and of being itself. People are able to question all such claims. In fact healthy traditions facilitate and involve continual efforts to define or redefine

what they are, what they have been, where they are going and what they should be aiming at. Part of learning how to act as a member of an institution and how to live is learning how to participate in such efforts. Consequently, as MacIntyre pointed out, "A living tradition ... is an historically extended, socially embodied argument, and an argument precisely in part about the goods which constitute that tradition."[12]

These arguments involve continual efforts to reformulate the stories of institutions and traditions. To begin with, efforts to justify particular narratives will be based on their concordance with other narratives, including the narratives of individuals' lives and the narratives of other institutions. More fundamental questioning, questioning of the ultimate ends of institutions must lead to deeper and more philosophical questions. It is these which require recourse to systematic philosophies, and from there to the narratives through which particular systematic philosophies are justified in relation to their rivals. Through such recourse, the narratives of particular actions, of institutions and of people's lives tend to be configured from the perspective of systematic philosophies and their narratives of justification. These then form the ultimate reference points for configuring all other narratives, including the narratives of science, of philosophy, of nation-states and of civilizations. In this way the narratives by which systematic philosophies are justified come to be explicitly or implicitly the cores of grand narratives defining the past and projecting the future of humanity. The reception of such configurations involves not merely the reconstrual by people of institutions and of their lives. It involves the refiguring of the narratives constituting and being lived out by people within institutions.

The narrative of modernity, which followed the development of the "mechanical philosophy" in the seventeenth century, illustrates this. The narrative that justified Galileo's new science also oriented people to advance his research program. The Newtonian revolution, which was the outcome of this, generated a story of the general advance of knowledge of nature from the perspective of this mechanical philosophy. This in turn had a profound effect on the stories dominating the whole of society,

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the stories being lived out by its members. Redefining the past, the present and the future from the perspective of Newtonian cosmology, Newtonian thought was elaborated into a broader story about society and civilization, projecting a new vision of the future and legitimating new classes, institutions and forms of life.[13] As Margaret Jacob pointed out: "The model of order based on knowable laws embodied in the Newtonian synthesis offered a powerful alternative to a variety of other belief systems, not least to the doctrines of the scientifically naive clergy. . . . For those European elite who also embraced science the goal became enlightenment, and England and its science became the model of order, stability, and progress."[14] In the late eighteenth century, through the work of such figures as Anne Turgot and Adam Smith who elaborated the idea of progress and who were involved in developing the new science of political economy on the model of Newtonian physics, the narrative was elaborated into a general narrative of human history. After further development by Darwin and the social Darwinists, this narrative was extended to encompass the history of life on earth, justifying industrial capitalism as the end point of evolution and justifying the destruction of all that stood in its way.[15]

In this way a systematic philosophy, the philosophy of what is now called scientific materialism, came to be incorporated into narratives of institutions, societies, and civilization and embodied by them. Ultimately, it came to be embodied by the members of these institutions as an habitual way of defining the world and of acting. In the terminology of Pierre Bourdieu, stories, together with their way of construing the world and defining appropriate action, came to be embodied as *habitus*. It is the *habitus* "constituted in the course of an individual history . . . through which agents partake of the history objectified in institutions."[16] This *habitus*, Bourdieu argues, "makes it possible to inhabit institutions, to appropriate them practically, and so to keep them in activity, continuously pulling them from the state of dead letters, reviving the sense deposited in them."[17] As such the *habitus* continually reproduces the institutions that inculcate this *habitus*.

