

PHILOSOPHICAL ANTHROPOLOGY, ETHICS AND POLITICAL PHILOSOPHY IN AN AGE OF IMPENDING CATASTROPHE

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ABSTRACT: In this paper it is argued that philosophical anthropology is central to ethics and politics. The denial of this has facilitated the triumph of debased notions of humans developed by Hobbes which has facilitated the enslavement of people to the logic of the global market, a logic which is now destroying the ecological conditions for civilization and most life on Earth. Reviving the classical understanding of the central place of philosophical anthropology to ethics and politics, the early work of Hegel and Marx is explicated, defended and further developed by interpreting this through developments in post-mechanistic science. Overcoming the opposition between the sciences and the humanities, it is suggested that the conception of humans developed in this way can orient people in their struggle for the liberty to avert a global ecological catastrophe.

KEYWORDS: Philosophical anthropology; ethics; political philosophy; Aristotle; Hobbes; Herder; Hegel; Schelling; Marx; hierarchy theory; C.S. Peirce; biosemiotics; human ecology; culture.

INTRODUCTION

Of all the destructive ideas produced and disseminated by the British philosopher G.E. Moore, one of the most influential progenitors of analytic philosophy, none has been more pernicious or disastrous for culture and civilization than the notion of the “naturalistic fallacy”.¹ While based on an argument about how terms are defined, specifically the term “good”, this so-called fallacy denied any relevance to efforts to advance our understanding of the cosmos and our place within it to ethics and political philosophy. The result has been not only the trivializing of ethics, political philosophy and philosophy more generally, but the trivialization of science which, partly as a consequence of this, has been redefined as nothing but a means to develop technology. The resulting fragmentation of intellectual inquiry has impacted on universities which are being transformed from public institutions into transnational business enterprises. But this is merely an aspect of a much broader transformation of institutions as local,

¹ See G.E. Moore, *Principia Ethica*, [1903] rev. ed., Cambridge: Cambridge University Press, 1993, p.58ff.
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national and international communities, their cultures now in fragments, are being pulverized into atomic individual actors in the globalized economy. The predatory managers of transnational corporations, through their domination of political parties and governments, and more ominously, through their control of people's minds through advertising, public relations and control of the mass media, now effectively rule the world. While the arguments on which the notion of the "naturalistic fallacy" are based: that it is impossible to derive an "ought" from an "is", or that values cannot be derived from facts, or more fundamentally, that terms must either be accepted as primitive or defined in a way that shows them to be shorthand for combinations of more primitive terms, have all been demolished,² we are still left with the legacy of this cultural fragmentation.

It is necessary to clear the air, to reveal what are the really important arguments pertaining to ethics and politics and what they imply for how we should live. The historian of technology, Lynn White Jr., argued: "The artifacts of a society, including its political, social and economic patterns, are shaped primarily by what the mass of individuals in that society believe, at the sub-verbal level, about who they are, about their relation to other people and to the natural environment, and about their destiny."³ It is these beliefs that must be made conscious and considered. The question of what are humans, what distinguishes them from other forms of life and what is the place of life in the cosmos are major questions for science not because such knowledge might be exploited commercially, but because these questions are central to ethics and politics. It is only in relation to the question What are humans? that we can properly consider the question What are human possibilities? And it is only with an understanding of human possibilities that we can then properly ask the question: Which possibilities should be realized? That is, this question needs to be at the core of science to enable people to work out what should we aim at, what kinds of beings should we strive to become. It is only when we have at least some kind of answer to the question What are humans? that we can think clearly about how we should act, how we should live and how we should organize society.

This relationship between anthropology, ethics and politics was taken as obvious and central in the arguments of Plato's *Republic*, but was stated more clearly by Aristotle. The arguments in his *Nicomachean Ethics* on what is the ultimate good that we should aim at as individuals and in politics presuppose a notion of what humans are. Aristotle argued that the good of humans is activity in conformity with virtue, and if there are several virtues, with the best and most complete.⁴ Aristotle argued that humans have an element in common with plants and animals, that is, vegetative

² It should be obvious that if someone *is* a ship's captain, they *ought* to put their passengers' safety before their own, that if we know that they did *in fact* do so then we can infer that they are *good* ship's captains, and that the notions of 'captain' and 'passenger' cannot be defined through primitive terms. See Julius Kovesi, *Moral Notions*, New York: Routledge and Kegan Paul, 1967. Kovesi's argument has been further developed in Arran Gare, *Nihilism Inc.*, Sydney: Ecological Press, 1996, p.377ff.

³ Lynn White Jr. 'Continuing the Conversation', in *Western Man and Environmental Ethics*, ed. Ian G. Barbour, Reading, Mass.: Addison-Wesley, 1973, p.57.

⁴ See Aristotle, *Nicomachean Ethics*, 1098a 16-18., trans. Martin Ostwald, Indianapolis: Bobbs-Merrill, 1962, p.17.

activity. This is the irrational element in humans. As with animals, humans also have appetites and a limited rationality associated with working out how to go about satisfying these. However, humans are also capable of a higher rationality of participating in the governance of their communities and of enquiry to comprehend the world and their place within it. It is these that are deemed distinctively human, and it is in these activities that we develop the best and most complete virtues. That is, it is only through identifying the distinctive qualities of humans, conceived as a particular form of life, that the ultimate ends of humans are defined and analyzed. The *Nicomachean Ethics* investigates what is the best kind of life for individuals, and the *Politics* examines the ways in which societies can be organized to reveal their potential for enabling people to live the best possible lives. Significantly, Aristotle characterized humans as “political animals”, that is, beings who live in self-governing communities, implying that people who do not live in such communities cannot realize their highest potential and therefore cannot become fully human.

All subsequent Western philosophy of ethics and politics has assumed overtly or covertly this framework as its point of departure. This does not mean that philosophers have defended this framework or even acknowledged it, but in opposing it or refusing to acknowledge it, they remained under its influence. Stoics and Epicureans in Ancient Hellenistic and Roman civilizations differed in their characterizations of the cosmos and of life, and therefore in their characterization of what is the good life and how to lead it, but still assumed Aristotle’s framework for working out what is the good life. Neo-Platonists absorbed many of Aristotle’s arguments, and when Christian thinkers synthesized Neo-Platonism and Christianity, they did so not by totally rejecting Aristotle but by reformulating and augmenting his ideas. While St Augustine focused mostly on individual lives and dealt with politics as only of peripheral concern, Thomas Aquinas built his ethics and politics on the foundations provided by Aristotle. While the Renaissance thinkers of Northern Italy were more interested in Roman than Greek philosophy, were less interested in what distinguished humans from other life forms and focused more on politics, their work would not have been possible without the framework of thinking provided by Aristotle. They accepted Aristotle’s view that the potential of humanity could only be realized in self-governing communities, assuming a view of humans that implied that liberty is the goal of political life. On this assumption they developed a new form of education encompassing everything pertaining to humans, that is the “humanities”. An education in the humanities sought to cultivate self-knowledge through which students would be able govern their passions and shape them into virtues, thereby becoming fully human.⁵ The ideas associated with this education came to be known as humanism, or, in the case of those concerned to promote liberty and educate people in the virtues required to sustain liberty, “civic humanism”.

The foundation of civic humanism in Aristotelian philosophy was clearly understood by Thomas Hobbes (1588-1679). Hobbes set out to destroy the

⁵ See David A. Lines, ‘Humanistic and Scholastic Ethics’, *The Cambridge Companion to Renaissance Philosophy*, ed. James Hankins, Cambridge: Cambridge University Press, 2007, pp.304-318, esp. p.304.

philosophical foundations on the basis of which liberty had been defended and extolled, and to do this, he had to destroy Aristotle's conception of humans.⁶ In *Leviathan*, published in 1651, he embraced the mechanistic cosmology of Galileo as a replacement for Aristotelian cosmology and as an alternative to the rival radical Neo-Platonism of the Nature Enthusiasts such as Giordano Bruno, and began with a characterization of humans as complex machines moved by appetites and aversions.⁷ The first part of *Leviathan*, "Of Man", characterizes humans as complex machines with astonishing detail and clarity. This is not only the source of the notion of rights based on contract, utilitarianism, ethical and psychological egoism and ethical subjectivism, but also the idea that thinking is nothing but adding and subtracting, that science is nothing but an instrument for controlling the world, and that arts and the humanities that study them are nothing but amusements. Conceiving humans in this way not only denied the possibility of humans gaining autonomy or liberty as the Greeks and Romans had described it, but rendered it all but unintelligible.⁸ Humans have appetites and aversions, they do not choose these or have to work out what they are, and reasoning can only be reasoning by individuals about how to control nature and people to avoid their aversions and satisfy their appetites, or to reach agreement on better arrangements to realize these ends. The higher element of humans, rationality characteristic of political and philosophical life where people debate how to realize the common good, or beyond that, engage in enquiry into nature and humanity, thereby comprehending the place of humanity in the cosmos and defining the ultimate ends of humanity, was simply denied.

