

Common Ground, Common Cause: Buddhism and Science on the Afflictions of Self-Identity¹

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The world in its variety arises from action (*"Karmajaiḥ lokavaicitrayam"*)
A path is made by walking it. (*"Tao hsing chih er cheng"*)
All sentient beings are deranged. (*"Sabbe sattā ummattakā"*).

Vasubandhu
Chuang-tzu
Gotama Buddha

It is no small task to understand this vast, variegated world we humans have carved out for ourselves on this small planet. How does one know where to begin, what to interrogate, and to what end? Events, however, have a way of imposing themselves. As the Cold War melts down and bitter ethnic and religious conflicts heat up the world overⁱ, as endless images of death and violence flash daily across the globe, the multiple faces of human evil and suffering stare steadfastly into our own, intimating, we fear, an inescapably inhumane reality. Our task then, our moral imperative, is as urgent today as it was when Albert Camus (1971, 11) expressed it nearly fifty years ago, just as many millions of murders ago: "One might think that a period which, within fifty years, uproots, enslaves, or kills seventy million human beings, should only, and forthwith, be condemned. But its guilt must also be understood." This essay is an attempt to take this challenge seriously, an attempt to understand the awful dynamics of human-inflicted suffering, of "man's inhumanity to man" in traditional parlance, of—in a word—evil. Human beings make war and kill each other in a way that no other species does, that no other species could, that no other species would. Somehow, we must make sense of it all. We must be able to discern some pattern, some common dynamic, behind behaviors that are repeated so terribly often, in so many times, in so many places. As Camus suggests, such an understanding—however repugnant its details, however unpleasant its conclusions—is required to even begin preventing them.

Understanding, however, is not only what we require, it is also what we must interrogate. For, we shall see, it is understanding itself, imperfect, wrong-headed understanding of our human condition, that lies deeply and malignantly behind these unholy dynamics of human evil. It is this mistaken understanding of ourselves—as individuals, as members of social groups, and as a contingent, historical species—that we must address. We must understand not only the passions that drive men to evil but the confusion over our condition that makes such evil possible.ⁱⁱ The tenacity and pervasiveness of these tragic strains in the human condition—our "fallen state" as it were—have been recognized and addressed by nearly all religious traditions. In seeking to understand these darker sides of human life, however, we shall draw upon the conceptual resources of only one such tradition, Indian Buddhism,ⁱⁱⁱ in dialogue with comparable areas of inquiry from the biological and social sciences. As with any dialogue, we appeal to no external or superordinate authority; it is the cogency of the arguments that count, their compelling and persuasive power, whatever their provenance.

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This dialogue is only possible because recent developments in Western thought and science have begun to find common ground with traditional Buddhist perspectives on the human condition, including the underlying conditions of human evil. There is a growing consensus that we may understand ourselves and our world more deeply and fully if we conceive of things in terms of interconnected patterns of relationships rather than as reified entities existing somehow independently of their own developmental history, their internally differentiated processes or their enabling conditions. There exists, that is, an increasing recognition that thinking in terms of unchanging essences, entities and identities deeply misconstrues the human condition—a misunderstanding that inadvertently leads to, rather than alleviates, human evil and suffering.

Although expressed differently in various fields, the relationship between our misunderstanding of the human condition and its causal influences upon evil and suffering have been articulated exceptionally clearly, directly and comprehensively in the principles of classical Buddhist thought, which provide the conceptual framework for this essay: 1. that all “conditioned phenomena” (*saṃskṛta-dharma*) are radically dependent (*pratītya-samutpāda*) and hence lack any fixed or unchanging “essence” (*svabhāva*); 2. that what we are, rather, are assemblages of dynamic yet wholly conditioned “constructs” (*saṃskāra*) that have been painstakingly carved out (*upādāna*) of these contingent dependent relationships; 3. that we tend to construe these assembled constructs as substantial “selves” or fixed identities (*ātman*); 4. that in our efforts to fashion and secure such an “identity” we actively ignore and attempt to counteract its contingent, constructed nature; and, finally, 5. that these efforts effectively channel human activities (*karma*) into the repetitive behavioral patterns that actually bring about more evil and suffering. These activities, in short, represent misguided and futile efforts to deny our dependence, to counteract our impermanence and to attain lasting security for this putative, substantial “self”—attempts, as the Buddhists would say, to “turn reality on its head.”^{iv}

While the basic ideas of essencelessness, contingency and construction of identity are straightforward enough, it requires considerable thought—and sufficient specifics—to appreciate the profound implications these have for our understanding of human life. We shall therefore draw upon various Western sciences for many of the details to support and flesh out this perspective, attaining in the process, we hope, a more compelling understanding of the dynamics of human evil than either the Buddhists or the sciences have yet to articulate on their own.

The Affliction of Self-identity: the Basic Buddhist Perspective

In the classical Buddhist perspective the sufferings endemic to human life are ultimately brought about by the construction of and a deep-seated attachment to our sense of a permanent identity, what we mistakenly take to be a unitary, autonomous entity, independent of and isolated from the dynamically changing and contingent world around us. This common but misguided apprehension of such a self is succinctly defined in one of discourses attributed to the Buddha: “It is this self of mine that speaks and feels, which experiences here and there the result of good and bad actions; but this self of mine is permanent, everlasting, eternal, not subject to change, and it will endure as long as eternity.” (Ñāṇamoli 1995, 92, M I 8).^v

From the Buddhist perspective what we all are, rather, are ever-changing conglomerates of processes (*skandha*) formed in self-organizing patterns that are ever open,^{vi} like all organic processes, to change, growth and decay based upon the natural functions of assimilation, interpenetration and dissolution.^{vii} What we commonly think of as an essential or fixed “identity” or “nature” is, in this view, actually a complex construct generated by misunderstanding, forged by emotional attachments, and secured by endless egocentric activities. Identity is constructed, that is, by what the Buddhists call the “three poisons,” the primary afflictions of ignorance, attachment and aggression..^{viii} But since any identity constructed and construed within a dynamic and contingent environment is necessarily unstable and insecure, it requires constant reinforcement and protection. From the Buddhist point of view, it is our ultimately futile efforts to permanently secure such fragile, fabricated identities through *activities* driven by ignorance, attachment, and aggression, that ironically create our insecurities, dissatisfactions and frustrations—consequences to which we *tend* to respond with yet further efforts to shore up our shifting identities through further attachment, aggression, etc.^{ix} We are caught, in short, in an unending and unhealthy feedback cycle of repetitive, compulsive behavioral patterns, what the Buddhists call the vicious cycle of ‘death and rebirth’ (*saṃsāra*).