When inculcated and embodied as a *habitus* a systematic philosophy can dominate a soci-

ety or an entire civilization without the need for explicit invocation. And as Bourdieu noted:

> The principles em-bodied in this way are placed beyond the grasp of consciousness, and hence cannot even be made explicit; nothing seems more ineffable, more incommunicable, more inimitable, and, therefore, more precious, than the values given body, *made* body by the transubstantiation achieved by the hidden persuasion of an implicit pedagogy, capable of instilling a whole cosmology, an ethic, a metaphysic, a political philosophy, through injunctions as insignificant as "stand up straight" or "don't hold your knife in your left hand."[18]

This, generally, has been the case with the mechanistic world-orientation in the twentieth century. It has manifested itself in the almost universal tacit acceptance of social Darwinism and, at the end of the twentieth century, in the almost complete domination of the world by "neo-liberalism."[19]

The Eco-logical Crisis and Systematic Philosophy

MacIntyre's argument concerning the importance of systematic philosophy to pre-philosophical discourse is dramatically illustrated by the global ecological crisis. The sense of there being such a crisis is the result of the stories people are living out, ranging from the narratives of individual life histories, of business and government organizations and nations to the grand narrative of modernity, generating effects far beyond their intentions. One problem after another, increasing in scope and significance, is forcing increasing numbers of people to recognize that something is amiss. The way these stories construe the world, the ideals and goals they project and the values they assume, that is, the forms of thinking embodied in social life and its institutions, are being thrown into question. As Ulrich Beck has argued, we live in a risk society, and these risks have engendered an inescapable reflexivity.[20] This situation has raised fundamental philosophical questions.

Philosophers have responded to the challenge. But here the parlous state of mainstream academic philosophy has been revealed. The very notion of this crisis is highly contested,

with some people denying that environmental problems are significant, others arguing that while there are particular problems there is no general problem, while those who hold that there is a global ecological crisis differ in how they conceive it and the importance they ascribe to it. There are also fundamental disagreements over the causes of environmental problems and over what is required to address them, and over the relationship between these problems and the functioning of institutions and people's ways of life. These questions have raised further questions of political and economic philosophy: about how societies should be organized to address environmental problems, and whether the assumptions on which mainstream economics is based are flawed. Questions about the significance of non-human life and about our responsibility to future generations have led to more fundamental philosophical questions about the nature of value, about whether ethics should be anthropocentric or bio- or eco-centric, and even about whether nature is real or a cultural construct. But there has been almost no generally accepted advance in debates over these issues. Most efforts to grapple with such questions by academic philosophers, while making their careers and creating a new sub-discipline within philosophy, have proliferated points of view and arguments without bringing any of these to a resolution.[21] Little guidance has been provided to non-philosophers by such disputes, a state of affairs tacitly recognized by one of the world's pre-eminent environmental philosophers, Arne Naess, when he put forward a platform for the deep ecology movement which a large number of people could agree upon whatever their philosophical differences.[22] Without an agreed philosophy, environmentalists can only contrast their views and assert them against each other and against mainstream views.

In all cases different views are based on different fundamental assumptions about what is good, about knowledge, science and ethics, about the nature of society, humanity and of life, and ultimately about the nature of the world. Only by considering the most basic assumptions underlying different construals of the total situation and each philosophical issue, and then evaluating these assumptions, is it possible to put these disputes into perspective. In other words, rather than beginning with details and particular arguments, it is necessary to first consider the major systematic philosophies available to us and then to define humanity and its environment through these, contrasting the interpretations based upon them. Most importantly, it is necessary to examine humanity's relation to its environment in terms of the dominant systematic philosophy, and then from the perspective of credible alternatives.

The dominant systematic philosophy is still scientific materialism deriving from the seventeenth century cultural revolution. From the perspective of this philosophy, particularly as it has been articulated by mainstream economic theory, psychology, and biology, humanity consists of collections of individuals struggling for survival, power, and pleasure in a world of material things whose positions in space can be changed or rearranged over time. The grand narrative formulated from this perspective construes the history of humanity as beginning with primitive, tribal societies that evolved into more complex societies and then civilizations as the more technologically advanced humans increased their power to dominate nature and more primitive societies. From earlier agrarian civilizations, European/American civilization and industrial capitalism eventually emerged to dominate the world, and what we now see is the emergence of global capitalism, mastering and transforming the world as humanity advances towards the total control and rearrangement of nature for human purposes. As this grand narrative has been presupposed, and occasionally invoked in arguments about the point of institutions, these institutions have been aligned with this grand narrative. Accordingly, nature is only seen by modern societies' dominant institutions to be of value insofar as it can be controlled to satisfy human purposes. Individuals and societies not contributing to progress are seen to be of little significance, and humans are seen to be now more successful in controlling the world for their own ends than ever before—evidenced by their extended life expectancies. A global ecological crisis is virtually unintelligible. At most there are some relatively minor unwanted side-effects to our achievements; some things are not yet entirely under control. The domi-