Hobbes' philosophy came to be identified with the scientific view of humans, carrying all the authority accorded to science through the success of Newton's celestial mechanics. This view of humans has been simply assumed by most economic theory, embodied in the concept "economic man", and in most mainstream psychology, the ultimate goal of which is to work out how to control people more efficiently. Political theorists who have attempted to make politics into a science are also for the most part distant disciples of Hobbes. Augmenting these doctrines is Social Darwinism portraying life as a struggle for survival between competing mechanisms, evaluating everything in terms of its instrumental value in this struggle for survival. Fashionable contemporary notions of "posthumanism" or "transhumanism" are only distant echoes of Hobbes' philosophy and Darwinian evolutionary theory.⁹ This conception of humans has been most effective ethically and politically when it has been presupposed rather than explicitly defended, and the so-called "naturalistic fallacy" has played a central role in allowing it to be presupposed without being questioned. The questions of what are humans, what distinguishes them from other forms of life and what is their potential are

⁶ See Quentin Skinner, *Hobbes and Republican Liberty*, Cambridge: Cambridge University Press, 2008.

⁷ Thomas Hobbes, *Leviathan*, ed. C.B. Macpherson, Harmondsworth: Penguin, 1986.

⁸ Hobbes made this clear in his earlier book, *De Cive or The Citizen*, ed. Stirling P. Lamprecht, New York, 1949.

⁹ On this, see Nick Bostrom, 'A History of Transhumanist Thought', *Journal of Evolution and Technology*, Vol.14(1), April, 2005. For a critique of posthumanism, see Michael Zimmerman, 'The Singularity: A Crucial Phase in Divine Self-Actualization?' *Cosmos & History*, 4(2), 2008:347-370.

not raised because Hobbes' world-view is dogmatically presupposed, disguised by empiricist or positivist theories of knowledge which deny the role of theoretical assumptions in empirical inquiry. More importantly, the Hobbesian view of humans has been inculcated through institutions as a *habitus*, a disposition to interpret situations in all practical contexts in accordance with it, placing it even further beyond questioning.¹⁰ This occlusion is made complete by avoiding reading Hobbes' work where the source of modern ideas would become immediately apparent in all their perinatal nakedness. With the inculcation of his conception of humans, people are rendered powerless to alter their destinies or influence the course of history and can be treated as objects to be controlled. They are reduced to cogs in a social order that is inexorably destroying the current regime of the global ecosystem on which civilization depends without any possibility of transforming this social order.

THE TROUBLED BIRTH OF PHILOSOPHICAL ANTHROPOLOGY

Despite the rigor with which Hobbes' developed his conception of humans, his whole philosophy is radically incoherent. This became increasingly evident as his epigone expounded his ideas. Philosophers such as Julien De La Metrie and Baron von Holbach continued to advance Hobbes' effort to understand humans as complex machines, but this went with accepting Hobbes' and John Locke's theory of mind as the realm of sensations produced by the action of the external world on the body. Knowledge was seen to be the product of the interactions between sensations and their decaying products, the memories of these sensations. What became increasingly obvious was that if all knowledge is based on sensations in the mind which is spatially enclosed within the body, there could be no basis for knowing that there is an external world, let alone that it is a mechanical order of matter in motion. The philosophy of David Hume (1711-1776), essentially a *reductio ad absurdum* of the mechanistic view of humans, denying humans even a mind, made this fully explicit. It was in reaction to this Hobbesian view of humans that philosophical anthropology emerged, extolling higher potentialities for humans than Hobbes, or Hume, could acknowledge.

Inspired in part by Hume's *A Treatise of Human Nature*, Immanuel Kant (1724-1804) in his lectures, later published in 1797 as *Anthropology from a Pragmatic Point of View*, began by claiming an absolutely central place for the study of humans. As he put it:

The aim of every step in the cultural progress which is man's education is to assign this knowledge and skill he has acquired to the world's use. But the most important object is the world to which he can apply them is man, because man is his own final end – so an understanding of man in terms of his species, as an earthly being endowed with reason, especially deserves to be called knowledge of the world, even though man is only one of the creatures in the world.¹¹

To emphasise this, in his *Handbook* to his lectures on logic, Kant defined philosophy in its universal sense in terms of the questions it seeks to answer: "1. What can I know? 2.

¹⁰ This has been analysed by Gare, *Nihilism Inc.*, chap.5, 6 and 7.

¹¹ Immanuel Kant, *Anthropology from a Pragmatic Point of View*, trans. Mary J. Gregor, The Hague: Martinus Nijhoff, 1974, p.3.

What ought I to do? 3. What can I hope for? 4. What is Man?" The last question is answered by anthropology, and Kant proclaimed: "Fundamentally, all this could be reckoned as anthropology, since the first three questions are related to the last."¹² In characterizing humans, Kant emphasized above all that humans are self-conscious. Having the idea "I", they are persons with a unity of consciousness through all change. This, Kant argued, is what makes them free and able to act as free agents. However, Kant was still very much dominated by the triumph of Newton's celestial mechanics and the mechanistic world-view. To defend the notion of freedom, he accepted an almost complete dualism between subjects and the objective world of things, which for him included animals. A person, he argued, is "a being altogether different in rank and dignity from *things*, such as irrational animals, which we can dispose of as we please."¹³ Despite Kant's effort to give a place to biology in the *Critique of Judgement* and to examine the biological premises of anthropology,¹⁴ this view had been entrenched by the *Critique of Pure Reason* which focussed on knowledge rather than accounting for the diverse kinds of beings there are.

Despite Kant's efforts, this led to the development of Idealism. Idealists typically circumscribe the cognitive claims of science, portraying it as only dealing with the realm of appearances, while according a superior status for philosophy as the discipline dealing with consciousness, whether individual or social. By focusing on consciousness, these philosophers explain the possibility of deterministic scientific knowledge, but also give a place to ethics based on the assumption that humans are free agents. However, this tendency has set up a radical and apparently irreconcilable opposition in Western culture between the sciences, on the one side, and the humanities on the other. Scientists continuously extended their research program and their claim to be able to comprehend the world in mechanistic terms, and claimed that only the methods of science can produce true knowledge. The humanities, supported by idealist philosophers, claimed a superior kind of knowledge upholding values transcending Hobbes' appetites and aversions, or mere pleasure and pain, and represented science as only capable of gaining a limited, one-sided knowledge. This idealist tendency within the humanities, and the associated stand-off with science, stunted the development of philosophical anthropology and also inhibited efforts to raise the question of what are humans. Edmund Husserl, for instance, the founder of one of the most influential schools of thought in Western philosophy, "phenomenology", after having developed phenomenology in a more idealist direction criticized members of his own school of thought (Max Scheler, Martin Heidegger and Helmuth Plessner) who had attempted to revive philosophical anthropology.¹⁵

However, Kant's critical turn had not been accepted by his most eminent student, Johann Gottfried Herder (1744-1803), who took up the question What are humans? and

¹² Quoted by Martin Buber, 'What is Man?', *Between Man and Man*, New York: Macmillan, 1965, p.119.

¹³ Kant, *Anthropology*, p.9.

¹⁴ On this see Alix A. Cohen, 'Kant on epigenesis, monogenesis and human nature: The biological premises of anthropology,' *Stud. Hist. Phil. Biol. & Biomed. Sci.* 37 (2006): 675-693.

