



Gattungswesen – The Ecology of Species-Being

Alienation, Biosemiotics, and Social Theory

Joseph S. Alter

Abstract. – At the heart of political ecology is the question of what makes us human, not unto ourselves in relation to culture and our intrinsic nature but as a manifestation of our species-being, as a function of our social relationship to other animals and forms of life. Although this is a question that has been shaped by advocacy for animal rights and by ecological activism, underlying the question is an anthropological problem in the most encompassing and holistic sense of disciplinary, theoretical orientation toward the inter-dynamics of culture, sociality, biology, and the environment. The argument presented here is that political ecology should be understood in terms of social theory rather than with reference to cultural value, and that an understanding of the relationship of alienation to culture and the structure of language provides a theoretical point of orientation toward the praxis and pragmatics of biosemiotic ecology and collective consciousness. [*animals, social theory, alienation, language, biosemiotics, political ecology*]

Joseph S. Alter, PhD from the University of California, Berkeley (1989). – His research concentrates on medical anthropology with interest in the relationship among religion, nationalism, health and the body in South Asia. – His specific projects concern sport, sexuality, yoga, *ayurvedic* medicine, *unanimedicine* and transnational transformations of medical knowledge. – He is currently involved in a project to study the relationship among Nature Cure, ecology and worldview in contemporary India. – His most recent book: “Moral Materialism. Sex and Masculinity in Modern India,” was published in 2011. – See also References Cited.

It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness (Marx 1971: 20).

Again, the world for me is nothing else than how the functionings of my body present it for my experience. The world is thus wholly to be discerned within those functionings. Knowledge of the world

is nothing else than an analysis of the functionings. And yet, on the other hand, the body is merely one society of functionings within the universal society of the world. We have to construe the world in terms of the bodily society, and the bodily society in terms of the general functionings of the world (Whitehead 1968: 163–164).

Introduction: Species-Being and Social Reality

In “Animal Liberation” (1975, 2002) Peter Singer makes a powerful argument for the moral and ethical treatment of animals based on the utilitarian principle of the greatest good for the greatest number extended across species boundaries. Since animals suffer, it is in the interest of the greatest good that pain and suffering not be inflicted on them: “If a being suffers there can be no moral justification for refusing to take that suffering into consideration. No matter what the nature of the being, the principle of equality requires that its suffering be counted equally with the like suffering – insofar as rough comparisons can be made – of any other being” (2002: 8).

Although Singer’s argument in “Animal Liberation” is developed in relation to an inclusive taxonomy, it takes particular shape when applied to the experience of nonhuman primates. Building on this, an engaged reading of Singer’s work shows how the broadest question underlying the philosophical and ethical issue of animal rights – how *Gattungswesen*, or species-being, is manifest in and through our social relations with other animals – is funda-

mentally an anthropological problem in the late Enlightenment sense of the holistic question: as a species of animal, what makes us human, and how is being human a reflection of our species relationship to other species?¹

Using anthropological insights to build on Singer's conclusions, the argument put forward in this essay is that expanded utilitarianism is philosophically convincing, but is problematically structured and logically inhibited by an ideology of individualism, a restrictive ideology of self-consciousness that ultimately reinforces speciesism.² Although Singer's (2000, 2006, 2011a, 2011b) thinking has taken utilitarian reasoning into the domains of evolution, human nature, and sociobiology, it will here be argued that the logic underlying basic social theory, understood with reference to anthropological theoretical holism, provides a more persuasive framework than utilitarianism or evolution alone (or together) for understanding the ethical and moral basis for expanded animal rights. At first this may seem to be counterintuitive and illogical, since a primary argument against inclusive animal rights is the principle of an essential and qualitatively unique social bond between members of the species *Homo sapiens*. Human nature binds us together as a social collective and this delimited, "natural" sociality sets our species apart from all others (Midgley 1984). From this ensue things such as the social contract and natural rights (Plamenatz 1963).

While seemingly commonsensical, arguments such as this are based on a profound misunderstanding of animal ecology, language, and consciousness, but especially on a misunderstanding of the nature of social reality. By definition social reality is epiphenomenal and abstracted from meaning rather than phenomenological, and thereby dependent on meaning and on communication that is limited to the production and reproduction of meaning in relation to itself. In most general terms, as outlined in Deely's monumental history of philosophy, the misunderstanding is a consequence of the hegemony of "the idea" in the modern epistemological paradigm, and the conflation of ideas and reality; signification and representation (2001: 695). What Deely shows, in essence, is that semiotics produces a distinctly postmodern field of knowledge wherein "the action of signs as resulting in anthroposemiosis provides the sole means whereby the mind has the possibility

of 'becoming all things' – *anima est quodammodo omnia* – in that convertibility of being with truth that is the elusive, asymptotic goal of the community of inquirers" (2001: 737). Within this *Umwelt*, "*animal semeioticum*" certainly expresses the triumphalist hubris of self-reflexive intellectualism, as Deely shows, but also engages in a cognitive praxis that both constitutes and undermines human exceptionalism. It is not possible to go into the history of the problem of consciousness and convertibility that anchors exceptionalism, but in terms of social reality it hinges on the question of hermeneutics, and the way in which *Verstehen* produces meaning that is both experiential and analytic (see Morrison 2006). Weber's concern with analysis and understanding of patterns and processes (see Motta 2011) has come to be confused with descriptions of experience *tout court*, as well as with the logics of causation and correlation that derive from experience as against understanding.

Based on a reexamination of classical social theory, with particular reference to the logic of alienation, it will be argued that social relations based on biosemiosis define an ethical standpoint for the consideration of interests, as these interests are grounded in an ecology of expanded *conscience collective*. Whereas Durkheim's original conception of *conscience collective* (see Némédi 1995) provides a framework for understanding how social reality is constructed in relation to, but separate from, individual experience, the Hegelian principle of *Gattungswesen*, as understood by Marx – with inspiration from Feuerbach³ – allows for an extension of the logic of species-being beyond the boundary of a single species to that of inclusive animal consciousness.