This bears repeating: in the Buddhist view it is our misguided attempts to sustain such constructed ‘identities’ in our changing and contingent reality that lead to the preponderance of suffering caused by human actions, that lead, in short, to “evil.” Evil and suffering, that is, are the unintended yet inevitable consequences of our tendencies to reify relationships and processes into unchanging things, to abstract characteristics and qualities in terms of fixed essences or natures, and, most egregiously, to identify ourselves as singular, substantive selves in contrast to and standing apart from our surrounding, sustaining environments. Identity is thus not only a construct based upon an ignorant and untenable dichotomy between self and not-self, but also, almost inevitably, leads to attachment to “us” and “ours” and aggression toward “them” and “theirs,” the very processes that lead, in the extreme, to the horrible inhumanity we are attempting to understand.

We shall explicate these dynamics of human evil by first describing in Buddhist terms the multidimensional influences that the three poisons—ignorance, attachment and aggression—impart on the evolution of life in general and of humans beings in particular. Identity and its incumbent afflictions are, we shall argue, inseparable from and most explicable in terms of the long-term conditioning processes of evolutionary development. We will then extrapolate the influences of these afflictions into the terms and concerns of several of the biological and social sciences, in what amounts to a prolegomena to a “natural history of the affliction of identity.”^x

Common Ground: Buddhism and Biology on Evolution, Embodiment, and Enaction

The world in its variety arises from action. (“*Karmajaṃ lokavaicitrayaṃ*”) Abhidharmakośa, IV 1

The three poisons, and their more specified expressions, the afflictions (*kleśa*),^{xi} are arguably the core concepts in the Buddhist explanation of the origins, development and functioning of our psycho-physiological processes—what corresponds (roughly) to phylogeny, ontogeny, and psychology, respectively. Similar to theories of evolutionary causation, the Buddhists envision a deep interdependence between the long-term processes

that have brought about the human species, the behavioral patterns specific to our present human embodiment, and their particular enactment in our ongoing activities that are enabled and influenced by the first two. Though for the sake of analysis and exposition we will discuss these three—evolution, embodiment and enaction—separately, we must bear in mind their profound interdependence. For ultimately, in both the Buddhist and biological perspectives, it is actions of living beings inseparable from their sustaining environment that, over the long term, gives rise to evolutionary change. We shall first trace the influences of the three poisons in the Buddhist world view and then examine analogous models of causality within evolutionary biology.

Cosmogonic Dimensions: Propelling the Vicious Cycle (*samsāra*)

Buddhists contend that actions informed by the three poisons and the other afflictions play a prominent role in bringing about the structure and conditions of the sentient world we inhabit.^{xii} At first blush, it may be difficult to imagine how such seemingly “psychological” processes could bring about the forms of life on this planet. But not only is this notion central to classical Buddhist cosmogony, it is also, after a fashion, deeply congruent with the perspectives of evolutionary biology.

Though not a cosmogonic myth proper,^{xiii} one early discourse of the Buddha, “On Knowledge of Beginnings,” describes how heavenly beings living in an interim period between world-cycles gradually devolved into human beings living in the world we know. (Walshe 1987, *Aggaññā Sutta*, D iii 81f; I have paraphrased the relevant passages.)

At first, the heavenly beings were "mind-made, feeding on delight, self-luminous, moving through the air, glorious". At that time, everything was an undifferentiated mass of water and darkness, with neither sun nor moon nor stars, neither day nor night, nor months, years or seasons. The heavenly beings had no distinguishing sexual characteristics.

A sweet earth spread out over the waters and one of the beings, who was greedy, broke off a piece and ate it. Liking it, *craving* arose for it, and others soon followed suit. Their self-luminance gradually diminished, the sun and the moon appeared, day and night, the months, the year and the seasons arose. The world gradually re-evolved.

As they fed upon such food, their bodies became coarser and physical differences appeared among them. The good-looking disparaged the ugly, and, as they became *arrogant* and *conceited* about their looks, the sweet earth slowly disappeared. There followed a succession of coarser foods, leading to yet more physical differences among them, and more arrogance and conceit in turn.

There gradually arose a kind of huskless rice, which grew all by itself and could be repeatedly harvested for every meal. As the beings ate this coarser food, they became sexually differentiated and altogether preoccupied with each other. “*Passion* was aroused and their bodies burnt with *lust*.” Those who indulged themselves accordingly were expelled from their communities and forced to live apart from others, although eventually everyone developed these same habits.

Now one of them, through *laziness*, decided to gather up enough rice for two meals instead of one; others followed suit. Eventually, husks began to develop around the rice grains and it would no longer replenish itself naturally. Labor was now required. And as the rice no longer grew just anywhere, rice fields were eventually established and parceled out to those who worked them. With ownership thus instituted, *envy* and then stealing appeared, and punishment, lying and false accusation ensued. Eventually, social rules, the mechanisms for their enforcement, and the distinctions underlying them, developed, resulting in the complex and stratified social world we now inhabit.

We need not consider this Rousseauian^{xiv} “fall from grace” as an early Buddhist analogue of Genesis in order to appreciate its central theme: that we and the world we inhabit came about because of arrogance, greed, passion and envy. In Buddhist terms, our particular world developed as a result of the particular actions (*karma*) of sentient beings that were instigated by specific afflictions (*kleśa*). These same causal principles were succinctly expressed by the fifth-century Indian Buddhist, Vasubandhu (AKBh V 1a; Shastri 759; Poussin 106):

The world in its variety arises from action (*karma*). Actions accumulate by the power of the latent afflictions (*anuśaya*); because without the latent afflictions [they] are not capable of giving rise to a new existence. Consequently, the latent afflictions are the root of existence.^{xv}

In other words, in the Buddhist view our entire sentient world, including the structures and capacities of our embodied existence, are the cumulative result of the prior activities (*karma*) of living beings instigated by the afflictions and their latent counterparts, i.e., ignorance, desire for sensual pleasure, thirst for existence, grasping onto self-identity, etc. In brief, the Buddha declared, our bodies together with their faculties should be regarded as the results of “former action (*karma*) that have been constructed (*abhisankhataṃ*) and intended and are now to be experienced”(S II 64).^{xvi} In order to draw out the implications of these statements, we shall examine one already widely accepted account of how such behavioral patterns have been built up, and are built into, our mental and physical structures—this is the view of evolutionary biology.

The Interdependence of Evolution and Experience

Self-protection begins at the beginnings of life, manifesting in the processes of attraction and aversion that are implicitly based upon the distinction between self and non-self. At the most basic level of life, single-cellular organisms distinguish between what is threatening and what is beneficial to them in their environment, aggressively repulsing the one and engulfing and absorbing the other. This discrimination of semiporous membranes is a primary prerequisite of life. Without it, single-cellular life forms would never have survived and gradually developed into more complex and multicellular organisms such as our present species, *homo sapiens*.