¹⁵ Edmund Husserl, 'Phenomenology and Anthropology' [1931] trans. Richard G. Schmitt, in Roderick M Chisholm, *Realism and the Background to Phenomenology*, New York: Free Press, 1960, chap.6.

made this central to his whole philosophy.¹⁶ Rejecting the mechanistic view of nature, he argued that nature consists of dynamic, purpose seeking, creative forces interacting with each other, and that humans are a distinctive life form within this dynamic nature. Noting the effect of the upright posture on humans, and arguing for a holistic view of language, Herder argued that humans are essentially social and cultural, involved in a struggle to identify their own and their communities' unique centres of gravity and to realize their unique potentials. The end of life is not satisfying appetites but self-realization. Herder took up and developed the concept of culture, using it in the plural and extending it to characterize the whole way of life of a people. At the same time, though, Herder argued that cultures have evolved through history as people have developed greater "humanity".

Herder's dynamic view of nature was developed by Goethe and Schelling and led to the tradition of *Naturphilosophie*, which challenged the assumptions of mechanistic science and contributed to the development of post-mechanistic natural science. Herder's reflections on human nature also influenced a number of philosophers. In particular Herder's ideas were embraced by both Hegel (1770-1831) and Marx (1818-1883) and through their influence have been central to ethical and political philosophies designed to combat the atomistic utilitarianism of the tradition of thought deriving from Hobbes. The notions of self-actualization and culture have had a major impact on history and the human sciences. The notion of culture has been central to the development of ethnology (or 'anthropology') studying primitive or traditional societies, to the development of sociology studying modern societies, and to the development of "humanistic" psychology which accords a central place to sociality, human creativity and self-actualization.¹⁷ Developed largely in opposition to mainstream economics and psychology, these "humanistic" human sciences have occupied a middle ground between science and the humanities.¹⁸

This influence was often obscured, however. The lecture notes or writings of Hegel and Marx which made the question of what are humans explicit were produced early in their careers and were not published, or at least not published as books, until the Twentieth Century. This led to distorted interpretations of their later work, firstly by Marx of Hegel, and then of Marx whose ideas were assimilated by some "orthodox" Marxists to the Hobbesian tradition of thought. A complicating factor was the development of Darwinian evolutionary theory and later Darwin's own efforts to characterize humans, and the influence he had on subsequent thinkers. The notion of evolution developed by Darwin really derived from the work of the *Naturphilosophen*, but Darwin aspired to advance the tradition of Newtonian science.¹⁹ While Darwin himself was ambivalent about the ethical implications of his work, the mainstream of biological

¹⁶ John H. Zammito, *Kant, Herder and the Birth of Anthropology*: Chicago: The University of Chicago Press, 2002.

¹⁷ On Herder and his influence, see Isaiah Berlin, *Three Critics of the Enlightenment: Vico, Hamann, Herder*, Henry Hardy (ed.), London: Pimlico, 2000, pp.168-242.

¹⁸ On this, see Wolf Lepenies, *Between Literature and Science: the Rise of Sociology*, trans. R.J. Hollingdale, Cambridge: Cambridge University Press, 1985.

¹⁹ Robert J. Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*, Chicago: University of Chicago Press, 2004, p.518.

science carried on this quest to reduce biology to chemistry and physics. They eventually concluded that humans are nothing more than the most efficient mechanisms produced by strings of DNA as instruments for their survival and reproduction, having developed this efficiency through past struggles for survival between such machines which had eliminated inefficient machines.²⁰ Sociobiologists, and cognitive scientists interpreting human cognition through the metaphor of artificial intelligence, have continued in their efforts to develop this Hobbesian view of humans. However, other biologists were inspired by Darwin to not only see humans as part of nature, but to see them as beings with very distinctive and irreducible characteristics that had somehow evolved from and emerged within nature and which should be explained as such.

When efforts to grapple with the question of what are humans were revived later in the Twentieth Century they were almost overwhelmed by the confusion of discourse. Combating various developments of Hobbesian thought, efforts have been made to better characterize humans by Max Scheler, Martin Heidegger, Helmuth Plessner, Ernst Cassirer, George Herbert Mead, Ernst Bloch, Arnold Gehlen, Hans Jonas, Martin Buber, Erwin Straus, Stephen Strasser, Mikhail Bakhtin, Maurice Merleau-Ponty, Gregory Bateson, Jean Piaget, Konrad Lorenz, Rom Harré, Axel Honneth, Hans Joas and Alasdair MacIntyre, among others. Despite their insights, however, none of these thinkers has been able to establish philosophical anthropology as a developing tradition of inquiry. Underlying the confused state of such inquiry has been the conflict between mainstream science and the humanities that has stunted the development of the humanities. There has also been the fragmentation of philosophy into irreconcilable rival traditions of thought while new insights into the nature of humanity were being provided by historical and ethnological work on the diversity of human cultures and social formations. Then with the discovery of the early works of Hegel and Marx it became evident that their ideas were more profound than both the work of thinkers influenced by Darwin and those who reacted against Darwinian thought. The situation is now more promising. The threat of global ecological catastrophe, largely due to the domination of humanity by the defective notions of nature and human nature based on the mechanistic world-view, mobilized theoretical scientists to write for a broader audience. They showed that post-Newtonian science is now aligned with the humanities and justifies the claim that humans are essentially social and creative. In doing this they have acknowledged the indissociable relationship between science and metaphysics and revived the previously marginalized tradition of process philosophy. This has provided the basis for reviving again the question of what are humans through a framework, concordant with the most advanced scientific ideas, through which earlier ideas on this can be assessed and integrated.

Against this background, the best path to take to answer the question What are humans? should be clearer. It should be evident that the greatest obstacle to posing this question properly and arriving at an answer has been the division between the humanities and the sciences and the dogmatic metaphysical assumptions of mainstream

²⁰ For this view see Richard Dawkins, *The Selfish Gene*, Oxford University Press, 1976.

Newtonian science. While the sciences appear to have been more successful in advancing their claims to having genuine knowledge, the argument of the humanists is unanswerable. It is necessary to acknowledge the potential of humanity for a much more complex form of rationality than it is possible for the tradition of thought deriving from Hobbes just to account for the possibility of science. To appreciate the possibility of science it is necessary to comprehend the possibility of conscious deliberation and the existence of social forms that can develop people's potential and then sustain them in their conscious deliberations. The best place to begin then is with the most profound ideas developed within the humanities. These, I believe, are the early work of Hegel and those he influenced. Then it is necessary to consider to what extent these ideas can be understood, justified and further developed from a non-Idealist perspective.

HEGEL ON HUMAN NATURE

Strongly influenced by Kant and his disciples, Hegel was an Idealist, although an Objective or Absolute Idealist rather than a Subjective Idealist. That is, he was not only influenced by Kant, Herder and their disciples, but also by Plato, Aristotle and Neo-Platonism.²¹ Hegel developed his ideas on human nature most explicitly in the *Jena Lectures on the Philosophy of Spirit* from 1804 to 1806.²² The logic behind these lectures is now far better understood through recent work on the history of German philosophy in the late Eighteenth and early Nineteenth Centuries. As noted, Kant had argued that the condition of the possibility of science, which at the same time then provided the basis for upholding the reality of freedom as the foundation for ethics, is the self-identical "I" which persists through all our changing experiences. This had been accepted by Kant's followers, but J.G. Fichte (1762-1814) had shown that such an "I" could only develop and sustain itself as such through limiting itself through recognizing and respecting others as free agents who in turn reciprocate this recognition, recognizing its own freedom.²³ This correction of Kant, involving an appreciation of the essential sociality of humans, that people only become humans through their relation to others, provided Fichte with the means to reformulate Kant's ethical philosophy in a way that overcame its abstract nature and provided a much stronger motivation for acting ethically. Behaving ethically was now conceived as limiting oneself to act only on those principles that accorded with full recognition of the freedom of others, which was seen as the condition for achieving full self-hood. Friedrich Hölderlin, and following him, F.W.J. Schelling (1775-1854), extended Fichte's

²¹ On the meaning of 'Idealism' for Hegel, see Frederick Beiser, *Hegel*, New York: Routledge, 2005, chap.5. On the meaning of idealism more generally, see Frederick C. Beiser, *German Idealism: The Struggle Against Subjectivism - 1781-1801*, Cambridge, Mass.: Harvard University Press, 2002.