Human Exceptionalism

Peter Singer begins "Animal Liberation" by comparing human tyranny over nonhuman animals in the present to discrimination against women and to the enslavement of groups of people who were categorized as subhuman in the not-so-distant past. While this is persuasive as a cautionary history lesson based on temporal value relativism, and has generated considerable interest and activism on the question of animal rights,⁴ Singer's argument is not really built on the logic of expanded, open-minded

1 See Dillon and Lobo-Guerrero (2009); Gane (2006); Pettman (2011); Pyhtinen and Tamminen (2011)

2 See Ingensiep (1997) on trans-specific bioethics; also see Cameron and Short (1991) for an examination of this problem in relation to theology.

3 Held (2009); Loftus (2009); see also Chagas (2009).

4 See Cudworth (2011); Larrere (2007); Misselbrook (2004); Oliver (2009); Perlo (2002); Ryder (1989, 1998); Sanbonmatsu (2011); Sollund (2008).

liberal inclusiveness; it is convincing as a program of applied ethics based on radical pragmatism, as against utopian idealism (see Zamir 2007).

Singer's perspective is rooted in the classical utilitarianism of Bentham and Mill (Crimmins 1996; Plamenatz 1958, 1977). From this perspective, one does not seek to establish an ethical framework based on universal principles of culture codified as Natural Rights. Ethical principles emerge, instead, from a vantage point of interests in general and self-interest in particular (see Baujard 2010; Collard 2006), if "self-interest" can be understood as a grounded existential standpoint shaped by universal experiences, such as the sensation of pain and a preference for its absence. From an anthropological perspective the familiar problem with *a priori*, universalized ethics is that they run aground on the reality of cultural difference and the practical ethics of relativism. In philosophical terms universal ethical arguments can contradict one another in the sense that justice can be contrary to the principle that life is sacred. On the plane of evolutionary psychology – which is akin to other species of vulgar materialism – the idea of universal self-interest on the level of individual organisms and genes reduces the elementary structures of social life to game-theory dynamics of conflict and competition (Bingham 2010). The principle of an ethical perspective that is universal – but not *a priori* so – is an essential corollary to the question of utilitarian self-interest. As Singer puts it, speaking of philosophers in general (2000: 15):

They agree that an ethical principle cannot be justified in relation to any partial or sectional group. Ethics takes a universal point of view. This does not mean that a particular ethical judgment must be universally applicable ... What it does mean is that in making ethical judgments we go beyond our own likes and dislikes. From an ethical point of view, the fact that it is I who benefit from, say, a more equal distribution of income, and you who lose by it, is irrelevant. Ethics requires us to go beyond "I" and "you" to the universal law, the universalizable judgment, the standpoint of the impartial spectator or ideal observer, or whatever we choose to call it.

In taking this position, Singer follows Bentham by defining the question of interest from the vantage point of an ideal observer and by situating the question of interests within a framework of fundamental equality between individual sentient beings. "In other words, the interests of every being affected by an action are to be taken into account and given the same weight as the like interests of any other being" (Singer 2002: 5). In this formula the critical criteria for being in a position of equality is the ability to suffer. And, although it is not often regarded as

a necessary condition, the experience of suffering must be expressed in a way that makes it comprehensible as suffering to a witness capable of understanding that experience. For suffering to have ethical significance it must involve communication, a fact of some significance with regard to understanding the relevance of social theory to practical ethics. In any case, the ability to appreciate the difference between suffering and not suffering anticipates the question of interests as such. In anthropological terms it is para-cultural; relativism, which presumes discrete ontological realms, is only relevant on a level of sentience and perception that involves an interpretation of vested sectional interest in the meaning of pain and suffering.

Utilitarianism is, in many respects, radically and reductively individualistic; and it is on the basis of reductive sentient self-interested individualism that the force of utilitarianism is manifest in the calculus of the greatest good for the greatest number. While this would seem to articulate a straightforward extension of self-interest to the level of social conscience, the greatest good for the greatest number is based purely on the arithmetical logic of summation and is not at all concerned with the structure of reason that might produce social relations based on shared interests. While this formula produces the well-known principles of pragmatism reflected in practical ethics, it also reflects the basis upon which strong and persuasive criticisms of utilitarianism are articulated – that practical ethics make no reference to *shared* interests and *social* consciousness. This critique takes on particular relevance to ethics in practice, since all practice is, inherently, social.

In the early 1990s, Peter Singer and Paola Cavalieri founded the Great Ape Project (Cavalieri and Singer 1995), which is designed to extend basic human rights to apes.⁵ In the logic of this project it makes sense to take the first step toward animal liberation by expanding the "community of equals" to include our closest genetic nonhuman relatives: chimpanzees, gorillas, and orangutans. It is argued that experimentation on these apes should be outlawed, as should be their confinement for purposes of entertainment. The Declaration on Great Apes would establish, on this level of classification, a right to life, liberty, and a prohibition of torture. Beyond this, the goal is to establish protected environments where nonhuman apes may live without being subject to direct human violence or the manifold problems that humans have created that impinge on different species of great apes.

5 Cavalieri (2001, 2009); see also Bekoff (1997); Scharmann (2000).

While obviously a cultural experiment – with highly problematic moral and ethical consequences for humans alone (see Groce and Marks 2000) – as an exercise in applied practical ethics, the Great Ape Project does not depend on culture, either within the boundaries of a single species or as a mechanism that connects individuals across these boundaries. Similarity is calculated purely on the basis of genetics to the extent that ambiguities in classification and distinction – the relatively arbitrary nature of genus delineation – are used to highlight the contingency of human exceptionalism in relation to the animal kingdom (see Alter 2007). Nevertheless, culture comes into play as a corollary to this reasoning in terms of specific domains of experience including communication/language, learned social behavior, tool use, and self-awareness. In many respects language and modes of communication that anticipate language produce the most interesting and important points of cultural interface beyond the level of calculated biological similarity.⁶

The dynamics of language will be taken into more direct consideration below in the context of understanding social theory. However, at this juncture it is important to keep two important points in mind: First, concerning ethics and interests that are inclusive and socio-ecological, language is completely irrelevant in terms of what is communicated and whether or not shared meaning and common understanding is a function of communication. What are important are the social relations produced as a consequence of the structure of communication inherent in the mechanics of language use within a larger animate semiotic field. Second, language is a “mutated” representational system (Bickerton 2000, 2009, 2010) rather than an elaborate form of communication and metacommunication. On this level it *reflects* consciousness, as consciousness is a function of articulated semiotic communication involving signs. Most significantly, the representational structure of language is the crux of alienation. Although Derek Bickerton does not use the term, I take this to be what is meant in the disarticulation of meaning from experience in the production of knowledge in the evolution of language as a secondary representational system that constructs reality.⁷

The result was an adaptation of a type never before seen. Language bestowed on its possessor powers that yielded far more than mere survival, powers that effectively con-

ferred on our species the stewardship of earth. Yet, formidable as those powers were, they carried within them the seeds of destruction. Language had given us, not enough, but too much: not just the stewardship of earth, but the capacity to destroy species weaker than ourselves, and even features of the environment on which our own survival might depend (Bickerton 1990: 256).