We are all descended, through the extended processes of evolution, from those creatures whose successive transformations produced successful biological organisms. This occurred through the processes of differential reproductive success, in which those organisms that reproduce more prolifically over successive generations pass on more of their heritable^{xvii} characteristics than those who reproduce less. The theory of evolution thus depicts a positive feedback loop in which those specific behavioral patterns that lead to greater reproductive success are steadily reinforced over extended periods of time. As biological creatures, we all therefore embody the cumulative results of whichever behaviors facilitated more reproductively successful interactions between our forebears and their natural and social environments. That is to say that the characteristics we embody today reflect, for the most part, behaviors that have successfully furthered their own reproduction in the past.

Chief among these behavioral patterns are the physical and mental capabilities that allow us to acquire food and shelter, and the cognitive and emotional wherewithal necessary for reproducing and raising offspring. In other words, the will to preserve personal existence, a desire for those activities that lead to reproduction, and sufficient attachment to the people and things necessary to achieve these objectives are all essential for producing, preserving and re-producing human life. That these drives, this thirst for life, are constitutive of the very form of existence we embody right here and now follows from the simple yet profound postulate at the heart of evolutionary theory: what has been more (re)productive in the past is more plentiful in the present. These include as well, of course, our acute social sensitivities, our abilities to think, feel and empathize, to wonder and to worry, to love and to hate, to compete and to cooperate;^{xviii} none of these are, in theory, wholly outside the broad scope of the extended, interdependent and self-reinforcing processes known as evolution.

It is easy to overlook the implications of this relationship between the past actions and experiences of our ancestors and the particulars of our present species, since they so radically implicate our unique human capacities, our special modes of knowing, feeling and thinking, within the constructive processes of the past. As evolutionary biologist David Barash explains:

If evolution by natural selection is the source of our mind's *a priori* structures, then in a sense these structures also derive from experience—not the immediate, short-term experience of any single developing organism, but rather the long-term experience of an evolving population.... Evolution, then, is the result of innumerable experiences, accumulated through an almost unimaginable length of time. The *a priori* human mind, seemingly preprogrammed and at least somewhat independent of personal experience, is actually nothing more than the embodiment of experience itself. (1979, 203)

The Buddhists and biologists thus largely concur that the very forms and structures of human life result from the accumulative actions of innumerable beings over countless generations.^{xix} Like all species, we too have been formed and conditioned by an immensely long and complex series of transformations. In this respect, we are contingent and historical creatures through and through, lacking any unchanging “species-essence” or fixed “human nature.”^{xx} What we are, rather, are assemblages of dynamic yet wholly conditioned structures (*samskāra*) forged from the crucible of past actions and experience. While Faulkner's famous dictum—“the past is never dead, it is not even past”—may be more poetic, the biological view is startlingly similar, since “the structure of the organism is a record of previous structural changes and thus of previous interactions. Living structure is always a record of previous development” (Capra 1997, 220). To more fully appreciate the continuing influences these previous interactions impart on the present, however, we must examine the historically conditioned structures that constitute human embodiment, the very structures “that have been constructed and intended and are now to be experienced” (S II 64).

Embodying, Enacting and Enhancing *Samsāra*

A path is made by walking it. (“*Tao hsing chih er cheng*”) Chuang-tzu. Chapter 2

We have seen some common ground between evolutionary biology and Indian Buddhism on the general causal dynamics whereby we have come about as a species. We must now examine some of the capacities we are actually endowed with, paying particular attention to the problematic processes of identity formation occurring in the personal, social

and cultural arenas. We shall see that here, too, the themes of insight into the interdependent nexus of identity formation and the deleterious results of ignoring it arise again and again.

One dimension of interdependence is expressed in the feedback cycle between our propensities, our actions and their long-term consequences. Embodying the postulate that what has been more (re)productive in the past is more plentiful in the present, the three poisons and other afflictions find expression in our proclivities or dispositions to certain behaviors, whose supporting physiological structures are either present at birth or mature within critical developmental periods. These behavioral structures thereafter facilitate various activities in life, whose results—in the long-term and in the aggregate—are indispensable elements in the evolutionary processes whereby reproductively successful capabilities are strengthened and developed. *Actions* thus constitute an indispensable link in a positive feedback cycle: our inherited capacities, which largely *result* from previous actions, enable and largely determine the range of our current *activities*, which thereafter *condition* future evolutionary developments.^{xxi} We will examine this crucial feedback cycle in Buddhist terms before transposing it into the discourses of the biological and, eventually, the social sciences.

In the Indian Buddhist view human beings are endowed at birth with, among other things, the underlying tendencies or dispositions toward actions motivated by lust, greed, aggression and ignorance, the very kinds of afflictive activities that were so instrumental in bringing about our bodily structures in the first place. In one famous discourse the Buddha explains that even though an innocent baby boy lying on the grass lacks a developed view of self-identity, a notion of sensual pleasure, or aggressiveness toward others, nevertheless, the child still has the dispositions "toward a view of self-identity", "to desire sensual pleasure", and "to aggressiveness to others", etc. All of these dispositions lie latent within him, awaiting their full development as he grows and matures.^{xxii} Once they have matured, these latent dispositions continuously inform one's moment-to-moment cognitive and affective activities, adversely influencing one's actions whenever they manifest. In a passage that could well have been drawn from a psychology textbook, one discourse of the Buddha depicts how the latent dispositions to the three poisons are instigated by everyday perceptual experience, using vision as the prototypical example:

Dependent on the eye and forms, eye-consciousness arises; the meeting of the three is contact; with contact as condition there arises [a feeling] felt as pleasant or painful or neither-painful-nor-pleasant. When one is touched by a pleasant feeling, if one delights in it, welcomes it, and remains holding to it, then the underlying tendency to lust lies with one. When one is touched by a painful feeling, if one sorrows, grieves and laments, weeps beating one's breast and becomes distraught, then the underlying tendency to aversion lies with one. When one is touched by a neither-painful-nor-pleasant feeling, if one does not understand as it actually is the origination, the disappearance, the gratification, the danger and the escape in regard to that feeling, the underlying tendency to ignorance lies within one. (Ñāṇamoli 1995, 1134, M III 285)^{xxiii}

As long as they persist, these dispositions to the three poisons of attachment, aggression and ignorance (as well as, according to the same text, the *view of self-existence*^{xxiv}) are evoked or "activated" by nearly all our ordinary cognitive and emotional experiences. These processes of activation constitute the crucial connection between the sheer *potential* for our inherited dispositions to respond to certain things in certain ways and our *actually*

responding to them in that way. Since they are dispositions they are not absolute determinants ("if one delights in it... if one sorrows... if one does not understand"),^{xxv} nor do they by themselves entail consequences unless or until they instigate intentional actions (*karma*).^{xxvi} But they do exert, the Buddhists say, powerful influences upon nearly all our activities, disposing us to act in certain ways instead of others. Especially fateful among these, as we shall see, is the strong connection between ignorance and our disposition toward self-identity, an underlying sense of "I am" (*asmīti anusayo*):

Touched by the sensation born of contact with ignorance, there comes to the untrained ordinary man the view 'I am', there come the views 'I am this,' 'I shall be,' 'I shall not be,' 'I shall have a body,' (etc.). (Johansson 1979, 167, S III 46).