²² G.W. F. Hegel, *System of Ethical Life and First Philosophy of Spirit*, trans. H.S. Harris and T.M. Knox, N.Y.: S.U.N.Y. Press, 1979, pp.205-253; Leo Rauch, *Hegel and the Human Spirit: A Translation of the Jena Lectures of the Philosophy of Spirit (1805-6) with commentary*, (Detroit: Wayne State University Press, 1983). For an analysis of these lectures, see Jürgen Habermas 'Labour and Interaction: Remarks on Hegel's Jena *Philosophy of Mind*', in *Theory and Practice*, London: Heinemann, 1974, pp.:142-169.

²³ J.G. Fichte, *Foundations of Natural Right [1796-97]*, Frederick Neuhouser (ed.), trans. Michael Baur, Cambridge: Cambridge University Press, 2000, p.29.

argument and claimed that even mutual recognition is not enough to achieve self-hood; this also presupposes a whole of which subjects and objects are parts, which he termed 'being'.²⁴ Hegel synthesized these insights with Herder's philosophy, embracing Herder's notion of culture and organic view of nature. He then reformulated all this through ideas from Plato and Aristotle as these had been taken up and developed in Christianity, and spoke of Spirit and its development through history rather than culture and the development of humanity. In this way Hegel was able to examine the components of culture and provide an explanation for the development of humanity through history.

Accordingly, Hegel rejected Kant's notion of the preformed ego, the "I" represented as a pure unity relating to itself, and portrayed the ego as the result of the development, from immediate sensitivity to self-awareness, then to self-consciousness gained through achieving reciprocity of recognition in interpersonal relationships, and finally to universality through participation in ethical and cultural life, which he characterized as Spirit. Hegel characterized this formative process as part of three interdependent dialectical patterns: symbolic representation which operates through the medium of language; the labour process which operates through the medium of the tool; and interaction on the basis of reciprocity which operates through the medium of moral relations.²⁵ Reciprocity operating through moral relations is clearly an extension of Fichte's philosophy. However, following Herder, Hegel emphasized that these moral relations are part of a culture which precedes the individual and mediates their relation.²⁶ It is an order of relations, extending from the family through civil society (based on recognition of property) and corporations (trade unions) to the State (understood as a self-governing community) as a whole and its institutions, including the institutions of government. Following Hölderlin's insight (further developed by Schelling) that this is only possible in the context of nature, Hegel recognized the importance of labour by which nature is transformed so that we live in a world of "tools", instruments serving human purposes and facilitating the continued transformation of nature to satisfy desire.²⁷ This humanized world of tools or instruments also precedes the individual, and through socialization into this world of tools and through labouring we also transcend our particularity, unite with the universal and develop into unitary subjects. Finally, embracing Herder's notion of language and through this, upholding the quest to comprehend the world and our place within it, Hegel argued that language is a medium that precedes the individual

²⁴ Friedrich Hölderlin, 'To Hegel', *Essays and Letters on Theory*, trans. Thomas Pfau, New York: State University of New York Press, 1988, p.124-6. See also Andrew Bowie, *Schelling and Modern European Philosophy*, London: Routledge, 1993, p.26.

²⁵ Habermas in "Labour and Interaction" argued that Hegel abandoned his earlier ideas on the three dialectical patterns, replacing it with the trichotomy 'Subjective Spirit, Objective Spirit and Absolute Spirit'. This claim has been rejected by subsequent interpreters of Hegel. See for example Robert R. Williams, *Hegel's Ethics of Recognition*, Berkeley: University of California Press, 1997.

²⁶ On Hegel's development of Fichte's insights, see Robert R. Williams, *Recognition: Fichte and Hegel on the Other*, New York: State University of New York Press, 1992. Most of the Jena lectures are devoted to the struggle for recognition.

²⁷ See Hegel, *System of Ethical Life*, p.228ff. and *Hegel and the Human Spirit*, p.103ff.

and is also a condition for transcending particularity to develop as self-conscious subjects.²⁸ Each dialectic is dependent upon the other two, but has its own unique dynamic irreducible to the other two. The individual simultaneously participates in all three of these dialectics and thereby comes to transcend his or her immediacy and particularity and takes the perspective of the universal, thereby gaining self-hood.

This is only achieved in stages, however, and in the early stages of human history was more potential than reality, distorted by the conflict of wills and the subjugation of some people to the will of others. It is always a quest, perhaps never finally realized. It is through striving to realize this selfhood through participation in Spirit that provides the impetus for the development from one shape of Spirit to another through history associated with different forms of Objective Spirit or institutional structures. It is the quest for recognition that has led to the extension of the recognition of the significance of others, first to broader strata of each community, then between communities and eventually, to recognition of the freedom and significance of all of humanity, crystallized in the institutions of the modern State. This advance in the dialectic of recognition has been facilitated by the dialectic of labour that has provided the technology to make this possible. Less obviously, this development has also required the development of the dialectic of representation (associated with Absolute Spirit and art, religion and philosophy) through which people have been able to comprehend nature as that which must be understood if it is to be transformed to serve human purposes, comprehend the rationality of their institutions and comprehend the history of humanity as Spirit realizing its full potential. Through this dialectic another world is generated having the form of Spirit itself in which Spirit attains a view of what is Spirit itself.²⁹ Through this conception of humanity Hegel attempted to comprehend its development through history up to the modern world, providing an ethics and political philosophy which he hoped could reconcile individualism and community and reveal how to bring the dynamics of the market under control through corporations and the institutions of the State.

SCHELLING'S CRITIQUE OF HEGEL

Hegel's faith in the future was based on his Idealism, although Hegel seldom used this term to characterize his work. The marginalization of Hegel's ideas is largely due to the supposed supersession of Idealism by a naturalistic evolutionary perspective. However, ideas about humans and humanity close to Hegel's, although less developed, had been defended during his lifetime and then shortly after from a non-reductionist evolutionary perspective by Friedrich Schelling. While originally Hegel and Schelling had been collaborators, their philosophies diverged until eventually Schelling set out to expose what he took to be the defects in Hegel's philosophy. While Schelling, influenced by Fichte and Herder, upheld a conception of humans similar to Hegel's,³⁰ he was far

²⁸ See *Hegel and the Human Spirit*, p.89ff. and Hegel, *System of Ethical Life*, p.218 & 244f.

²⁹ *Hegel and the Human Spirit*, p.173.

³⁰ See F.W.J. Schelling, *System of Transcendental Idealism (1800)*, trans. Peter Heath, Charlottesville: University Press of Virginia, 1978, Part Four. See also Williams, *Hegel's Ethics of Recognition*, pp.39-45.

more appreciative than Hegel of the prior reality of nature.³¹ He argued against Hegel that there is an ‘unprethinkable being’ that precedes all thought and is the condition of thought. Nature precedes Spirit; it is not posited by Spirit, as Hegel had claimed.³² But nature must be conceived as capable, at its highest level of development, of giving rise to the self-conscious subject that could arrive at knowledge of nature.³³ According to Schelling, the process of self-constitution or self-organization, rather than being a marginal phenomenon, must be the primal ground of all reality.³⁴ Generalizing Fichte’s notion that the self-conscious subject emerges through being limited, Schelling argued that the stages in the development of nature can be understood as a sequence of limitings of activity.³⁵ His procedure was to subtract from self-consciousness to arrive at the lowest conceivable potential, and then construct the path upward to show how the conscious self could be conceived to emerge from this. The lowest potential arrived at was the “pure subject-object”, a realm more primordial than either subjects or objects, which Schelling equated with nature. He claimed that the “unconscious” stages through which consciousness emerges can only become conscious to an “I” which has developed out of them and realizes its dependence upon them. Nature was conceived as essentially activity or, simultaneously, “productivity” (or process) and “products”. Without productivity, there could be no products, and without products, there could be no productivity. Whatever product or form exists is in perpetual process of being formed by being limited, or forming itself by limiting itself. Initially, productivity consists in opposed activities limiting each other, and Schelling proclaimed, “give me a nature made up of opposed activities ... and from that I will bring forth for you the intelligence, with the whole system of its presentations.”³⁶ From opposed activities emerge force and matter, space and time, chemicals and non-living and living organisms. Dead matter, in which product prevails over productivity, is a result of the stable balance of forces where products have achieved a state of indifference. Organisms are self-organizing beings in which productivity cannot easily maintain products in a state of indifference. Living organisms differ from non-living organisms in that their complexity makes it even more difficult to maintain a state of indifference. They must respond to changes in their environments creatively to form and reform themselves as products. Life is the condition for the emergence of Spirit, with its social forms and their history. With Spirit, we have the emergence of self-consciousness and the freedom to choose evil or good. Evil is the domination of the blind self-seeking urge.