nant view is still that expressed by Herman Kahn and his colleagues in 1977 in their attack on environmentalists:

> 200 years ago almost everywhere human beings were comparatively few, poor and at the mercy of the forces of nature, and 200 years from now, we expect, almost everywhere they will be numerous, rich and in control of the forces of nature."[23]

Those who reject this construal of world history may only be sensing the limitations of the dominant world orientation. In other cases, there are specific disagreements associated with well-worked out ideas inconsistent with the dominant cosmology. Anti-reductionist ecologists provide reasons for seeing human transformations of nature as threatening more global effects, some philosophies provide reasons for regarding other life forms and more "primitive" forms of society as intrinsically significant, and Marxists provide reasons to be concerned about the whole direction society, dominated by commodity fetishism and greed, is taking. However, as fragmentary critiques, such ideas can be marginalized as mere "points of view." Only total challenges, challenges that define themselves in opposition to the basic assumptions of scientific materialism, are real threats to its dominance. My contention is that the tradition of thought generally characterized as process philosophy or process metaphysics provides a plausible challenge to scientific materialism; that is, it is a tradition that not only can provide a systematic critique of all aspects of humanity's present relationship to its environment, but to the whole world-orientation on which this is based.[24]

Process metaphysics construes the world as a complex of processes of creative becoming rather than a world of things. In such a world each process is to some extent an immanent cause of its own being, new processes emerge that transcend their conditions of emergence, and objects, space, and time have only a derivative and relational status. As such this philosophy should not be identified with any particular philosopher. The exaltation of and excessive deference to a particular philosopher is a sign of the failure of his or her ideas to generate a creative tradition. Process philosophy has succeeded in becoming such a tradition, if

a somewhat fragmented one. As such it consists of ongoing debates which have generated real progress through its history. It goes back at least to Herder, Goethe, and Schelling. Schelling's philosophy of nature (strongly influenced by Herder), his rejection of transcendental idealism and his demand that philosophy "measures itself by life," acknowledging the priority of existence and action over thought, was a watershed in generating this tradition.[25] The tradition encompasses not only the work of Peirce, James, Bergson, Dewey, Whitehead, and Hartshorne, but also those of Kierkegaard, Nietzsche, Engels, Bogdanov, Collingwood, Mead, and Bakhtin. Among philosophers it has been further developed in the second half of the twentieth century by Suzanne Langer, Milic Capek, Charles Hartshorne, John Cobb, Dorothy Emmett, Ivor Leclerc, Edward Pols, David Ray Griffin, Nicholas Rescher, and Giles Deleuze. More importantly, it has been developed by scientists, including Alexander von Humboldt, Kurt von Baer, and H. C. Oersted in the nineteenth century, and C. H. Waddington, David Bohm, Henry Stapp, Geoffrey Chew, Ilya Prigogine, Charles Birch, Roger Sperry, Joseph Early, Mae-Wan Ho, and Brian Goodwin in the twentieth, scientists who have struggled and are still struggling to reform the whole of science on new metaphysical foundations, and in doing so, having made major advances within science. The complex and somewhat divided but very creative tradition of social, ethical and political philosophy directly or indirectly inspired or influenced by Herder and Hegel (who was strongly influenced by Herder), the tradition which has striven to see humanity, communities and individuals as processes of becoming, can also been seen as contributing to a process view of the world.[26] This tradition of social thought includes humanistic Marxism, hermeneutics and symbolic interactionism and the work of Merleau-Ponty, Castoriadis, Ricoeur, and Bourdieu. Process metaphysics enables the ideas generated by such thinkers to be reformulated and understood in naturalistic terms, a task begun by Engels, Bogdanov, Dewey, Mead, and just before he died, Merleau-Ponty.