To be sure, language unto itself simply manifests the power of knowledge; but what Bickerton is getting at are the structures of exceptional exaptation – such as the alienation of dominion – that derive from a semiotic field that constitutes language, and the conceit of language, in relation to human experience. Here insight on evolution dovetails with critiques of language within and in relation to regimes of signs, as regimes anticipate the dialectic of praxis because they are “simultaneously more and less than language” in relation to itself (Deleuze and Guattari 1987: 140).

Alienation and Consciousness

A central theme in social theory – which comes to light through an examination of various historical trajectories – is the problem of social consciousness, and the relationship between individual conscious agency and social structure (Moscovici 1998). Social consciousness is regarded as problematic on account of the basic structure of alienation, disenchantment, and anomie that characterizes society (see Lotter 1999); the organic functionality of even minimally abstracted institutions means that social processes are not reducible to the actions of individuals, and do not derive directly or simply from individual actions. Consciousness, as a problematic manifestation of human preeminence, is derivative of the intimate antinomy that is our social reality: the perennial desire of social beings to find meaning in, and individual engagement with, institutions that at once invite and deny engagement and interpretation.

Although often regarded as abstract social problems that derive from capitalism, urban atomism, secular modernity, and bureaucratic rationalism, the concepts of anomie, *Entfremdung* and *Entzauberung* are, in fact, more theoretically significant with reference to how society at large is understood⁸ than they are descriptively accurate of the specific kinds of problems to which they indicatively refer. Different as they may be from one another, these con-

6 See Bishop (2010); Savage-Rumbaugh (1986); Savage-Rumbaugh, Shanker and Taylor (1998); Segerdahl, Fields, and Savage-Rumbaugh (2005).

7 On the evolution of language see Fitch (2010); Givón and Malle (2002); Larson, Déprez, and Yamakido (2010).

8 See Acevedo (2005); Adair (2008); Dallmayr and McCarthy (1977).

cepts articulate a general feature of social theory; and although each takes shape with reference to the particular emphasis of the theoretical approach in question, the larger issue of human disaffection with the human condition is a structural feature of social reality, as social reality is mediated through consciousness and personal experience.

The clearest and most profound expression of this is in Marx's understanding of *Entfremdung*, and the relationship between *theoria*, *praxis*, and alienation (Joseph 2006). Focusing on the revolutionary thinker's critique of culture, rather than on Marxism as a school of thought, Louis Dupré points out that the myth of Prometheus inspired Marx to think against the logic of belief in order to effect a new integration of nature and active self-determination. Significantly, Marx's conceptualization of nature owed more to articulations of rational holism in early Greek experience than to the stark duality that is characteristic of post-Renaissance thinkers and the corresponding structure of reasoning in the Enlightenment (see Parsons 1977). For Marx, alienation was the disarticulation of social life from a subject's condition of being in the world; his solution involved a reintegration of experience and the material conditions of social life (see Plamenatz 1975). As Dupré points out, this is not the same thing as a definitive and holistic restoration of man-back-into-nature; a solution to the problem of alienation does not produce a Saturnian utopia, or reproduce the Eden of Genesis.

... Marx transformed the modern understanding of the rational precisely by following it to its ultimate consequences. Before him ... the subject had been the sole source of meaning and value. Marx took the principle of creativity still further by including the subject itself in the productive act. ... Through his productive activity man creates both *himself* and his world. In thus converting the idealist philosophy of knowledge into a theory of action, Marx absolutized its fundamental principle that meaning and value are not *given* with the nature of things, but *constituted* by the living deed. ... Here we confront the questions: Is such a primacy of praxis still compatible with the overall attempt, likewise of classical origin, to reintegrate the entire socialization process on a natural basis? ... Certainly, praxis tolerates no preestablished position within an eternal cosmos, as in the Greek model of culture. It reduces nature itself to a subsidiary element of the socializing act. ... [Marx] never tried to reintegrate *man with nature*, after the Greek model. His vision ... is unprecedentedly new: to unify all stages of the socialization process in a *dialectic with nature* (Dupré 1983: 9f.).

Dupré concludes his reasoning about the nature of alienation in relation to culture with an open-ended question: “[w]hether a culture based on the foun-

dation of praxis can remain fully human” (1983: 10). Perhaps it is not so much a question of whether or not it can, but if it stands to reason that it should, thereby providing a more literal and revolutionary interpretation of the meaning to be derived from the famous epigraphic statement by Marx: “It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness” (1971: 20). Our consciousness as an animal, a “cultural animal,” is in the praxis of a revolutionary political ecology.

In their most elemental form, and in relation to value, social relations are the foundation of experience. The theoretical basis for this is clear whether your point of departure is Marx's sixth thesis on Feuerbach,⁹ Weber's theory of rationality,¹⁰ or Durkheim's delineation of social facts, and his understanding of society as greater than the sum of its individual parts (Morrison 2006; Poggi 1972). The revolutionary insight this provides on the human condition is often difficult to appreciate, since the delineation of social facts as the discrete object of sociological study has not so much inspired the imagination – which is what Durkheim had in mind (see Taussig 1993) – as developed into powerful disciplinary empiricism. Empiricism that has its place, to be sure, but reductive empiricism that functions as a formal tool in the academy and various institutionalized structures of the state, rather like the Eucharist functions in the Christian church: powerful, but rendered formulaic through routinized abstraction, bureaucratization, and ritual incantation.