³¹ See Beiser, *German Idealism*, p.506ff.

³² For Schelling’s critique of Hegel on this point, see F.W.J. Schelling, *The Grounding of Positive Philosophy: The Berlin Lectures*, trans. Bruce Matthews, New York: State University of New York Press, 2007, p.150ff.

³³ See F.W.J. Schelling, *First Outline of a System of the Philosophy of Nature* [1799] trans. Keith R. Peterson, New York: S.U.N.Y. Press, 2004. Schelling’s clearest exposition of this was in “The Philosophy of Nature” in *On the History of Modern Philosophy*, trans. Andrew Bowie, Cambridge: Cambridge University Press, 1994, pp.114-133.

³⁴ On this, see Marie-Luise Heuser-Kessler, *Die Produktivität der Natur: Schellings Naturphilosophie und das neue Paradigma der Selbstorganisation in den Naturwissenschaften*, Berlin: Duncker & Humblot, 1986.

³⁵ Schelling, *First Outline of a System of the Philosophy of Nature*, p.17ff.

³⁶ Schelling, *System of Transcendental Idealism (1800)*, trans. Peter Heath, (Charlottesville: University Press of Virginia, 1978), p.72.

It is creative power out of control, like cancer; but without such power there would be no existence and no good. Good emerges through limiting this power.³⁷

MARX AND PHILOSOPHICAL ANTHROPOLOGY

Schelling was a major influence on Marx, both directly and indirectly through Schelling's influence on Feuerbach who influenced Marx.³⁸ Hegel's conception of humans was largely accepted by Marx, although the idea of this being the development of Spirit was rejected and replaced first by the idea of Man developing through history (in the *1844 Manuscripts*), and then by the idea of people in relations developing through history (in *The German Ideology*).³⁹ While Marx emphasized the dialectic of labour rather than the other two dialectics, it is clear from his work that unlike many of his followers he fully appreciated the importance of the other two dialectics. Marx's denunciation of Jeremy Bentham as "that insipid, pedantic, leather-tongued oracle of the ordinary bourgeois intelligence" who took "the modern shopkeeper, especially the English shopkeeper, as the normal man", contrasted with how Bentham should have proceeded, dealing with "human nature in general, and then with human nature as modified in each historical epoch"⁴⁰ reveals his contempt for utilitarianism and, beyond that, the whole tradition of thought deriving from Hobbes.⁴¹ It also reveals how he believed social critiques should be conducted since it indicates that he believed that all his work presupposed such a general conception of human nature. The notion that people could be alienated by social relations from their own creative powers assumes an appreciation of the dialectic of recognition, and that Marx devoted so much work to exposing the illusions created by economists to disguise this alienation reveals the importance he accorded to the dialectic of representation. That is, Marx's later work concurs with his early work in which philosophical anthropology is explicit and explicitly evaluative, as in "Comments on James Mill" where Marx characterized "human society" as a society in which all human powers are released so that "I would have directly confirmed and realized my true nature, my human nature, my communal nature. Our products would be so many mirrors in which we saw reflected our essential nature."⁴²

³⁷ Schelling develops his ideas about freedom in *Of Human Freedom*, trans. James Gutmann, La Salle, Ill.: Open Court, 1954.

³⁸ See James D. White, "Marx: From 'The Critique of Political Economy' to 'Capital'", *Studies in Marxism*, 1, 1994: 89-105.

³⁹ The difference between Hegel and Marx appears far less when Hegel's early lectures are taken into account, lectures of which Marx was unaware when he criticized Hegel in his "Critique of the Hegelian Dialectic and Philosophy as a Whole" in the *1844 Manuscripts*.

⁴⁰ Karl Marx, *Capital* Vol.1, trans. Samuel Moore and Edward Aveling [1887], Moscow: Progress Publishers, 1974, p.570 and 571, n.2.

⁴¹ That Marx was hostile to "moralism" does not mean that he was hostile to ethics or that he embraced a Hobbesian view of humans. On this see Eugene Kamenka, *The Ethical Foundations of Marxism*, 2nd ed. London: Routledge & Kegan Paul, 1972.

⁴² Karl Marx, "Comments on James Mill *Elements Economie Politique*," *Karl Marx Friedrich Engels: collected Works* Volume.3, *March 1843-August 1844*, New York: International Publishers, p.228.

The emphasis on labour was not the basis of his originality, however. What was more important was that following Schelling and Feuerbach he rejected Hegel's Idealism and along with this, the idea that nature is posited by Spirit, and recognized there is more to history than the unfolding of the three dialectics. To begin with, he gave a much more central place to struggles between different classes in the progress of humanity. This, however, only slightly modified Hegel's conception of humans. What is far more significant is the place he accorded to nature. As Marx pointed out, the labour process is "the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or rather, is common to every such phase."⁴³ As such the productive process is the metabolism of society, and as with the study of organisms, everything else must be understood in relation to it. Secondly, Marx came to appreciate that the major problem for understanding humanity is to comprehend how a rift could have occurred in this metabolic relationship. As Marx wrote:

It is not the unity of living and active humanity with the natural, inorganic conditions of their metabolic exchange with nature, and hence their appropriation of nature, which requires explanation or is the result of historic process, but rather the separation between these inorganic conditions of human existence and this active existence, a separation which is completely posited only in the relation of wage labour and capital.⁴⁴

His critique of political economy was designed to reveal how the market had emerged from the communities which had created it to take on a life of its own, how it had come to dominate people, reproducing exploitative relations of production and extending itself both extensively, until it had encompassed the globe, and intensively, commodifying more and more aspects of reality. He showed that crucial to this is the process of extending categories of economics from exchange of products mediated by money to exchange of land and labour power. These categories serve as forms of existence which simultaneously define the relationship between people and humans and nature, prescribe how to act while blinding people to the true nature of their relationships to each other and to nature. It results in 'the reduction of agricultural population to a constantly falling minimum, and confronts it with a constantly growing industrial population crowded together in large cities ... [creating] conditions which cause an irreparable break in the coherence of social interchange prescribed by the natural laws of life... [squandering] the vitality of the soil.'⁴⁵ As a consequence people, whether employees or employers (proletarians or bourgeois), have been compelled to behave in a way that reproduces and expands the economy, continually revolutionizing the means of production, while rendering people increasingly dependent and

⁴³ Karl Marx *Capital* Vol.I, trans. Samuel Moore and Edward Aveling [1887], Moscow: Progress Publishers, 1974, p.179.

⁴⁴ Karl Marx *Grundrisse*, trans. Martin Nicolaus, Harmondsworth: Penguin, 1973, p.489.

⁴⁵ Karl Marx, *Capital*, Vol.III, Moscow: Progress Publishers, 1977, p.813. On this aspect of Marx, see Brett Clark and Richard York, "Carbon metabolism: Global capitalism, climate change, and the biospheric rift" *Theory and Society*, 2005, Vol.34: 391-428.

increasingly vulnerable to others in the economy and to the laws of its development which are destroying the natural conditions of their existence. Marx recognized this condition to be a form of slavery, as the Romans had understood this term. At the same time, this study revealed that there was nothing natural in this order, that it was inherently unstable and that it is possible that the worst affected members of this system could transform these social relations, appropriate the developed means of production and create a more human, less destructive society.