In the Buddhist view, human beings are innately endowed with the dispositions to the three poisons and the sense of "I am," which persist in a latent state ever ready to be activated by everyday experiences and to instigate fresh actions, which in turn give rise to further causal consequences, etc.^{xxvii} As the core of the feedback cycle that perpetuates sentient existence, the Buddhists consider the dispositions to be "the root of [cyclic] existence,"^{xxviii}—an idea that in the light of evolutionary biology has more cogency than one might first imagine.

Overcoming the Affliction of Identity: Buddhism

We are, it seems, strongly conditioned by the persistent, ongoing influences of the three poisons and the latent afflictions. They are central to the innate capacities, sensitivities and proclivities that instigate and enable the basic activities (*karma*) whose results, in the aggregate and over the long-term, have given rise to the kind of beings that we are. Being so deeply involved in our ongoing activities, their pernicious influences are almost impossible to evade. But as long as they persist we can never be truly free from misguided actions. It is "impossible," the Buddha asserts,

that one shall here and now make an end of suffering without abandoning the underlying tendency (*anusaya*) to lust for pleasant feeling, without abolishing the underlying tendency to aversion towards painful feeling, without extirpating the underlying tendency to ignorance in regard to neither-painful-nor-pleasant feeling, without abandoning ignorance and arousing true knowledge. (Ñāṇamoli 1995, 1134, M III 285f).

But by completely eradicating these latent tendencies (*anusaya*) toward ignorance, attachment, aggression, self-identity, etc.,^{xxix} the Buddha insists,^{xxx} it is entirely possible to end the vicious cycle of compulsive behavioral patterns (*saṃsāra*). None of these tendencies, however, is more difficult to eradicate, even for the advanced Buddhist practitioner, than the fundamental sense of self-identity. As one text (S III 131) declares:

Though a spiritually advanced being (Āryan) has eliminated the five lower fetters, he still has not eradicated the subtle remnant of the conceit "I am," of the desire "I am," of the disposition of "I am" (*asmīti māno asmīti chando asmīti anusayo*) toward the five aggregates of attachment.^{xxxi}

Despite the difficulty of altogether eradicating this self-identification of “I am”, the early Buddhist tradition nevertheless unequivocally affirms the possibility, the necessity, and desirability of doing exactly that.^{xxxii}

Overcoming the Affliction of Identity: Evolutionary Perspectives

We find common ground between Buddhist thought and evolutionary biology regarding the important influences that behavioral patterns such as the three poisons and latent afflictions impart over vastly extended periods of time, in their continued presence as heritable emotional and cognitive capacities, and as predispositions active in our moment-to-moment psychological processes—that is, their role in evolution, embodiment and enaction, respectively. And although Buddhist traditions energetically testify to the challenging possibility of eradicating these afflictions, much of modern life and history tragically testifies to their utter tenacity—their activity is so instinctive, their origins so obscure, and one's identity so seemingly self-evident that we can barely even acknowledge their constructive character, let alone eradicate their pernicious powers. Even with an intellectual understanding of the evolutionary or developmental history of their structure and dynamic activity, our dispositions and sense of self-identity remain deeply entrenched, underlying and influencing nearly all our cognitive and emotional processes.

Consonant with the Buddhist view, we also find sound evolutionary reasons for an “innate ignorance” of our contingent, constructed nature and the dispositions that underlie so much of our behavior. Evolutionary processes have largely delimited the range of both our interests and our awareness, strengthening our obvious obsessions with sex, success and survival while simultaneously obscuring their underlying aims. As anthropologist Barkow states:

Since you are a product of biological evolution, your conscious and unconscious goals presumably are linked to the kinds of activities that would have tended to enhance the fitness [i.e. reproductive success] of our ancestors. This linkage—which may be exceedingly indirect—should be there regardless of the effects of your (sub)goals\plans on your current fitness(1989, 112).

This disturbing discrepancy between behaviors that were successful in our ancestral past and the needs and conditions of our current situation are correlated with specific physiological structures of the human brain. These structures slowly evolved over successive stages of animal and human evolution and, although functionally inseparable, correlate with relatively distinct modes of behaviors. Self-preservation and reproduction are largely governed in the older structures, sometimes called the reptilian and old mammalian brains, while the distinctively human capacities of language, reasoning, long-term planning, etc. are processed primarily in the neocortex, the most recently evolved component of the brain's architecture. Although these newer capabilities favor deliberate and dispassionate action, the deeper drives associated with self-preservation and reproduction often override our more rational calculations. “We experience these overrides, subjectively, as emotions,” which represent, Barkow asserts, echoing age-old allusions to our animal nature, “limbic system overrides of the neocortex, of the old mammalian brain overriding the new... All our strong emotions....—rages, panics, lusts—represent such overrides. In a certain sense, they are the levers by which... our evolutionary past controls our present” (121f).

These emotional “overrides”, these erupting afflictions, are, however, hardly the only way that structures from the past tend to supersede the needs of the present. The conditions in which human intelligence evolved have duly circumscribed the range and content of our understanding of the world as well. This should hardly be surprising. “The conventional view,” Trivers chides (1976, vi) “that natural selection favors nervous systems which produce ever more accurate images of the world must be a very naive view of mental evolution.” Rather, our highly selective view of the world not only hinders our understanding of the underlying aims and motives of our own behavior, but it hinders our capacity for self-understanding as well.

It is widely and persuasively argued that the capacity to fashion an internal representation of one's “self”—of a continuous, predictable locus of experience by reference to which one could “map and order the physical and social universe and our own place in it” (Barkow 1989, 110)—must have greatly assisted early human beings to more successfully negotiate their physical and social environments, conducing to greater reproductive success, and thereby continuously developing through the positive feedback cycles of evolutionary causation. But even this “representation of self will not be some kind of miniature image,” accurately representing the world, because, Barkow warns (103), our “*self-awareness extends only to aspects of the self that in our evolutionary past have strongly and directly affected inclusive fitness* [i.e., reproductive success]” (95).^{xxxiii} That is, we tend to be acutely concerned with aims we have neither consciously chosen nor whose motivating forces we fully comprehend. Evolutionary psychologists thus conclude that self-awareness typically entails a degree of built-in blindness, an innate ignorance about who we are and what we do, especially concerning the illusion that “the ‘self’ is a miniature, controlling ‘person,’ a homunculus” (*ibid.* 94).