In relation to this, but on a separate plane, even though classical social theory developed as a powerful critique of human nature as a divine attribute, and subsequently as a sign of evolutionary progress, the articulation of sociological theories about human nature anchored in social relations has, unintentionally and unfortunately, reinforced deeply rooted and unexamined assumptions about the natural integrity of our species. The sociological imagination that began to take shape in the late nineteenth and early twentieth century extended reason beyond the question of the soul but, paradoxically, left intact the incipient logic of human exceptionalism and natural rights. As it developed over the course of the past century, social science has produced and then reproduced recidivist humanism as against a more revolutionary – not to be mistaken with evolutionary, pace Runciman (2008) – perspective on being and ecology than was manifest in the inception of social theory.

⁹ See Bloch (2003); Dupré (1983); Knafo (2007).

¹⁰ Lee (2010); Rhoads (2001); see also Walsham (2008).

Notwithstanding a philosophical orientation toward holism, recidivist humanism is most clearly apparent in the disciplinary focus on culture in anthropology. This is ironic since culture itself – following trajectories of development from Herder's notion of *Bildung* through Bastian's "psychic unity of mankind" (Köpping 1983) to the concept as articulated by Boas and his students – provides a framework for conceptualizing and understanding difference within the bracket of holism. And, needless to say, an understanding of cultural practice makes it possible to understand the extent of difference within the range of human creativity and imagination. But, fundamentally, culture is epistemological in nature and, therefore, epiphenomenal to organic interdependence as a condition of being. Implicated directly in consciousness as a reflexive framework of and for interpretation, culture reflects (in a fully mimetic sense) but does not constitute the ontological basis of and for social reality. Although clearly apparent in the work of Geertz and post-Geertzian cultural anthropology, the structure of the theoretical problem, impacted in a modernist paradigm that has reified the idea of ideas (Deely 2001), is inherent to the discipline: interpretation essentializes culture, while at the same time problematizing and complicating its various and relative meanings, producing a false sense that these various and relative meanings define the basis of social reality.

It is important at the outset to be clear on the nature of the problem with recidivist humanism: it is the idea that agency and resistance – to use only the most current terms – can shape social reality, that by force of will the parts can be summed in different ways to restructure the whole. As directly opposed to this, social theory, especially in its various classical iterations, defines change in terms of the transformation of structural arrangements in society – in the trans-specific sense outlined below – as these changes, which are independent of consciousness and the will, are linked to contradictions on the level of social facts, instrumental rationality, or relations of production in a materialist conception of history. As Marx puts it in the widely read preface to "A Contribution to the Critique of Political Economy," "Just as one does not judge an individual by what he thinks about himself, so one cannot judge such a period of transformation by its consciousness, but, on the contrary, this consciousness must be explained from the contradictions of material life, from the conflict existing between the social forces of production and the relations of production" (Marx 1971: 21).

There is no question at all that resistance brings about change in experience, and that agency reflects

critical creative engagement, but recidivist humanism produces a misperception of scale by translating a sense of social reality into the terms of individual, species-specific consciousness and moral agency, further confusing this with the contradictions of material life. This confusion is a mistake, an error based on the amalgamation of meaning and consciousness and on the over-determination of history by the residue of everyday life. Consciousness of the contradictions of material life is a function of collective perception within the field of social relations of production, broadly and abstractly defined. Collective perception is understood in terms of, but does not emerge out of, cultural meaning as a domain of delimited, relative consciousness. Consciousness of the contradictions of material life defines the structure of an interspecific ecology of being. In many ways classical social theory – as against later articulations of empiricist reductionism, on the one hand, and radical constructionism on the other – provides a more revolutionary perspective on both the problem of humanism and the means by which to extend social theory beyond the bracket of exceptionalism.

Given Durkheim's insistence on anchoring arguments in reality, one must situate his understanding of the relationship between social reality and human consciousness in the precise context of the reality in which he saw it manifest – the world of totemism and the problem therein of classification, identification, and being. A fundamental tension in the structure of totemic reasoning is the repeated slippage between representation across and between categories, and the assimilation of things into one another. In Durkheim's formulation, the totem mediates relations that are both conscious and explicit but also unconscious and implicit, and the operation of totemic logic is precisely a structure of ambiguity on the plane of likeness. On one level totemism links people to plants and animals directly – a category of things in the world represents the uniqueness of a group in relation to the social world of which it is a part. Ironically, however, this direct link is on the order of symbolic correlation and categorization, which opens a door to taboo-based restrictions – beefeating and bestiality, for example – as well as to "warm and fuzzy" identification and ecological inclusiveness of the Eden-of-Genesis, lamb-lying-down-with-the-lion variety. What is much more significant than conscious indexicality of this sort is the way totemism *reflects* the structure of social reality.

The key elements of this reflection are very well known, since they are the lynchpin of the argument in "The Elementary Forms of Religious Life" (Durkheim 1995): The totem represents two differ-

ent things, god and society, and these two things are “one and the same.” As abstractions of two very different kinds, both god and society take shape in the totem, “Thus the god of the clan, the totemic principle, can be none other than the clan itself, but the clan transfigured and imagined in the physical form of the plant or animal that serves as totem” (1995: 208). Significantly, this apotheosis is a function of social reality; it does not transpire out of individual consciousness. To make this point, Durkheim is forced to both connect and disconnect the individual, human groups, and the principle of society: “Precisely because society has its own special nature, that is different from our nature as individuals, it pursues ends that are specifically its own; but because it can achieve those ends only by working through us, it categorically demands our cooperation” (1995: 209).

Needless to say, Durkheim’s characterization of society as an omnipotent, anthropomorphized, and divinized entity has been roundly criticized; but these critiques emerge as a function of alienation in the consciousness of individual experience. Notwithstanding the problem of anthropomorphism, it is difficult to argue against the principle that social reality is greater and more complex than the sum of its parts, even though the iconic representation of social reality is, as in the case of totemism, all too human in terms of what it means. Viewed in a different way, Durkheim’s perspective on the apotheosis of society can extend the force of social reality beyond human society. This is its revolutionary potential (see Alter 2004, 2006).