Through this study Marx came to appreciate that there could be no necessary unfolding of humanity's potential through history. The dynamics of the market confront people as a second nature, and the tendencies described by its laws of development could just as well lead to the destruction of humanity as to the realization of people's highest potentialities. It was merely a contingent fact that the tendencies in capitalism at the time in which Marx was writing might have been producing the conditions that could have facilitated the creation of a new form of society in which people would overcome their alienation and enslavement to the market. The future is open, and it is possible that the dynamics of the market will lead to the destruction of the natural conditions for humanity's very existence. Having revealed this, Marx became more and more concerned about the way in which human products could turn against their producers. The very nature of the technology humans were developing under imperatives to maximize profitability could make it impossible for them to regain control of the market.⁴⁶

If there is one emergent process or formation within culture, there is no reason why there cannot be others. This is one of Georg Simmel's central insights, clearly inspired by Marx's work:

Whenever life progresses beyond the animal level of culture, an internal contradiction appears... We speak of culture whenever life produces certain forms in which it expresses and realizes itself... But although these forms arise out of the life process, because of their unique constellation they do not share the restless rhythm of life, its ascent and descent, its constant renewal, its incessant divisions and reunifications... They acquire fixed identities, a logic and lawfulness of their own; this new rigidity inevitably places them at a distance from the spiritual dynamic which created them and which makes them independent... This characteristic of cultural processes was first noted in economic change.⁴⁷

Simmel's work involved identifying and analysing the nature, generation and reproduction of these forms. Robert Michels' analysis of the iron law of oligarchy in political parties, Lewis Mumford's analysis of the emergence and dynamics of cities, William McNeill's analysis of the emergence of "microparasitism" and "macroparasitism", Michel Foucault's identification of emergent discursive formations: the asylum, the clinic, the prison and so on, Bourdieu's analysis of the dynamics of

⁴⁶ On the evolution of Marx's thought, showing how different Marx's ideas were from those of the Marxists, see James D. White, *Karl Marx and the Intellectual Origins of Dialectical Materialism*, Houndmills: Macmillan, 1996.

⁴⁷ Georg Simmel, 'The Conflict in Modern Culture', in Donald N. Levine ed. *George Simmel on Individual and Social Forms*, Chicago: University of Chicago Press, 1971, pp.375-393, p.375f.

economic, political and cultural fields, the work of various Marxists who have identified and revealed emergent tendencies in both non-capitalist and late capitalist socio-economic formations, the work of Wallerstein and his colleagues in describing the concentration of economic and political power and the differentiation of the world-system of capitalism into cores, semi-peripheries and peripheries, and the accounts of Kent Flannery and Roy Rappaport on the tendency of dominant social systems to “hypercoherence” - to increase control, to use up more and more available energy, until a stage is reached where they have so much power that they can survive while contributing little or nothing to the systems on which they are dependent - until they destroy these systems, the conditions of their own existence,⁴⁸ can all be interpreted as studies of emergent social forms or processes in accordance with Marx’s revised conception of the nature of humans.

It is as a consequence of the emergence of such a system at a global level, dominated by a new transnational class of predator managers, that we now have the destructive exploitation of the world economy described by Stephen Bunker in which:

The flow of energy from extractive to productive economies reduces the complexity and power of the first and increases complexity and power in the second. The actions and characteristics of modern states and their complex and costly bureaucracies accelerate these sequences..... Extractive appropriation impoverishes the environment on which local populations depend both for their own reproduction and for the extraction of commodities for export.... Once the profit-maximizing logic of extraction for trade across regional ecosystems is introduced ... price differentials between extractive commodities and the differential return to extractive labour stimulate concentrated exploitation of a limited number of resources at rates which disrupt both the regeneration of these resources and the biotic chains of co-evolved species and associated geological and hydrological regimes... The exchange relations which bind this system together depend on locally dominant groups to reorganize local modes of production and extraction in response to world demand, but the ultimate collapse will be global, not local. The continued impoverishment of peripheral regions finally damages the entire system.⁴⁹

POST-REDUCTIONIST SCIENCE: HIERARCHY THEORY, BIOSEMIOTICS AND HUMAN CULTURE

It is in this context that the dialectic of representation has to be recognized as of increasing importance. It is only by virtue of people’s capacity to develop more adequate understanding of nature and the place of humanity within nature, of what are human potentialities, both for greatness and destruction, that humans will be able to realize their potential to avert the destruction of the global ecosystem and create a better world. Extension of the study of the dynamics of the market and how it has

⁴⁸ Kent V. Flannery, 'The Cultural Evolution of Civilizations', *Annual Review of Ecology and Systematics*, Vol.3, 1972, pp.399-426 developing the work of Rappaport.

⁴⁹ Stephen G. Bunker in *Underdeveloping the Amazon*, Chicago: University of Chicago Press, 1988, p.21f., 47 & 253.

dominated humanity has revealed the role of reductionist materialism in gaining the knowledge to control natural processes and people. It has been supported because it provides the kind of knowledge that is valuable as a commodity and can be sold as such, but also because it legitimates the Hobbesian view of humans and thereby the dominance of the market as the best possible way of organizing human relations, blinding people to their own potential for liberation from the laws of the market. This is the only way to explain the domination of modernity by a conception of the world which, by denying the possibility of emergence and thereby the reality of life and humanity as anything more than efficient machines, is manifestly incoherent. The irrationality of the adherence to this incoherence is becoming more obvious as advances in science are forcing scientists to acknowledge the reality of emergence. Accepting this reality involves very fundamental rethinking of virtually every aspect of science since allowing for it and comprehending its possibility changes the very meaning of scientific explanation and comprehension. Among other things, this requires an appreciation of the limits of mathematics and a fundamental rethinking of the role of mathematics in science. It involves appreciating that explanation cannot be merely a matter of accounting for phenomena by showing them to be manifestations of something else, since in some cases the very existence of that which is to be explained can only be accounted for in terms of the immanent dynamics of that which has emerged. This essentially is the problem Marx was struggling with in his study of the emergence and self-reproducing dynamics of the autonomous market. But, while recognizing emergence involves accepting the irreducibility of that which has emerged to the conditions of its emergence, it is still necessary to account for the possibility of such emergence.

Schelling's idea that emergence occurs through limiting or constraining of activity was rediscovered with the development of hierarchy theory, particularly as it was developed by Howard Pattee and those he influenced. For these hierarchy theorists, the very being of any system involves self-constraining, and having abandoned determinism and accepted that the future to some extent is open, they appreciated that such self-constraining is the basis of the freedom of these systems. Constraining is creative and facilitative. As Pattee wrote:

The constraints of the genetic code on ordinary chemistry make possible the diversity of living forms. At the next level, the additional constraints of genetic suppressors make possible the integrated development of functional organs and multi-cellular individuals. At the highest levels of control we know that legal constraints are necessary to establish a free society, and constraints of spelling and syntax are prerequisites for free expression of thought.⁵⁰

In developing hierarchy theory, Pattee was particularly concerned to provide a physical account of control, which, he argued, required of systems that they generate models of themselves to effect such control. That is, he attempted to account for how physical

⁵⁰ H. Pattee, *Hierarchy Theory: The Challenge of Complex Systems*, New York George Braziller, 1973, p.73f.

processes could generate symbols or signs.⁵¹ Through producing and interpreting signs, systems can respond not only to their immediate situation but can anticipate what situations they will encounter in the future.

It was soon realized by Stanley Salthe that Pattee's ideas accorded with and supported the more radical work of the philosopher Charles Sanders Peirce who, characterizing himself as a "Schellingian of some stripe", had attempted to develop a general theory of signs, to account for their possibility and to suggest that the production and interpretation of signs pervades nature.⁵² The most general definition of a sign offered by Peirce was that it is that which "mediates between an object and an interpretant; since it is both determined by the object *relatively to the interpretant*, and determines the interpretant *in reference to the object*, in such wise as to cause the interpretant to be determined by the object through the mediation of the 'sign'."⁵³ It is important to emphasize here "this tri-relative influence" is not "in any way resolvable into actions between pairs";⁵⁴ that is, this influence cannot be analysed into cause-effect relations, and involves some measure of creativity in nature. Interpretants can themselves become signs, generating new interpretants, and this process can continue indefinitely. Such semiosis involves limiting or constraining of possibilities of the interpretant by the object through the sign, but this is what facilitates some control by a system of its own future.