From the perspective of the tradition of process thought, a global ecological crisis can be

construed as the effect of the emergence and growth of partially autonomous social processes based on and incorporating a defective understanding of and way of relating to nature, life, humans, society and civilization. These processes, most importantly, the growth of the world market and a range of other social processes which have emerged with this growth, have improved the conditions of life for some people, but have undermined the conditions of life for many other people and many other species. They are exhausting the reserves and destabilizing or undermining the processes which are the conditions for humanity's continued well being and for other species' existence. Indeed, processes that depend on exponential growth eventually must radically transform or destroy other processes on which they are dependent—cancers and plagues being examples of this. Changes in the environments of such processes can also be non-linear; that is, rather than gradual changes occurring proportionate to gradually intensifying causes, causes can lead to catastrophic effects as processes switch to different regimes or paths of development, or even disintegrate. From the perspective of process metaphysics it is not a matter of adding up all particular environmental problems to show there is a global ecological crisis; it is to show, rather, that one environmental problem after another are symptoms of self-reproducing socio-ecological processes expanding out of control and beyond people's present comprehension.

Process metaphysics provides a means for justifying intuitive doubts and integrating the particular concerns of those who are becoming skeptical of the scientific materialist grand narrative. It lends substance to the feeling that non-human beings, threatened species and eco-systems do have intrinsic significance, that pre-modern forms of society have a value in their own right, that egoism is not the inescapable nature of human beings, and that the future of humanity and of life are important and worth fighting for.[27] In place of the view that humans are mechanisms driven by appetites and aversions in an otherwise meaningless world, process metaphysics construes humans as creative (or destructive) socio-cultural beings who only become human through acquiring a cultural heritage, forming identities

through relationships based on mutual recognition, and defining their place in the world through narratives. As cultural beings they are able to transform their relations with each other and with the rest of the world. They have the potential to create a society in which people will fulfill themselves and gain a satisfactory identity, through taking on responsibility for each other, for nature and for the future of the world.[28] Process metaphysics promises to be able to provide the foundations for an integrated ethical, political, and economic philosophy for such a civilization.[29]

Process Metaphysics as the Foundation for an Alternative Grand Narrative

The capacity of process metaphysics to put environmental issues into an alternative and more plausible perspective might lead people to consider it more sympathetically. It does not yet, however, establish it as a successful rival systematic philosophy. Such justification requires a concerted effort to understand each of the alternatives available, not merely as abstract schemes of ideas, but as ongoing traditions of enquiry into both the natural and the human worlds, as the basis of social, ethical and political philosophies and as the actual or potential foundations for social, economic and political institutions. This involves, as MacIntyre argued, constructing a narrative of these traditions from the perspective of the philosophy to be defended. But how narratives are able to do this, and what it involves, requires further examination.

Narrative production involves creating new emplotments whereby heterogeneous factors: circumstances, agents, interactions, ends, means, and unintended results are configured into a unity so that they can be grasped together.[30] Narrative texts unfold to their recipients, horizons beyond the particular acts, events, and characters described, thereby unfolding one or more quasi worlds. When the projects and actions of different agents or communities of agents unfold different worlds, these are experienced as intersecting and being brought into question by confrontation by each other. These narratives are, to use Mikhail Bakhtin's expression, polyphonic.[31]