A framework within which this can be examined is *conscience* and *pensée collective*. The concept of collective consciousness is based on an elision of awareness and builds on the manifold ways in which symbolism produces a misperception of reality by way of the production of meaning in relation to individual perception (see Terrier 2009). Sacredness, in essence, is rooted in a relationship of misidentification between meaning and social reality (Tausig 1993: 1–18). If this were not the case, then social relations would constitute a reality that could seamlessly and directly assimilate the working of individual minds, just as individual minds would reflect collective thought, rather than their variously mediated, fragmentary, or refracted perceptions of it. An object becomes more and more sacred as a consequence of deceptive misrepresentation at various points of refraction in the relationship among social reality, perception, representation, and communication. And it is the very sacredness of the object in question that reinforces the idea that the elements of social reality cannot possibly be what they

most obviously are. The challenge is not to demystify the sacredness of social reality, but to appreciate the logic of sacredness that is manifest in the consciousness of being that shapes ecology. I take this to be Alfred North Whitehead’s point in the epigraph from “Nature and Life” (1968). He distills his argument to the following: “Thus, in a sense, the experienced world is one complex factor in the composition of many factors constituting the essence of the soul. We can phrase this shortly by saying that in one sense the world is in the soul” (1968: 40).

Language, Biosemiotics, and Consciousness

Culture being a one-way street, common sense would have it that *meaningful* social relations do not cross species barriers, even though there are, quite obviously, forms of communication – conscious, instinctual, and stretched out over time (the marks on the wings of a moth that are seen as “eyes” by a predatory bird, as well as Batesian mimicry and other forms of evolutionary metacommunication) – that are ecological in scale and scope, and both more basic and more complex than communication defined in terms of species-specific signs, the perception of signs and language. Edward Reed, following the ecological psychologist James Gibson’s analytical focus on cognition and perception, challenges the notion of human exceptionalism in terms of what he calls “animate affordances.”

Socialization ... is a consequence of the fact that social animals are aware of the affordances around them in a *shared* way, in a way that recognizes both commonalities and differences for different observers in the values of objects, places, and events. Where there exists such awareness, social norms will develop out of animate interactions (Reed 1988: 121).

Although many forms of social organization are species-specific, involving specialized roles as well as relations of reproduction, it is important to recognize the extent to which modes of biological classification do not define social boundaries or the parameters of social behavior. The logic of adaptive fitness – effective species-specific communication concerning mutually beneficial affordances – intimates the structure but also prevents a full appreciation of flexible ecological sociality in the animate present. As Reed puts it, “[s]ocial proprieties are constraints on the use of affordances” and to the extent that this is true constraints such as language are the elementary expressions of alienation (1988: 121).

The problem of inhibited consciousness is lan-

guage, and the way in which the overlay of language on perception problematically complicates more basic patterns of biosemiotic communication that structure social reality. Deleuze and Guattari take up the question of the relationship between language and semiosis in a number of different ways, using the notion of a regime of signs to problematize human communication and critique linguistic realism, especially in contexts of enforced distinction and the categorical delineation of normal, natural and pathological things (1987: 111–148). As reflected most clearly in Michel Serres's, "The Parasite" (1982) one must think against regimes of signs by thinking within them, such that relations of exploitation and extraction change shape to expose the power of power to hide itself in the idea of things like parasites, as parasites are the embodiment of biosemiosis.

Where Deleuze, Guattari, and Serres tackle regimes of signs through language directly, the relevance of their insights for biology and ecology are anticipated in Georges Canguilhem's seminal problematization of "pathology" within medicine as an integrated regime of biosemiosis that extends into language (1989; see Rabinow 1996: 80–90). Working on the interface between language, biology, and ecology, Wendy Wheeler points out that "... human linguistic skillfulness (the overemphasis on abstract conceptual thinking in our understanding of the world) can lead to a forgetting, or at least a serious underestimation of non-linguistic (conscious or unconscious) semiosis" (2006: 108). Building on semiotic and cybernetic theory to understand the evolution of language as an adaptation and speech as an epiphenomenal exaptation of primary modeling, Thomas Sebeok (1994: 125) makes the following point:

Accordingly, languages – consisting of a set of features that promotes fitness – can best be thought of as having been built by selection for the cognitive function of modelling, and, as the philosopher Popper and the linguist Chomsky have likewise insisted, not at all for the message-swapping function of communication. The latter was routinely carried on by nonverbal means, as in all animals, as it continues to be in the context of most human interactions today.

There are many ways in which biosemiotic theory can be applied to the analysis of socioecology. However, it is the most general features of the argument as articulated by Jesper Hoffmeyer (1996, 2008, 2010) and Thomas Sebeok¹¹ – drawing di-

rectly and indirectly on Jacob von Uexküll (see Stjernfelt 2011), Gregory Bateson,¹² and Charles Sanders Peirce – that have relevance to social theory. Von Uexküll conceptualized the relationship between organism and environment in terms of semiotics, defining this relationship as the *Umwelt* of the organism in question (Swart and Keulartz 2011). Any environment accommodates numerous organisms, and the plurality of *Umwelt* in communication constitutes a semiosphere. Semiospheres are emergent systems structured by the triadic logic of signs rather than ecological niches structured by adaptive mechanisms.

Building on metacommunication and the principle of difference – this as like but not that – the structure of language is embodied in the totem, the sign of signs. As Gregory Bateson (1987) recognized, mimesis and alienation are fundamentally co-eval and congruent operations. Spoken language is, in essence, the articulation of alienation and reflects a disarticulation of imagination from the immediacy of embodied being. Explaining monkey metacommunication as Bateson came to understand the relationship of a play bite that is "not" a real bite, Jesper Hoffmeyer writes (1996: 111):

[The] "not" constitutes a puncturing of the space-time continuum which we innocently inhabit and take for granted, inasmuch as it presupposes an alienation, a non-participation – the essence of which is that one is neither that which is denied nor the denial. As such, the "not" concept is – once it is no longer bound to a specifically negative action – no less than the passport to the digital code, to language. And this key would appear to be contained – still unused – within the internal dynamic of the mimetic culture.

Biosemiotics provides a useful way to understand socioecology by reading totemism against the grain of meaning, and against alienation produced by the artifice of meaning, so as to appreciate, with a Durkheimian twist, that underlying totemic fetishization there is collective *Gattungswesen* on a biosemiotic level of interspecific animalism.

Jesper Hoffmeyer's understanding of biosemiotics, modeled in terms of parasitism, provides a way to conceptualize a *conscience collective* of organic animalism that is structured by communication and social reality, but not by the logic of alienation that extends from language through to a conceptualization of nature and culture in terms of Cartesian duality. Although biosemiotics can be understood in terms of anthropological theory, it reflects the more

11 Sebeok (1977); Sebeok and Ramsay (1969); see also Sebeok and Rosenthal (1981); and Kendon (1981).

12 Bateson (1979, 1987); see also Rieber (1989); Harries-Jones (1995).

revolutionary features of sociology, as sociology can be productively concerned with a semiotics of social life that extends beyond the boundary of anthropocentrism.