Pattee's and Salthe's work has provided strong support for the extension of semiotics to the biological world by the biosemioticians such as Jesper Hoffmeyer and Kalevi Kull, where it has been shown to be central not only to thought but to action and to the growth of organisms.⁵⁵ In fact, the production and interpretation of signs or semiosis in self-conscious thought presupposes semiosis in actions, or "animal" semiosis, which in turn presupposes semiosis in growth, or "vegetative" semiosis, which in turn presupposes semiosis at the level of the cell. Each stage in this developmental sequence involves new levels of constraint. Semiosis can and frequently does involve all four levels: cellular, vegetative, animal and symbolic. For example the growth of flowers and their opening is a sign to bees, which is interpreted in their activities of collecting nectar, but also in bee dances in their hives by which they indicate to other bees where flowers (if there is a shortage of flowers) can be found. Semiosis is central to all life. Hoffmeyer argues that the emergence of the global ecosystem has created what he calls the "semiosphere", a global system of sign production and interpretation largely constituting the life of the global ecosystem.⁵⁶

From the perspective of post-reductionist evolutionary theory, evolution has to be understood as a creative process by which ecosystems experiment with new forms of

⁵¹ See H.H. Pattee, 'The Necessity of Biosemiotics: Matter-Symbol Complementarity', *Introduction to Biosemiotics: The New Biological Synthesis*, Marcello Barbieri (ed.), Dordrecht: Springer, 2008, chap. 4.

⁵² S.N. Salthe, *Development and Evolution: Complexity and Change in Biology*, New York: Braziller, 1973, p.13ff.

⁵³ C. S. Peirce, *The Essential Peirce: Selected Philosophical Writings*, Vol. 2 (1893-1913), T. P. E. Project (ed.), (Bloomington: Indiana University Press, 1998), p.410.

⁵⁴ C. S. Peirce, *Philosophical Writings of Peirce*, J. Buchler (ed.), New York: Dover, 1955, p.282.

⁵⁵ See K. Kull, 'An Introduction to phytosemiotics: Semiotic botany and vegetative sign systems', *Sign, System, Studies*, No.28, 2000, pp.326-350.

⁵⁶ Jesper Hoffmeyer, *Signs of Meaning in the Universe*, Bloomington: Indiana University Press, 1996.

life, which, if they contribute to the resilience of these ecosystems, tend to survive.⁵⁷ In this, the development of new forms of symbiosis, usually involving new kinds of semiosis, is much more important than the competitive struggle for survival. Excessive competition actually cripples such experimentation and thereby evolutionary development.⁵⁸

THE EMERGENCE OF HUMAN CULTURE AS A COMPONENT OF THE SEMIOSPHERE

It is in this context, that is, in a global ecosystem, characterized by enormously complex forms of interaction involving complex forms of semiosis, that humans and human culture emerged.⁵⁹ Human culture is associated with a unique kind of semiosis generated by unique kinds of constraint. As Ernst Cassirer noted on the basis of studies of animals such as chimpanzees which have much in common with humans yet differ fundamentally from them, and from brain damaged patients who had lost some of humanity's unique characteristics:

The function circle of man is not only quantitatively enlarged; it has also undergone a qualitatively change. Between the receptor system and the effector system, which are to be found in all animal species, we find in man a third link, which we may describe as the *symbolic system*. This new acquisition transforms the whole of human life. As compared with the other animals man lives not merely in a broader reality; he lives, so to speak, in a new *dimension* of reality.⁶⁰

What is the basis of this new dimension? It is characterized by a dissociation of semiosis from growth and activity and the capacity to reflect on the semiosis associated with these, and the capacity to then constrain activity in accordance with this dissociated, reflexive semiosis. It is a "second-order" semiosis. What is distinctive about this is illustrated by brain damaged patients with language deficiencies. It was shown that these were not isolated defects but manifestations of global changes in the patient's whole mode of being in the world.⁶¹ Patients would forget words that named things, but would still be able to characterize things by describing their function, for instance, "apple parer" for "knife". What was surprising was that at the same time they would lose the ability to knock on an imaginary door. The crucial loss appears to be the loss of imagination. It is imagination that is central to and is opened up by this the new dimension.⁶² It is imagination that is required to transcend one's immediate

⁵⁷ See Robert G.G. Reid, *Biological Emergence: Evolution by Natural Experiment*, Cambridge, Mass.: MIT Press, 2007.

⁵⁸ See Peter A. Corning, *Holistic Darwinism: Synergy, Cybernetics, and the Bioeconomics of Evolution*, Chicago: University of Chicago Press, 2005.

⁵⁹ On the emergence of culture as a specific kind of semiosis, see Wendy Wheeler, *The Whole Creature: Complexity, Biosemiotics and the Evolution of Culture*, London: Lawrence & Wishart, 2006.

⁶⁰ Ernst Cassirer, *An Essay on Man*, Toronto: Bantam Books, 1970, p.26.

⁶¹ Ernst Cassirer, *The Philosophy of Symbolic Forms: Volume 3: The Phenomenology of Knowledge*, trans. Ralph Manheim, New Haven: Yale University Press, 1957, p.220ff.

⁶² The significance of imagination in all distinctively human capacities has been strongly argued by Cornelius Castoriadis. See his 'Logic, Imagination, Reflection' in *World in Fragments: Writings on Politics*,

involvement in the world, to see the world from the perspective of others, and then to define oneself as a person playing a particular role from the perspective of these others. Imagination is required to recognize functions independently of their particular applications, to recognize tools (including buildings and means of transport as well as tools in the narrow sense) as signs of this function rather than mere handy instruments, and then to make tools and invent new tools to serve these functions.⁶³ And imagination is central to the use of all but the most basic, context bound, uses of language. It is the basis of not only of art and literature but also philosophy, mathematics and science. In particular, as Paul Ricoeur has argued, it is central to the construction and reception of stories or narratives.⁶⁴

All emergent order involves new constraints, and this is also true of semiosis in general and semiosis associated with the dialectics of culture. Defining oneself through proper recognition of others involves constraining of thought and action in taking into account the freedom and significance of others.⁶⁵ It is this dialectic of recognition that is most important for creating complex institutions and forms of organization with stable role relationships that can be sustained over generations. The dialectic of recognition, while partially autonomous, is dependent upon and greatly augmented by the dialectic of representation, particularly cosmology and stories or narratives. Stories also greatly augment the dialectic of labour by allowing people to develop complex forms of cooperation for projects over long durations, extending beyond the lives of individuals. All complex actions involving many people are lived stories and require the telling and retelling the story of the action in which people are engaged, and then constraining action in accordance with the logic of these stories. Stories are also central to the development of communities and institutions, and to maintaining their vitality. It is only through telling and retelling the history of communities and institutions that the point of their existence can be understood and revised, including institutions of mathematical and scientific research. And stories are central to individuals in their efforts to orient themselves in a socially constituted and socially produced world, to live life authentically and to refigure the stories they have inherited and within which they are situated.⁶⁶ The development of history as the story of the past in the service of orienting people to create the future has engendered a drive for justice as the proper recognition of both oneself and others. Cosmology enables these stories to situate humanity and its history in relation to the rest of nature.

Society, Psychoanalysis, and the Imagination, trans. and ed. David Ames Curtis, Stanford: Stanford University Press, 1997, pp. 246-272.

⁶³ For a semiotic analysis of the capacity to use and make tools and appreciate them as such, see Umberto Eco, *A Theory of Semiotics*, Bloomington: Indiana University Press, 1976, p.22.

⁶⁴ See Paul Ricoeur, *Time and Narrative*, Vol.1, trans. Kathleen McLaughlin and David Pellauer, Chicago: University of Chicago Press, 1984.

⁶⁵ On this, see Axel Honneth, *The Struggle for Recognition*, Cambridge, Mass: MIT Press, 1996. This dialectic has been interpreted semiotically by George Herbert Mead in *Mind, Self, & Society*, Charles W. Morris (ed.), Chicago: The University of Chicago Press, 1934.