The conclusions we must draw here are obvious, if not agreeable. What is it that has been reproductively successful in the past, which affects our current behavior, sometimes adversely, and about whose underlying influences we remain blithely oblivious? The Buddhists have suggested that our sense of self, of the “I” as an enduring, subjective locus of experience in contrast to and independent of our encompassing environment, is both a tragically inaccurate view and the most deeply entrenched of the afflictive dispositions. With limited awareness and blind emotion, we grasp onto such an illusory will-o’-the-wisp in order to “map and order the physical and social universe and our own place in it.” These arguments from evolutionary biology therefore suggest strong evolutionary rationales for the following Buddhist-like critiques of self-identity:

1. Our sense of an independent “I” or “self” is an eminently practical construct that performs important biological functions^{xxxiv} and hence must have enjoyed evolutionary advantage.
2. This sense, however, is illusory,^{xxxv} insofar as it typically presumes more functional unity, permanence, and independence than logical or scientific analysis bears out.^{xxxvi}
3. And being illusory, it is inherently fragile and insecure, requiring constant reconstitution through psychological machinations, social reinforcements and cultural conventions.^{xxxvii}
4. Moreover, we are so largely “blind-sighted”^{xxxviii} to these conditions that the constructed and interdependent processes underlying self-identity are themselves largely obscured.

A fragile, constructed yet functional illusion whose originating conditions remain obscure: this is the stuff of which madness is made.^{xxxix} Avoiding these plain, unwelcome

facts is the madness of which history is made.^{xi} But before we examine these same dynamics within the discourses of history, society and culture, let us reassess the afflictions and their relationship to the “nature” of human nature in the light of Buddhism and evolutionary biology.

The Afflictions and the Conditioned “Nature” of Human Nature

Evolutionary biology and Buddhist thought concur that our animate world is largely created by the constructive energies of past activities and that we inherit powerful dispositions at birth which predispose us to act in certain, often harmful, ways. These afflicting dispositions, however, although “innate” in the literal sense that we are “born with” them, are neither “essential” nor “inherent” to us as a species or as individuals. They are interdependently produced phenomena that result from the aggregated effects of past actions, are activated under specific (albeit relatively common) conditions, and can be controlled or eradicated, to varying degrees and with varying difficulty, through concerted efforts thereto. As with the species as a whole, the dispositions are contingent phenomenon requiring supporting conditions to arise and rearise.

Comparatively speaking, the perspectives surveyed here suggest a common, middle ground between the extremes of those determinists who maintain, on the one hand, an inherent, ineradicably evil side of human “nature,” and those behaviorists who deny, on the other hand, that there are any innate dispositions whatsoever, who maintain that human beings are primarily products of their immediate environment, veritable blank slates upon which “society” can do all its dirty work. In our perspective, however, this “nature vs. nurture” debate is erroneously based upon a false dichotomy^{xli}: “nature,” in the sense of a fixed species “essence,” is nothing but conditioned phenomena (*saṃskārā*), however remote some of those conditioning influences may be from their present results; while “nurture,” i.e. the social conditioning incumbent upon one's upbringing and environment, could not even occur without our innate abilities to grow and to learn, which are themselves highly developed capacities constructed through our evolutionary past. Pure nurture then is as incoherent as unconditioned nature is unexampled.

On the other hand, although the perspectives outlined here agree that our inherited behavioral capacities—such as ignorance, attachment to oneself and aggression toward others, craving for self-existence, etc.—are powerfully productive influences in the interdependent, evolutionary processes that give rise to all life forms, it should be stressed that for the Buddhists (like other religions traditions) these are the very malevolent factors to be eliminated, or rather, radically transformed. This perspective, therefore, while fully recognizing the natural, i.e. biological, supports of these afflicting tendencies, neither endorses nor condones them on the simplistic assumption that whatever is “natural” is good (the Naturalist Fallacy). Rather, the Buddha's explanation of suffering and its causes (the first two Noble Truths) insist that we unflinchingly examine the entrenched nature of these afflictions without losing sight of the possibility and desirability of transforming and constructively channeling their considerable energies toward freedom from suffering (the second two Noble Truths)—an aim fully consonant with the ameliorative thrust of much of the social sciences to which we now turn.

Common Cause: The Construction of Identity and its Discontents

In this last section of the essay, we will attempt to flesh out the relationship between the construction of identity and the generation of evil by an inevitably sketchy excursus through several of the social sciences, for it is only at the collective level that the uniquely human scale of evil mentioned at the beginning of this paper manifests. We will again briefly touch upon topics in evolutionary biology and developmental psychology, before moving into cultural, social and political spheres. We will also find here overwhelming consensus that the construction, maintenance and protection of a secure identity—at the personal, social and political levels—are carried out with increasing complexity and vulnerability, requiring ever more strenuous and artificial supports, which in turn lead to yet more complexity and vulnerability, etc. We are caught, in short, in a vicious cycle of increasing and frightening intensity. This represents an extrapolation to the collective level of the Buddhist ideas sketched at the beginning of this paper: that our misguided efforts to secure an ordered, unchanging, and singular identity within our chaotic, changing and pluralistic world not only expresses our futile attempts to “turn reality on its head,” but also, tragically, leads to the preponderance of human evil, of “man's inhumanity to man.”

What follows, therefore, is a prolegomenon to an interdisciplinary social theory of evil based upon the three basic Buddhist principles outlined above: 1. the dependence nature of all phenomena, 2. the constructed nature of “self-identity,” and 3. the apprehension that human evil and ill are caused by attempts to secure our “selves” at the expense of “others.” Although similar ideas are found in a diverse array of disciplines, this Buddhist framework provides the overarching conceptual rubric for the discussion that follows. Again, for the sake of analysis, we will discuss the construction of identity in separate and sequential stages, from its evolutionary origins, its genesis within the family unit and dependence upon the processes of socialization and acculturation, and finally to its tragic political expression in modern times. We should not allow this mode of exposition to lead us, however, to overlook the crucial and often unstated “co-evolutionary” (i.e. interdependent) relationship between our innate capacities for constructing identity, the evolution of the human brain and the development of human sociality and culture. Ultimately, these were, and are, inseparable, mutually reinforcing processes.^{xlii}

Identity as Interdependent Construct

All sentient beings are deranged. (*“sabbe sattā ummattakā”*). Gotama Buddha.