There are many different ways in which humans interact and communicate with nonhuman beings, and some of these are characteristic of the way in which a host of different species exist within the structure of ecological relationships. If for no other reason than to dispel notions of warm-and-fuzzy holism, ecology is important as an abstract structuring principle for value-free relations of many different kinds, rather than in terms of relations of intrinsic value manifest in ideals of balance and harmony. Here models of predation and host/parasite symbiotic mutualism are more instructive and characteristic of ecological relations than is a history of plant and animal domestication. Consider the relationship between flowers. Communication between the individuals of a single species can be entirely dependent on individuals from a different species belonging to a different kingdom: bees. Bees respond to the shape and color of flowers; the bees' response produces an essential form of interaction among the flowers. Needless to say, the instinctive randomness of honey bee behavior, flying from one flower to the next, much less amensalism or the parasitism of lice, mosquitoes, fleas, and tape worms – however symbiotically conceptualized – does not invoke the terms of shared understanding that are characteristic of “meaningful” communication. However, the structure of these relationships – wherein the master narrative of adaptation is neither here nor there – is much stronger than are terms of endearment, however sweet-smelling, romantic, and intimate. In essence the dynamics of interspecific biological interaction provide a way of conceptualizing metacommunication in terms that are not defined by intentional species-specific communication, much less the distinctive uniqueness of language in relation to everything else.

Biosemosis and Consciousness: The Mumble of Our Appendix

In a recent book entitled “The Wild Life of Our Bodies” (2011), biologist Rob Dunn provides the essence of empirical evidence – in popular, thoroughly engrossing, narrative form – for the theoretical argument being presented here. He writes about the complex, interdependent, and trans-specific sociality of organisms up and down the old chain of life ranging from people to cows to ants to fungi, bacteria, and viruses:

We tend to think of ourselves as complex, or at the very least as complicated. In the old telling we were at the top of the great chain of life. Yet, at the same time we have difficulty imagining that our relationships with other species are as sophisticated as those of, for example, ants. But our interactions are elaborate too. ... We are more like a leaf cutter ant colony than anyone had imagined, in terms of how we tend our microbial gardens. Our appendices, when they are not bursting, are key to doing just that job. Even as our brains try to tell us that the bacteria in our guts or on our skin are all bad, the appendix mumbles otherwise (Dunn 2011: 89f.).

Dunn's ecological empiricism succeeds in disclosing the naked hubris of exceptionalism that cloaks humanism's empire of signs. As such it provides a point of reference for understanding Michel Serres's analysis of the parasite as a trope that runs the gamut from flowery metaphor to the materialism of production and reproduction. The problem with this analysis is that deployment of the power of the negative in the figure of the parasite is bound to the value assigned to it by language. As the embodiment of biosemosis parasites are more revolutionary than they are representational of the relations seen through the signs of our social, political, and economic systems.

Using a single species as a point of reference to define webs of metacommunication on a scale somewhat larger than the human appendix bursting with bacterial life, the well-known case of the brown-headed cowbird provides a clear example of integrated parasitic “ecommunication” on many levels.¹³ As the popular name suggests, there is a symbiotic relationship between cows and *Molothrus ater* (Goguen and Mathews 2001). It is, in fact, a relationship that involves a host of large grazing mammals, including bison and horses – which brings our species into this free-range eco-dialogic –, various species of prairie grass that proliferated with the clearing of forest land on the American frontier and the introduction of cattle onto the prairie, a large number of different kinds of insects, adapted to the grasses and kicked up by the ungulates (which is why the cowbirds follow them around) – and, of course, the full spectrum of other bird species (220 in all) ranging from hummingbirds to raptors that incubate, hatch, and feed the parasitic cowbird hatchlings. Whereas adaptation and relative fitness can explain these various relationships and developmental patterns in terms of reproductive success (144 cases out of the 220 species in the recorded range of brood parasitism) and environ-

13 Dall (2007); Hahn, Price, and Osenton (2000); Igl and Johnson (2007); Kosciuch and Sandercock (2008).

mental adaptation, a synchronic biosemiotic, ecological perspective highlights the complex ways in which a host of organisms engage in direct and indirect interaction and communication, the parasitic hatchlings simply being a dramatic case of interspecific intimacy that derives from exploitive self-interest in this complex, multidimensional niche (Miller et al. 2006; Strausberger and Burhans 2001). The cowbird may be regarded here as a meta-totem: a species that represents animal kind as a whole as against the contingent, alienating artificiality of a bounded species' self-awareness.

Parasites and parasitic diseases provide another clear example of ecommunication that produces a socioecology completely independent of intentional meaning. Malaria is a good case in point.¹⁴ Because it is so widespread, causing a million deaths annually, and is a disease with an ancient pedigree, the ecological and epidemiological dynamics that crosscut time and space are very well understood (Paaijmans and Thomas 2011; Pollitt et al. 2010). The organisms most directly involved are *Homo sapiens*; *Plasmodium falciparum*, a protozoan parasite; and *Anopheles gambiae*, a mosquito, the female of the species in particular. A large number of other organisms are implicated to various degrees as a result of the way in which human and mosquito habitats overlap (Packard and Brown 1997, Brown 1986). Female *Anopheles* mosquitoes host the parasite, which goes through a series of divisive transformations after being ingested, infecting humans when the mosquito feeds on their blood. Once the oocyst ruptures in the mosquito's gut the *Plasmodium* sporozoites spread into the saliva, from which point they enter the bloodstream of the definitive human host, migrating quickly to the liver, where they differentiate into merozoites.

The basic epidemiology and pathology of the disease is most often understood from the perspective of human beings' intent on self-preservation. However, *Homo sapiens* and *Anopheles gambiae* are linked together through phases in the *Plasmodium falciparum* life cycle, and the disease in the definitive host is an articulation of a particular phase in this cycle. A dependent protozoan perspective on socioecology is instructive for this reason: the essential being of the organism is interspecific, and the social reality that the species in question exhibits *collectively* derives from their interdependent triangulation. The social reality of our species – involving production and reproduction – is shaped by the same structure of ecological relations that charac-

terize *Plasmodium falciparum*, and here the figurative in language becomes the literal in the body, as Deleuze and Guattari index the “becoming animal” of our subjunctive selves (1987: 238). Taking Wendy Wheeler's point quoted above, the exaptation of language has generated signs of and for forgetting this in favor of more ephemeral albeit meaningful memories of various kinds.