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Construing the history of traditions of systematic philosophy is such terms, the narrative emplotment whereby each tradition is seen in relation to others involves grasping as a unity the circumstances, actions, efforts, and conflicts of the agents associated with developing and defending these traditions. With the development of this narrative the worlds of those committed to these different traditions unfold and intersect as they advance or fail to advance their enquiries, highlighting the unique insights and blind spots of each. So in the historical narrative of process metaphysics we are presented with a small group of intrepid philosophers, scientists, and theologians revealing through the development of their schemes of ideas and empirical research new facets of the world to which those dominated by alternative systematic philosophies, most notably, scientific materialism, are blind. The world projected by such a narrative unfolds to intersect with and undermine the taken for granted nature of the world of the scientific materialists, exposing it to be just one construal of the world among others, and therefore as questionable and replaceable.[32] At the same time this narrative, in presenting the advances of process metaphysics, presents a set of standards in terms of which process metaphysics, scientific materialism and all other systematic philosophies, including traditions of thought from other civilizations, can be judged.[33]

But this narrative of the advance of process metaphysic must be more complex than the narrative described by MacIntyre of the triumph of Galileo's ideas. There are a number of versions of process metaphysics contending with each other, and proponents of reductionist materialism are still generating new insights and claiming to be overcoming its incoherencies. No narrative produced so far is able to justify totally dismissing it. Narratives of the development of process metaphysics, showing how it has already inspired a number of major scientific advances, can only justify provisionally embracing some version of it as a more promising research program and foundation for the sciences than its rivals. Furthermore, process metaphysics, unlike other metaphysics, is such that its acceptance involves the rejection of the possibility of a final, complete understanding of the world. As Whitehead argued:

> Philosophers can never hope finally to formulate these metaphysical first principles. Weakness of insight and deficiencies of language stand in the way inexorably. Words and phrases must be stretched towards a generality foreign to their ordinary usage; and however such elements of language be stabilized as technicalities, they remain metaphors mutely appealing for an imaginative leap.[34]

Process philosophy must be committed to polyphonic narratives. To have accepted the history of process metaphysics and to have provisionally embraced some version of it is to have situated oneself in this history and to be oriented to further advancing it as a program of research, or at least supporting those attempting to advance it, while always acknowledging that there are and should be other voices and rival research programs.

But as we have seen, the narrative justifying a systematic philosophy is implicitly the core of a grand narrative, a history of the world defining the achievements and failures of the past and the present of all people, all endeavours, practical, intellectual, and artistic, and all institutions, and projecting what humanity should be striving to achieve. Defining their place in the history of thought orients people not only in relation to ideas but also to the institutions which embody these ideas. By revealing the weaknesses of scientific materialism and the greater promise of process metaphysics as a foundation for the sciences, a history of ideas formulated from the perspective of process metaphysics also brings into question the institutions legitimated by and embodying scientific materialism, and orients people at least in a preliminary way to live in accordance with this new way of construing the world.

For people as individuals and as members of institutions to construe the world and themselves as complexes of processes, is to experience themselves as not only creating themselves through their thoughts, commitments, and actions, but as participating in the becoming of their social and biological communities, ranging from local to global communities. The unfinished project of the tradition of process

metaphysics, that is, the future projected as a goal by the grand narrative formulated in terms of process metaphysics, is not only to advance our understanding of the world, but to transcend the civilization of modernity, to create a new civilization embodying this way of construing the world.

However, people in the dominant positions of society's dominant institutions not only legitimate themselves through narratives based on a scientific materialist construal of the world, but embody this world-orientation as a *habitus*. That is, they attempt to act on the basis of a different construal of the world. This makes for problems. Even if we accept that people confronting problems in everyday life will have recourse to systematic philosophies, for the most part it will only be the dominant systematic philosophy which will be taken seriously. It will not be some fundamental challenge to it. This suggests that those opposing the dominant world orientation, who do not share the prevailing *habitus*, who do not construe the world in accordance with scientific materialism and who do not formulate their actions as narratives of competition and domination, will find themselves isolated and weak. Where those embodying scientific materialism have accepted all its conclusions and come to view all discourse, all enquiry and all human relationships in purely instrumental terms, ruling out any questioning of their assumptions, this weakness will be compounded. Like Don Quixote, living in a world dominated by the narratives of commercial realism attempting to live out the narratives of medieval chivalry, those people embracing process metaphysics must appear Quixotic. They cannot be taken seriously, especially when making sweeping claims about the future of civilization.