We mentioned earlier that the processes of aversion and attachment based upon the distinction between self and not-self were essential to all biological life, informing and influencing the more evolved cognitive and affective structures found in higher life-forms. Thus, although an explicit sense of “self” only reaches its apogee in human beings, it nevertheless represents an evolution of the elementary cognitive capacities all organisms enjoy. An acute self-awareness of “oneself in relation to others” was already highly evolved in our primate cousins, for example, and was surely a crucial selective factor in both primate and early hominid evolution. However it may be conceived, a self-conscious “self” is an indispensable part of the complex web of agency, organization and order that constitutes human identity.^{xliii} But it is the vagaries of this sense of identity—its evolved origins, its

dependent development, and its precarious persistence—that are so problematic, so fraught with frailties, tensions and conflict.

What is unique about human beings is the extent to which our sense of order and identity depends upon the common experienced world that arises out of the regularities of our interaction with others and the shared, symbolic means we have of expressing, communicating and transmitting that world—that is, culture.^{xliv} This world of social interaction and communication, however, is never simply “cultural” as opposed to “natural,” for, as we mentioned above, what is “cultural” or “social” has irrevocably configured our physiology: by most accounts our uniquely human brain structures evolved roughly simultaneously with the development of culture, which itself could only have developed based upon the social and cognitive capacities this evolving brain facilitated.^{xlv} Culture and human biology, therefore, are inseparable, interdependent, co-evolutionary phenomena. Culture, and the social order that engenders it, is not something *added on* or extraneous to human life; it is fundamentally *constitutive* of human existence itself.^{xlvi} And it is these cultural and social worlds that, always inseparable from our biological endowment, provide the context and content of our constructed “realities”.^{xlvii} The sociologist Peter Berger:

To be human means to live in a world—that is, to live in a reality that is ordered and that gives sense to the business of living... This life-world is social both in its origins and in its ongoing maintenance: the meaningful order it provides for human lives has been established collectively and is kept going by collective consent. (Berger, Berger, and Kellner 1973, 63)

But humans of course did not evolve in generic social groups. As children we have always first lived in particular groups embodying specific cultures, through whose specific social and cultural patterns we grew into our unstated understandings of reality, our implicit and usually unexamined worldview. It is only within this larger context of a meaningfully ordered reality provided by social life that we develop a sense of identity, one that is simultaneously individual and social at the same time.

This sense of identity is first and foremost forged during our prolonged childhood dependency, through constant interaction within the limited social nexus of the family unit. According to developmental psychologists our sense of “I-ness” develops in fairly specific stages during infancy. Piaget, for example, thinks that infants develop a conception of the ongoing existence of external objects that may be temporarily out of sight (“object permanence”) more or less at the same time that they develop a conception of a separate “self” experiencing these objects. Starting from a presumed original symbiosis, the complex conceptions of self and object undergo a figurative mitosis and thereafter continue to determine each other in parallel, developmental stage.^{xlviii} Both the distinction between self and non-self and their interdependence are therefore not only logical, but ontological as well, for they are intrinsic to the notion of “self” identity from its very inception.^{xlix}

And since the family can never truly be separated from the larger social and cultural contexts in which it too operates, all senses of self are not only individually, but also socially or culturally conditioned. For such inescapably social creatures as ourselves, self-identity is never simply given; it is forged in the crucible of interaction with others. Identity is thus a product not only of the evolutionary development of species-specific behavior but of the developmental processes of growth, maturation and socialization of each individual as well.

It is thus ontogenetic as well as phylogenetic. As with our species itself, individual self-identity is a contingent and conditioned construct, a *samskāra* in Buddhist terms. Thus Bertalanffy (1968, 211f), the founder of general system theory, concludes:

"I" and "the world", "mind" and "matter", or Descartes's "*res cogitans*" and "*res extensa*" are not a simple datum and primordial antithesis. They are the final outcome of a long process in biological evolution, mental development of the child, and cultural and linguistic history, wherein the perceiver is not simply a receptor of stimuli but in a very real sense *creates* his world.... "Things" and "self" emerge by a slow build-up of innumerable factors of gestalt dynamics, of learning processes, and of social, cultural, and linguistic determinants; the full distinction between "public objects" and "private self" is certainly not achieved without naming and language, that is, processes at the symbolic level.

This sense of "I" as distinct from "other" therefore depends not only upon an evolved innate capacity for self-identity, but also upon conceptions of identity that are culturally and socially acquired,¹ conceptions that have also undergone their own history of development, articulation and often conflicted expression and that, in turn, introduce still further problems and conflicts.

These are the paradoxes of identity: as self-making, culture-creating, symbol-processing organisms, we require meaning and order at multiple levels—personal, social, cultural, etc. It is within and around these overlapping dimensions of identity that meaning and order coalesce and cohere. Identity thus serves important, perhaps indispensable purposes: it provides that continuous, predictable locus of experience, that sense of agency and organization, which allows us "to map and order the physical and social universe and our own place in it." (Barkow, 1989, 110) But it is this very dependence upon social interaction and cultural construction that gives the lie to the assumptions of independence, unity and stability upon which our deepest sense of identity depends. For *identity is inherently unstable*, its instability grounded in the social and cultural nature of its origins, and any cultural symbol system is similarly and necessarily fragile and vulnerable. We are always changing our minds and our feelings, our modes of expression, our established patterns of interaction, and complex symbolizations of reality. Identities, meanings and shared symbols proliferate and disperse with distressing regularity, ever prone to differentiation, dissolution and decay.ⁱⁱ And it is precisely this tension between the sheer necessity for such overlapping levels of identity and the inherent fragility of all such constructions that drives the underlying compulsions behind humanity's massive, engineered inhumanity. "Identities," the Buddhists remind us, are constructs designed to counteract the impermanent, restless and identity-less nature of things, to, in short, "turn reality on its head."

Securing Identity by Constructing Evil

How do human beings respond to this instability, to the inescapably provisional nature of our constructed identities? How do we shape and sustain these distinct personal, social and cultural dimensions of order and identity, constructed on such shifting sands? How do we "fix" the basic groundlessness of identity in order to sustain stable, established modes of being?