Here lessons from biosemiotics are instructive: The socioecology of species, linked together in terms of the life cycle of the parasitic protozoa, is defined by signs, the structure of sign relations, and actions and reactions that stem from sign-based communication. From this perspective, socioecology takes shape as a semiotic system involving genetic codes on a molecular level; sensory stimuli involving body temperature and chemistry; geoplanetary rhythms that produce night and day, dusk being the time when the mosquitoes feed; protracted patterns of migration, settlement, and environmental change based on the agricultural delineation of wild and domestic foods; technological interventions such as irrigation and deforestation; as well as much more intentional and insidious sign systems involving pesticides, netting, repellents, and a range of pharmaceutical prophylactics, including that erstwhile icon of tropical imperialism, quinine.

On this holistic level of undifferentiated synthesis, biosemiotics is not particularly enlightening, although it certainly highlights interesting structural patterns wherein a derived logic of semiotics is more complex than and not at all congruent with a narrow symbolic mode of communication and the structure of intentional meaning imbedded in the grammatical rules of language and pragmatics. What is most significant about a parasitic model of biosemiotics is the way in which complex interspecific communication instantiates social reality as an abstraction that is impervious to the shibbolethic distinctions of linguistic exceptionalism.

An ecosystem analysis of organism interrelationships involving biophysical feedback can clearly highlight the many ways in which humans are implicated in complex ecologies, beyond the range of individual or species-specific consciousness, wherein biosemiotic communication produces an extended *conscience collective*. Although any ecological system reflects the elements of what might be termed truly organic solidarity – as distinct from the mechanical artifice of species-specific homogeneity, both traditional and modern – ecosystems in crisis often make the collective nature of consciousness more clearly visible, especially when *individuals* of our species are put in situations of risk. An illustrative case in point involves hunting in a con-

14 Monteiro de Barros, Honório, and Arruda (2011); Dery et al. (2010); Lambin et al. (2010).

text where the biosemiotic codes are thick, textured, and expressive of long-standing adaptive relationships, but that take on profound social significance as a consequence of subtle but ultimately dramatic ecological shifts in patterns of predation that involve communication between a wide range of species.

In relation to domestication and sedentary patterns of subsistence *Homo sapiens* have successfully excluded themselves from the diet of *Panthera tigris* and *Panthera pardis*. People fear these animals, and have hunted them for thousands of years, in part because tigers and leopards have adapted to patterns of domestication which allow them to kill and eat sheep, goats, and cattle in addition to a variety of wild animals. In specific situations, and for a variety of reasons, tigers and leopards (to a lesser degree) overcome their fear of people, reintegrate *Homo sapiens* into their diet, and rapidly develop new and highly successful patterns of predatory behavior: we are much slower and out of touch with the world of wild things than *Semnopithecus schistaceus* – the Nepal gray langur – and other primates in the diet of wild tigers. From the vantage point of people, generalized fear of tigers and leopards very quickly translates into terror as well as a host of corresponding patterns of social behavior that directly interface with the biosemiotics of *Panthera* predation on people. In the domain of language, at the fringe of this biosemiotic nexus, the big cats are known as man-eaters.

In the first half of the twentieth century a configuration of factors led both to the emergence of a large number of man-eaters and to their public visibility in the social world of late colonialism and imperial political ecology in South Asia, most particularly in the central Himalayas (Alter 2000: 28–33). Capitalist growth and development, and the felling of trees to fuel this growth, pushed tigers into competition for space with peasants living further back in the mountains. The high visibility of Himalayan man-eaters – that collectively claimed thousands of human lives – was in part a function of newspaper reports and the popular media, but also a result of the publication of a series of books by Jim Corbett, most noteworthy being “Man-Eaters of Kumaon” (1945) and “The Man-Eating Leopard of Rudraprayag” (1948). As an author with a gift for storytelling and a uniquely qualified hunter of man-eaters Corbett provides detailed insight on a biosemiotic ecology wherein the lives of leopards, tigers, and people – as well as barking deer, pheasants, water buffaloes, langurs, mountain goats, and a host of other animals and plants – intersect in a way that makes interspecific social relations starkly visible in the key elements of communication.

Corbett’s stories of tracking and killing man-eaters are fascinating and gripping on the level of detail, as when he finds himself in a narrow ravine, holding a clutch of eggs in one hand, face to face with a tiger that has killed hundreds of people over the course of several years. The uniqueness of the eggs in this eco-niche, a sign which he intended to add to his significant collection, as well as the fact that the tiger was a man-eater rather than a garden variety wild tiger, produced a configuration of biosemiotic codes and their interpretation that enabled him to bring his rifle to bear on the tiger – slowly with his one free hand rather than quickly with both, for turning quickly would have effected a transformation of the qualisign into a sinsign of fear and aggression, and communicated something else entirely to the Peircean eye’s mind of the cornered beast – and kill it before it killed him.

Leading up to this event, Corbett and the man-eater engage in a winner-take-all form of recursive, predatory meta-biosemiotic communication wherein the hunters are hunted by one another. As it intently moves through the jungle based on a learned and highly refined sense of *Homo sapiens*’ behavioral patterns – walking alone at dusk; cutting fodder; defecating behind bushes, rocks and trees; collecting water; herding cattle – Corbett is able to track the tiger and avoid being killed and eaten based on how other animals in the jungle respond to the tiger’s movements in relation to their own and also in relation to his, and then how he and the tiger interpret these signs in relation to one another.

On a number of occasions, Corbett finds himself at the nexus of biosemiotic representational communication that puts the Great Ape Project in perspective. Like many primates, *Semnopithecus schistaceus* (there is an ongoing debate concerning classification of langur species) live in large social groups (Curtin 1982) involving complex forms of communication,¹⁵ and are deeply integrated into their socio-eco-niches (Eisenberg, Muckenhirn, and Rudran 1972). The subfield of behavioral primate ecology is most directly relevant, and, as Craig Stanford (2007) has rightly pointed out, only somewhat evolutionary tongue in *Homo* eco-cheek, this ought to make anthropology, the greatest of all great ape projects, a subdiscipline of primatology.