But the situation is not as hopeless as would first appear. Societies are nowhere near as culturally homogeneous as my schematic analysis might suggest. Major institutions, including science itself, have resisted being entirely constituted around scientific materialism and are sites of continuing debates and struggles between proponents of opposing philosophies; and classes and groups denigrated as losers by the dominant culture seldom fully embody this world-orientation. In short, the fractured cultures and institutions of modernity provide a fertile environment for opposition, and the global ecological crisis provides a focus for such opposition.

With an alternative grand narrative, a grand narrative affirming new values which can coordinate this opposition and provide an integrated challenge to the destructive effects of modernity, there is ground for optimism that our present civilization can be transformed and the problems generated by it overcome. As we noted, to emplot world history from the perspective of process metaphysics is not only to re-evaluate all that has taken place and all that presently exists, but simultaneously to project a new future. Projecting such a vision and reassessing the past and the present in terms of it, is the beginning of society's transformation.[35]

Embodying Process Metaphysics in Institutions

This brings us back to the problem of acting in particular situations located in particular institutions. One possibility open to people who have become radically dissatisfied with existing institutions and who have embraced such a vision of the future is to form new organizations, embodying process metaphysics, in accordance with the envisioned future. But any effort to mobilize people to establish new organizations can only take place in a context already structured by existing institutions. New organizations must fit in with most institutions to challenge others. The reason for developing such organizations should be seen as part of the process of challenging and transforming more fundamentally existing institutions.

The means of effecting such transformations should be commensurate with the end. It is necessary to construe each situation and the means by which it is to be transformed in accordance with a construal of the world as a world of interdependent, self-causing processes which are at present not properly appreciated as such. It is not a world of things and forces to be controlled and made predictable to bring about specified, fixed ends. The problem is to achieve, to embody as *habitus* and to institutionalize the appreciation of beings as processes. The best way to conceive this quest is as a struggle for justice, where justice is understood as the proper appreciation in thought and

practice of what all beings, past, present, and future, are, of what is their intrinsic significance, of what is their present situation, of what they have been through, of what are their needs, of what have they contributed to the common good of the world and what are their potentialities. This should include societies and non-human life forms as well as individual people, of opponents as well as allies. And the primary means of advancing this project will be establishing just forms of relationship which can survive and grow in such a way as to improve the possibilities for establishing further such relationships.

Accordingly, the task of transforming existing institutions should begin with a concerted effort to reconstruct their histories from the perspective of process metaphysics and the grand narrative and associated vision of the future formulated in terms of it, to do justice to all processes affected by these institutions. This will involve re-evaluating their past achievements and failings, redefining the present and projecting different relations between its members, with other institutions and with their environments, projecting different goals and ways of achieving them.[36] For such histories to be effective, it is necessary not only to identify the fractures and weaknesses and as many as possible of the problems faced by these institutions, but to relate these to the lives of people most likely to challenge the existing order, enabling such people to see the relationship between their own lives and the problems of society and what is involved in bringing about a better future. To coordinate all such efforts, to challenge institutions in the light of the global ecological crisis requires that their histories be reformulated in relation to and as part of the new grand narrative. Acting on the basis of such reconfigured histories, taking up a posi-

tion in relation to their definitions of the past and the present and to the future projected by them, is for people to construe the world through their actions as a world of processes, and thereby to begin the process of embodying this construal of the world. However, it is not as particular individuals but as members of institutions that people must act if they are to be effective. Institutions range from the family to nation-states and to global organizations such as the United Nations, from schools and universities to parliaments and transnational corporations. There can be no standard procedure for reforming each of these. Depending upon their origins, histories and power, some institutions are more likely than others to be vulnerable to fundamental questioning and to having their dominant narratives reformulated in accordance with the perspective of process metaphysics. The challenge is to embody process philosophy in such institutions.