Identities at all levels are constructed by establishing order and security in a radically impermanent and interdependent world. These processes involve dynamics similar to those

we observed at the individual level—discomfort with insecurity, desire for perpetuation, and disavowal of dependence. To create order, we exaggerate differences between peoples, create dichotomies between “us” and “them,” and reify these into fixed and independent entities set off from one another by imputedly intrinsic and insurmountable differences. Fostering intense and distorting emotional attachments, these fixations provide the basis for strong identification with our group and antagonism toward the other.^{lii}

Our identification with the social and cultural realities in which we are raised is so powerful and so ingrained that social scientists, following Durkheim, consider it the fundamental *religious* reality. A culture's definitions of reality provide both the regularities required for meaning and order to cohere in our chaotic and confusing world and the symbols that represent that compelling and enduring sense of reality, that aura of objective and eternal truth, that *sacralized* reality,^{liii} within which we find our place in the cosmos, our ultimate “identities.” Cultural symbols thus express the “sacred” meaning, order and permanence through whose mediation we, as mere mortals, may symbolically participate in something transcendent or immortal.^{liv} As Becker (1975, 64) so eloquently states:

All cultural forms are *in essence sacred* because they seek the perpetuation and redemption of the individual life... Culture *means* that which is *supernatural*; all culture has the basic mandate to transcend the physical, to permanently transcend it. All human ideologies, then, are affairs that deal directly with *the sacredness of the individual or the group life*, whether it seems that way or not, whether they admit it or not, whether the person knows it himself or not.

But the sacralized “realities” and identities that culture provides are arguably compelling and effective only to the extent that they are not acknowledged as mere constructs, mere human fabrications. “The institutional order,” Berger (1967, 33) argues, must “be so interpreted as to hide, as much as possible, its *constructed* character.”^{lv} Our culturally constructed realities are “sacred” not in spite of but *because* of their obscured nature. They require mystification.

These are by no means wholly evil processes, but neither are they accidental. They are *essential and constitutive* of identity formation. They involve, in fact, the same characteristics found in individual “self-making”: they are eminently functional, yet constructed, conflicted and concealing. But while the direct consequences of individual identity construction are relatively simple, limited and short-lived, the consequences of collectively forging social, cultural and political identities are complex, massively disruptive and disastrously enduring.

In our modern world, the definitive “sacred reality” has increasingly come to be represented in the nation or nation-state. The nation has been sacralized by the same processes that individuals, societies and cultures are reified into selves or entities^{lvi}: by creating boundaries dichotomizing the world into “us” and “them,” coercing homogeneity within and excluding foreignness without, and imbuing all this with an emotionally charged aura of eternal truth and goodness that simultaneously sanctifies and obscures its contingent, constructed nature.^{lvii} We thereby populate our complex, interdependent human environment with such imagined entities as cultures, sub-cultures and nation-states, even though, as Wolf (1982, 3) points out,

inquiries that disassemble this totality into bits and then fail to reassemble it falsify reality. Concepts like “nation,” “society,” and “culture,” name bits and threaten to turn names into things. Only by understanding these names as bundles of relationships, and by placing them back into the field from which they were abstracted, can we hope to avoid misleading inferences and increase our share of understanding. (cited in Carrithers, 1992, 26).^{lviii}

And it is this falsification, this reification of aggregated individuals into independent entities separated from their encompassing human contexts that provides the locus of identification required for sacralizing order and security. The modern nation is thus a socially constructed “ultimate reality” imbued with the same implicit sacrality that all societies share: a cosmic order that provides ultimate meaning, purpose, and identity—an order, that is, that one could give one's life to. Thus, by creating order and purpose at the social and political levels, while simultaneously providing a locus of sacralized identity and belonging at the personal level, the nation is the modern sacred order *par excellence*.^{lix} As Becker (1975, 113) so eloquently observes:

We couldn't understand the obsessive development of nationalism in our time—the fantastic bitterness between nations, the unquestioned loyalty to one's own, the consuming wars fought in the name of the fatherland or the motherland—unless we saw it in this light. “Our nation” and it's “allies” represent those who qualify for eternal survival; we are the “chosen people.” ...All those who join together under one banner are alike and so qualify for the privilege of immortality; all those who are different and outside that banner are excluded from the blessings of eternity.

We can now see how the animosities evoked by ethnic, cultural or national conflict draw upon the deepest dynamics of identity formation: “others” play an indispensable role in defining “us”; they provide both the contrasting boundary by which we can distinguish who we are and the common threat that unites “us” in our sacred cosmos.^{lx} These attempts to establish and protect definite, substantial ethnic or national identities do not merely define evil, they *require* it.^{lxi}

Identity is thus a tragically double-edged sword. It is the juxtaposition of the sheer fragility of any symbolic order with the magnitude of our need for it, the juxtaposition of our deep dependence upon a larger consensual reality with the constant threats to its integrity and validity that helps explain the endless violence over “sacred” symbol systems. Sacred symbol systems proliferate, mix, and mutate in the vast marketplace of competing and incompatible world views. This radical pluralism that is so part and parcel of this untidy world of ours is deeply disturbing and destabilizing. Since our sense of order and meaning is so bound up with the sacralized symbol system of our specific cultures, worldviews, ethnic identities, religious beliefs or national belongings, threats to our sacred symbol systems threaten our very existence. As Berger (1967, 39) warns, “When the socially defined reality has come to be identified with the ultimate reality of the universe, then its denial takes on the quality of evil as well as madness.” The implications of this are obvious and ominous: when each particular “socially defined reality” is sacred, then pluralism produces endless evil and madness. We need not merely imagine what this implies.

These processes have generated a vicious cycle of mind-boggling proportions and heart-numbing consequences. As indispensable institutions for sacralizing identity within an eternal sacred order that provides meaning, value and belonging, modern nation-states have

filled the vacuum created by the diminished influence of institutionalized religion in the early modern era.^{lxii} As a reflection of the desire to participate in immortality, such cultural or national identities have come to supersede even one's own personal survival. Men fight and die so that their group, and by extension themselves, may have immortal life.^{lxiii} "Men seek to preserve their immortality rather than their lives," Otto Rank observed (Becker, 1975, 65). It is this intense, "sacred" identification with groups larger than ourselves that sanctifies the massive, incalculable blood sacrifice at the altar of the nation-state, our modern secular, *ersatz* religion. Millions have died defending abstract symbols such as a flag^{lxiv} or ideologies such as fascism, socialism, or even democracy; millions more have killed in the name of the "fatherland," "racial purity," or even, most ironically and tragically, in the name of a loving God. As Duncan (1962, 131) declares, in this century of ideological warfare "all wars are conducted as holy wars."

We have finally reached the bloody irony of modern history. Our attempts to "turn reality on its head" results in "the paradox... that *evil comes from man's urge to heroic victory over evil*" (Becker 1975, 136), from our ill-chosen means of constructing sacred identities whose very existence requires that we continuously create and vanquish opposing "evil" entities in the world. Human beings make war and kill each other in a way that no other animal species does because no other species is as dependent upon sacralizing symbols of consensual reality in order to make sense of their lives.^{lxv} No other species has the capacity, or the need, to externalize identity out into the wide-open world where its fate, our fate, blows so helplessly in the wind.