⁶⁶ On stories or narratives, see Arran Gare, 'The Primordial Role of Stories in Human Self-Creation', *Cosmos & History: The Journal of Natural and Social Philosophy*, Vol.3(1), 2007, pp.93-114.

While this dialectic of recognition might have begun with the quest to do justice to a small number of individuals, the “heroes” of society, once the process of people orienting themselves through histories, real and “fictitious”, story-telling carried with it a tendency to extend such recognition. To begin with, this was associated with extending recognition to other members of a community, then to the community’s institutions through which recognition of each individual is crystallized, then to other communities. Recognition of institutions involves recognizing that taking up a role in such institutions puts one under an obligation to live up the requirements of this role, remembering the achievements of those who occupied such roles in the past, acknowledging the significance of those to whom one is related through these roles and institutions, and appreciating and possibly augmenting the ideals constituting them. This does not mean that all recognition has been affirmation. Recognizing others might be recognizing them as enemies and threats to one’s freedom. It can lead to conflict, violence and destruction of the other or their enslavement in which people are constrained to function as instruments of the other’s will. It can involve the emergence of class societies in which constraints of oppressive institutions stultify people’s potential. There is also the possibility of social forms emerging in association with such domination that constrain their members to reproduce and expand these forms so that they take on a life of their own, oppressing even their privileged members. However, the dialectic of recognition, augmented by narratives, opens the possibility for people to identify and struggle against enslavement to such forms, and to create new forms based on recognition of people’s real potentiality. Such recognition could be extended to the whole of humanity and then to the rest of nature. Especially with the development of writing, history carries within it an impetus to develop into a grand narrative encompassing all human communities, including all civilizations, emancipating people from oppressive social forms and projecting a future social order in which all beings will be properly recognized. This will be an order in which people will fulfil themselves in their work by augmenting life rather than being enslaved to the ecologically destructive dynamics of the global market. Most importantly, imagination makes it possible for people as individuals and as communities to appreciate their place in nature and in human history, to appreciate the intrinsic value and the suffering and potentialities of others, and the historical significance of their own lives.

CONCLUSION

What then are humans, what are their possibilities and what ought humans be? The dominant view, the view of mainstream science and economics, is still that humans are complex machines, the product of the long history of the struggle for survival in which the fittest have survived. The natural extension of the order of nature is the free market within which the fittest will prevail and drive economic progress and individuals will express the only freedom they are capable of by choosing what to buy and sell. Since people are necessarily egoists, however much they might try to disguise this, there is no possibility of redirecting humanity along a different path from where it is now heading. If this path leads to the destruction of the vast majority of humans and most other

forms of life on Earth, this is an unavoidable unfolding of history according to the laws of nature which will filter out the less fit. Even if the result is the total destruction of humanity, this should not be seen as a matter of great concern. As an economist writing in *Business and Society Review* put it: "Suppose that, as a result of using up all the world's resources, human life did come to an end. So what?"⁶⁷

From the perspective of post-mechanist science offered here, this view is no longer defensible. Humans should now be seen as experiments of the global ecosystem characterized by a unique type of semiosis. This makes them essentially cultural beings as Herder, Hegel, Schelling and Marx argued, with enormous potential for creativity, and destruction. Because of the constraints associated with the development of culture they have far more potential both to live for the higher ends of justice, power or liberty, and truth (associated with the dialectics of recognition, labour and representation) than Hobbes could allow, but also far more potential to oppress and destroy. Their creative powers make it possible for them to control their own destinies in a way that is impossible for any other life-form. However, the unique semiosis which makes this possible also makes it possible for them to enslave each other and to produce social forms which, taking on a life of their own, enslave everyone to their dynamics and delude people about what they are doing. Such dynamics can break through the constraints which would otherwise govern people's relation to each other and to the rest of nature. But then humans have the potential to criticize and rebel against oppressive social forms and create new social forms. It is their unique potential for such creativity, destruction and rebellion against tyranny that has resulted in their playing a major role in the dynamics of the global ecosystem.

At present people are being driven by a global market and the predator managers who dominate corporations and most government institutions to live in a way that is destroying so much of terrestrial life and producing so much pollution, most importantly, greenhouse gases, that they threaten the conditions of their own existence. But this global market can only function on the basis of human culture, and it is this culture that also makes it possible to understand these dynamics, rebel and overcome them, creating new social forms that could liberate humanity's higher potentialities. To fulfil their role in history and in the cosmos, people need to embrace the immanent tendencies of the three dialectical patterns towards truth, justice and liberty and constrain the way people live accordingly. The quest for truth is above all the drive to expose falsehoods and illusions and to gain a coherent conception of the world and the place of humanity within it, and advances in the quest for truth are overcoming the mechanistic world-view and replacing it with a conception of the world as a creative process within which we are creative participants. This is invalidating the Hobbesian notion of humans and the technocratic orientation to the world that has blinded people to the autonomous dynamics of nature and the potentialities of humans. The post-mechanistic world-view allows us to see the significance of justice as proper recognition of others and oneself in thought and action, and to appreciate our potential role in extending justice, democratizing social relations and augmenting rather than

⁶⁷ Cited by Robert L. Heilbroner, *An Inquiry into the Human Prospect*, New York: W.W. Norton, 1975, p.170.

undermining the global ecosystem. It allows us to see that power is liberty, that is, having the necessities of life and the conditions for realizing one's highest potential guaranteed, being able to participate in deliberations about and working towards the common good of one's communities, both social and ecological, and being able to fulfil oneself in one's work, without constant fear of harm by others. Liberty is not achieved through reducing everyone and everything to instruments in the service of satisfying appetites, or, as Hobbes put it, having the entire world fearing and obeying one. Power as liberty is the freedom to live and work with integrity, being just to others and being treated justly in return. It is having the conditions necessary to become human by participating in augmenting life.

Reinvigorating these dialectical patterns and the drive towards their immanent ends requires liberation and reinvigoration of what underlies the distinctive semiosis of humans: imagination. This does not mean Hobbes' imagination, conceived as "decaying sense",⁶⁸ but creative imagination.⁶⁹ Imagination is required to appreciate the struggles and creative achievements of the past and the traditions and institutions we have inherited as a consequence, the significance and situations of others, both human and non-human, and what the world could be in the future. It is also required to understand the significance of our own lives and actions in the context of a dynamic world of living beings, structures and institutions of which we are participants, and our responsibility for the future. It is required to enable us to work out how to participate in augmenting the life of our human communities and our broader ecological communities. It is required to envisage a better world and to be inspired by this vision to work towards it.⁷⁰ Most importantly, it is necessary to overcome the learned stupidity of specialists⁷¹ and to strive, both as individuals and as communities, for a comprehensive understanding of the cosmos and human history and our place within the world. If we do develop our full potential in this regard, humanity will almost certainly survive in a global eco-system, augmented in part by our creative efforts. If we fail, it is likely that the global eco-system will destroy the conditions of our continued existence and eradicate humanity. So, as Ernst Bloch began his book *The Spirit of Utopia*:

I am. We are.

That is enough. Now we have to begin.⁷²

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⁶⁸ Hobbes, *Leviathan*, p.88.

⁶⁹ On the creative imagination, see Cornelius Castoriadis, 'The Imaginary: Creation in the Socio-Historical Domain' and 'The Discovery of the Imagination', *World in Fragments: Writings on Politics, Society, Psychoanalysis, and the Imagination*, ed. and trans. David Ames Curtis, Stanford: Stanford University Press, 1997, pp.3-18 and 213-245. However, Castoriadis fails to acknowledge the contribution of Kant, Fichte, Schelling, Heidegger and Ricoeur to recognizing the importance of imagination.

⁷⁰ On this, see Ernst Bloch, *The Principle of Hope, Volume One*, trans. Neville Plaice, Stephen Plaice and Paul Knight, Cambridge, Mass: MIT Press, 1995, esp. chap.17.

⁷¹ This is a core message of Murray Code's book, *Process, Reality, and the Power of Symbols*, Houndmills: Palgrave, 2007.

⁷² Ernst Bloch, *The Spirit of Utopia*, Stanford: Stanford University Press, 2000, p.1.