Conclusion

What I have provided here is merely a sketch designed to show the centrality of narratives to the process of embodying systematic philosophies within institutions, and to show how such embodiment of ideas is required by and could begin in response to the global ecological crisis. As a sketch I have left out some crucial dimensions, scarcely doing justice to the autonomous dynamics of social forms such as bureaucracies and the global market, or to the nature of power struggles in the context of these dynamics. However, taking into account such dimensions would not alter the argument. Narratives are central to cultural and social life and it is through narratives that philosophy comes to be embodied by societies.

ENDNOTES

1. Alfred North Whitehead, *Science and the Modern World* [1925] (New York: Mentor 1964), pp. viif.

2. Alasdair MacIntyre, "The Future of Philosophy," *Proceedings and Addresses of The American Philosophical Association* (September, 1987): 85.

3. Ibid. p. 82.

4. Alasdair MacIntyre, "Are Philosophical Problems Insoluble?" in Patricia Cook, ed., *Philosophical Imagination and Cultural Memory* (Durham and London: Duke University Press), p. 76.

5. I have argued elsewhere that it is necessary to regard systematic philosophies as metaphysical systems, with the seventeenth century "new mechanical philosophy"

being exemplary. See Arran Gare, "MacIntyre, Narratives and Environmental Ethics," *Environmental Ethics* 20 (February 1998): 3–21; and "Speculative Metaphysics and the Future of Philosophy," *Australasian Journal of Philosophy* 77 (1999): 127–45.

6. Alasdair MacIntyre, "Epistemological Crises, Dramatic Narrative and the Philosophy of Science," *Monist* 60 (1977): 459–60 and 467.

7. Alasdair MacIntyre, *After Virtue*, 2nd. ed. (Notre Dame; University of Notre Dame Press, 1984), p. 216.

8. David Carr, *Time, Narrative and History* (Bloomington: Indiana University Press, 1991).

9. MacIntyre, *After Virtue*, p. 216.

10. Such a view is suggested by Carr in *Time, Narrative and History*, chp.6.

11. Walter R. Fisher has clarified this to some extent in *Human Communication as Narration: Towards a Philosophy of Reason, Value, and Action* (Columbia: University of South Carolina Press, 1989).

12. Carr, *Time, Narrative and History*, p. 222.

13. On the impact of Newtonian thought on all facets of English society, see Betty Jo Teeter Dobbs and Margaret C. Jacob, *Newton and the Culture of Newtonianism* (New Jersey: Humanities Press, 1995), and Margaret Jacob, *The Cultural Meaning of the Scientific Revolution* new ed. (New York: Oxford University Press, 1995).

14. Jacob, *The Cultural Meaning of the Scientific Revolution*, p. 98.

15. See Robert Young, *Darwin's Metaphor* (Cambridge: Cambridge University Press, 1985), and Adrian Desmond and James Moore, *Darwin* (Harmondsworth: Penguin, 1992).

16. Pierre Bourdieu, *The Logic of Practice*, trans. Richard Nice (Cambridge: Polity Press, 1990), p. 57.

17. Ibid.

18. Pierre Bourdieu, *Outline of a Theory of Practice*, trans. Richard Nice (Cambridge: Cambridge University Press, 1977), p. 94.

19. See Arran Gare, *Nihilism Inc.: Environmental Destruction and the Metaphysics of Sustainability* (Sydney: Eco-Logical Press, 1996), esp. chps. 5, 6, and 7 for an argument along these lines.