Located at a high-risk point in the trophic food web of *Panthera* in the central Himalayas, *Semnopithecus schistaceus* has adapted patterns of behavior and modes of communication whereby young males sit in the tops of trees, keep watch for the

15 See, for example, Stanford (1991); Roonwal (1979); see also Peters and Plog (1973).

big cats and vocalize alarm calls that alert the troop to danger presented by a range of different species of predator.¹⁶ In conjunction with body positioning, the alarm calls signify different species, since different species present different kinds of risk. As described in “Jungle Lore” (1953), Corbett learned this language (so to speak) while growing up in the Himalayan forests and was able, on a number of occasions, to biosemiotically triangulate – in the best tradition of Charles Sanders Peirce – signs that signify the deadly serious monkey business that produces a trans-specific social ecology of collective consciousness (see also Das and Sharma 1981).

The biosemiotic communication involved in the parasitic behavior of the cowbird, the social ecology of embodied being that emerges from the life cycle of *Plasmodium falciparum*, and the way in which man-eaters blur a distinction between primate nature and primate culture can provide a critical perspective on alienation that expands upon Marx’s notion of consciousness and species-being. Marx came to an understanding of *Gattungswesen* as a function of historical materialism firmly anchored in social relations that manifest different forms of alienation. Production and labor are, in some sense, the basic mechanisms that structure alienation in relation to human consciousness and the material world, and Marx focused on problems in the relations of production in order to recover social value and explain and revolutionize labor in the context of capitalism.

Within the framework of political economy, domestication may be accurately described as a mode of production that defines biosocial relations that crosscut the being of various species. A critique of political economy in these terms can lead to an understanding of alienation that is structured by relations of production manifest in the political ecology of domestication, in a broad sense of the term. Pets are just the tip of an iceberg of “domestication” that extends through the usual suspects – cows, sheep, camels – to pigeons, rats, squirrels, lice, bed bugs, and other creatures that inhabit the wilderness of urban environments, our homes, and our bodies. By definition, alienation inhibits consciousness, and domestication, as a biosocial mode of production, has, in a profound sense, inhibited our species’ consciousness of its place in the kingdom of animals and in an ecology that is inherently interspecific *on all levels*. Praxis in this field does not emerge from a sense of shared subjectivity or agency, for this runs headlong into the trap of compassion, integrated harmony, and the warm-and-fuzzy logic of domes-

ticated paternalism, the metaphor of magnanimous regal kinship being appropriately problematic when one speaks of the “animal kingdom” and the ironic misnomer “king of beasts” when all species of animal are, in fact, subjects that suffer the imperiousness of culture.

Alienation is not a condition for which the interpretation of culture can produce an antidote; it is diagnostic of structural discordance on the level of consciousness – a misperception of god as different from social relations, and of social relations as something other than *deus*; a misunderstanding of representation in relation to being. More encompassing than fetishism in relation to capitalist labor, the totemic principle reflects the alienation of domestication in the fetishization of animal categories. Although the biosemiotics of interspecific translation are fascinating, finding new and more meaningful ways of communicating with animals simply reflects a mechanism of fetishization that has produced and will reproduce the artifice of nature and culture.

Similarly, a critique of the totemic principle from this vantage point will not reveal a further extension of the logic of fetishization into the domain of interspecific socioecology. The social life of animals – as a reality apart from their intentional action – does not generate the kind of recursive mimesis wherein god and clan are the same, but inherently different. Consciousness in this arena is a state of being, a literal engagement with the medium unto itself: the animal nature of our collective socioecological being.

Conclusion

Building on the problematic delineation of species in relation to the nature of culture in human evolution, history, and experience (Alter 2007), this general discussion of theory reflects the structure of consciousness in praxis by suggesting that biosemiotics is the language of politics in the association of humans and nonhumans in the collective space defined by the actions of actant actors – to use the somewhat obtuse but suggestive terminology developed by Bruno Latour (2004). In this essay, praxis is intimated and anticipated, not indexed and subject to programmatic elaboration. Nevertheless, a critique of the Great Ape Project highlights the problem of seemingly ethical action that stems from a natural ecology of alienated consciousness, and anticipates projects – involving a range of creatures, great and small – on a larger scale of *Gattungswesen*.

With respect to the praxis of political ecology

16 Bhaker, Rajpurohit, and Rajpurohit (2004); Bhaker et al. (2009); Ross (1993).

and the problem of animal rights and interests, the Great Ape Project is a red herring, as is the question of language in the domain of inter- and intra-specific communication. Set apart – but drawn closer and closer by way of a kind of Promethean desire for knowledge – the Great Apes have been fit into the “totem slot” of our all-too-human consciousness. They have come to represent the fragmented nature of our ecology, an animal in the pantheon of nature from whom we constantly try to steal back knowledge of our essential being. At the end of a history that began with a theft of fire, we hope that a gift of language will break the chain that binds us to the rock. Although it is a more herculean task than communicating with our primate cousins, the question of animal rights should begin at the other end of communication and consciousness and directly engage the recursive, parasitic predation that is reflected in the Caucasian Eagle and other man-eaters. There is more at stake in the liver – and in the semiotically structured culture of the appendix (Dunn 2011: 61–108) – than on the tip of the tongue.

As representing self-determination, human virtue, and the spirit of iconoclastic, revolutionary martyrdom, the myth of Prometheus fits into the ideological structure of the relationship among individual freedom, the social contract, and natural rights. As a point of reference the myth can be read more literally – and against the grain of political realism – to reconceptualize a state of nature manifesting a general will that gives rise to a structure of communication that produces a social contract with a difference. That the state of nature has been conceptualized as “nasty, brutish, and short” reflects cultural priorities, to be sure; but priorities that manifest a kind of recursive alienation that makes the collective experience of a liberated, contemplative species of animal rather “solitary and poor.” Misplaced priorities notwithstanding, the Great Ape Project reflects the nature of alienation – as well as the alienation of nature – in relation to social reality, animal rights, and the structure therein of revolutionary consciousness and praxis on the scale and scope of the Leviathan.

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