20. Ulrich Beck, *Risk Society: Towards a New Modernity* (London: Sage, 1992).

21. For a review of some of these debates see Arran Gare, *Postmodernism and the Environmental Crisis* (London: Routledge, 1995), chp. 3, and Gare, *Nihilism Inc.*, chp. 2.

22. See Arne Naess, *Ecology, community and lifestyle*, trans. and ed. by David Rothenberg. (Cambridge: Cambridge University Press, 1989), pp. 28ff.

23. Herman Kahn, William Brown, and Leon Martel, *The Next 200 Years: A Scenario for America and the World* (London: Associated Business Programs, 1977), p. 1.

24. For a brief historical sketch of this tradition, see Nicholas Rescher, *Process Metaphysics* (Albany: SUNY. Press, 1996). In my view, Rescher includes too many philosophers in this tradition, failing to discriminate between Platonism, which gave a place to becoming but subordinated it to omni-temporal forms, and process philosophy, which subordinates forms to process. Once this move is made, then the next step is to realize that the future is open, and following from this, that there is no reason to regard humanity, let alone Western civilization, as the final cause of cosmic progress. For an argument that process metaphysics is required to address the global ecological crisis, see Gare, *Postmodernism and the Environmental Crisis*, chp. 3, and *Nihilism Inc.*

25. See Dale E. Snow, *Schelling and the End of Idealism* (Albany: SUNY Press, 1996). See also Karl Löwith, *From Hegel to Nietzsche* [1943], trans. David E. Green (London: Constable, 1964), and Andrew Bowie, *Schelling and Modern European Philosophy* (London and New York: Routledge, 1993).

26. For the resources provided to ethical and political philosophy by Hegelian thinkers, see Jonathan E. Toews, *Hegelianism* (Cambridge: Cambridge University Press, 1980). And for a recent development, see Axel Honneth, *The Struggle for Recognition*, trans. Joel Anderson (Cambridge: MIT Press, 1996).

27. See for instance the arguments of Charles Birch and John B. Cobb, Jr. in *The Liberation of Life* (Cambridge: Cambridge University Press, 1981). See also Gare, *Nihilism Inc.*, ch. 11.

28. This is a central argument of Gare, *Nihilism Inc.* Arguments along similar lines have been made by Axel Honneth in his *The Struggle for Recognition.*

29. See *Nihilism Inc.* and Herman Daly and John B. Cobb, Jr., *For the Common Good,* 2nd. ed. (Boston: Beacon Press, 1994).

30. Paul Ricoeur, *Narrative and Time,* vol. 1, trans. Kathleen McLaughlin and David Pellauer (Chicago: University of Chicago Press, 1984), p. 65.

31. See Mikhail Bakhtin, *Problems of Dostoevsky's Poetics,* trans. and ed. by Caryl Emerson (Minneapolis: University of Minnesota Press, 1984), chp. 1.

32. The power and influence of Whitehead's *Science in the Modern World* derives from the success with which he achieves this.

33. I.e., "the philosophical scheme should be coherent, logical, and in respect to its interpretation, applicable and adequate." Alfred North Whitehead, *Process and Reality,* corrected edition, ed. by David Ray Griffin and Donald W. Sherburne (New York: Free Press, 1979), p.

3; or, what amounts to the same criteria, there should be "(i) Conformity to intuitive experience: (ii) Clarity of the propositional content; (iii) Internal Logical consistency; (iv) External Logical consistency; (v) Status of a *Logical* scheme with (a) widespread conformity to experience, (b) no discordance with experience, (c) coherence among its categoreal notions, (d) methodological consequences." Alfred North Whitehead, *The Function of Reason* [1929] (Boston: Beacon Press, 1958), pp. 67f.

34. Whitehead, *Process and Reality,* p. 5.

35. As Paul Ricoeur has pointed out. See George H. Taylor, "Editor's Introduction" summarizing Ricoeur's views in Paul Ricoeur, *Lectures on Ideology and Utopia* (New York: Columbia University Press, 1986), p. xxi.

36. This task is already well under way.

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