Interdependence, Identity and Understanding

In the aggregate, these observations from the biological and social sciences not only resonate with, but resound classical Buddhist notions of the construction of identity as the locus of self-grasping and ignorance in the face of the radical impermanence and interrelatedness of all phenomena. These ideas have provided a comprehensive framework from which we may make some sense of the massive perpetration of evil and suffering we inflict on each other each and every day.^{lxvi} We can see how the interdependent nature of phenomena, the fabrication of identity, and attachment to our "selves" at the expense of "others" all function equally effectively, and nefariously I might add, at the biological and individual levels, as well as at the socio-cultural levels organized around sacred symbol systems. They are based upon our emotional and cognitive modes of behavior, in particular on both a self-centered sense of identity (which is at the same time inseparable from the complex and symbolic interactions that constitute human society and culture) and on powerful limitations to our awareness of just their originating conditions. At the individual level, these capacities, particularly our self-centeredness and ignorance, are universally recognized to underlie many of the interpersonal problems in life, and much of traditional religious or moral culture is geared toward mollifying their expression or ameliorating their excesses. These processes, however, are but the ground level, the bare prerequisites, of our human capacities towards evil.

To understand how these are transmuted into the scale of violence and hatred unique to our species, we have considered the "sacralization of identity" (*satkāyadr̥ṣṭi*) and its attendant "poisons": the inordinate emotional *attachment* and *irrational belief* adhering to

our social, cultural and political constructions of reality, and the disastrous *aggressions* resulting from in-group\out-group discrimination and its exclusionary loyalties. It is the very interdependent nature of human identity, however, that enables it to be molded into vehicles of self- and group-aggrandizement, with its concomitant projection of enmity, that conduces to the unprecedented scale of violence characterizing this last blood-soaked century. For built into the self\other dichotomy is the tragic blindness to our ontological interdependence, our reciprocally conditioned and contingent nature. It is this ignorance that facilitates our blind belief in independent, autonomous entities, whether individuals or groups, clans or ethnicities, or, as in our modern era, nation-states, the apogee of belonging and belief in whose name so much senseless suffering has been instigated, so many deaths decreed, such unimaginable evil administered.

Having gained at least some purchase on these unholy dynamics, we cannot avoid asking what a cross-cultural dialogue between Buddhism and science might do to help ameliorate these ills, to circumvent these vicious circles. Since, as both anthropologist Gregory Bateson (1979, 66) and the Buddhists may agree, "when causal systems become circular, a change in any part of the circle can be regarded as *cause* for change at a later time in any variable anywhere in the circle," there are several points at which these vicious behavioral patterns can be broken. As was suggested in the introduction, these can be divided into *understanding* the human condition and *overcoming* the baneful influences of our afflictive self-centered activities. From this perspective, the abstract and theoretical understanding pursued herein possesses no mere academic import, but points to a potentially powerful analytic tool for overcoming our ingrained ignorance concerning the constructed and conflicted nature of human identity. Without such an understanding we can hardly approach these issues in a comprehensive, constructive fashion. That is, we cannot fully appreciate the indispensable meaning-making functions that the construction of identity clearly does serve, without at the same time unreservedly interrogating the destructive dynamics into which the sacralization of identity all too often degenerates.^{lxvii} This Janus-face quality of human identity must be an explicit component of any serious attempt to understand our human condition. "Ignorance, thirst for illusion, and fear," Becker (1975, 143) avers, must all be "part of the scientific problem of human liberation." Such a science, he continues (162), "would share a place with historical religions: they are all critiques of false perceptions, of ignoble hero systems. A science of society, in other words... will be a critique of idolatry." Such a science, put in Buddhist terms, would be a critique of our concerted but futile and ultimately frustrating efforts to "turn reality on its head": to misconstrue the impermanent as permanent, the unsatisfactory as satisfactory, and what is not-self as self. The collective recognition of both our interdependence and of the alienation created by all false identity constructions are thus essential components of a new, and yet very ancient, mode of understanding ourselves and our place in the world.^{lxviii}

Such understanding, however, needs to issue in action. This is no easy task, nor is it to suggest that the Buddhists or anyone else have a single panacea for all that ails our world. Buddhists traditionally say that the Buddha taught eighty-four thousand practices directed toward alleviating eighty-four thousand kinds of afflictions. This traditional stock figure expresses the necessity, one could say, of understanding all the particulars of our complex world in order to address its multifarious ills. If, as many have emphasized, we are continuously constructing our "worlds," then we also have collective responsibility for the kind of world we construct. We have little choice but to exercise the weighty responsibility

of our “knowledge of good and evil” with intelligence and compassion, fully appreciative of our creative possibilities, fully cognizant of their demonstrated dangers. We have recently reached some consensus on both the grounds and causes of some of the most egregious of these dangers. If this hard-won understanding remains ensconced in the academy or laboratory we may not survive to develop its more promising possibilities.

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This paper is dedicated to my late father, without whose inspiration and example I surely would never have striven so persistently, so systematically, to understand such inescapable, unpleasant aspects of life.

i. The sheer scale of organized violence is evident in these appalling statistics: "In 1973, there were a handful of conflicts spread around the globe. By 1980 there were thirty or so, and today there are more than forty. Most statistics agree that an average of one thousand soldiers are killed every day throughout the world. If anything, this is a conservative figure, kept down by the impossibility of collecting statistics from many of the ongoing wars.... A thousand casualties a day is approximately the same as the average number of French soldiers killed daily during World War I. That conflict lasted only five years. Our current levels of violence have been with us for more than a decade. Some five thousand civilians also die every day as a direct or indirect result of war. Three and a half million dead soldiers over the last decade and twenty million dead civilians." John Ralston Saul (1992, 180f), cited from John Gellner, Editor of *Canadian Defense Quarterly*, *Toronto Globe and Mail*, December 31, 1980.

William Eckhardt of the Lentz Peace Research Institute estimates 13.3 million civilian and 6.8 million military deaths between 1945 and 1989, while Nicole Ball of the National Security Archives (*Toronto Globe and Mail*, September 30, 1991) figures 40 million deaths since 1945 in 125 wars or conflicts. See Saul, 1992, 599. These figures predate the breakup of the Soviet Union, the Yugoslav wars or the Central African genocides. They show little sign of abating.

ii. These correspond closely to the two obstacles to liberation in classical Buddhism, the obstacles consisting of the afflicting passions (*kleśa-avāraṇa*) and the obstacles to correct knowledge or understanding (*jñeya-avāraṇa*).

iii. I am not implying that there was a single "Indian Buddhist" view. There are vast differences among Buddhist traditions regarding many matters. I am limiting the scope of this essay, however, to aspects that have been both widely accepted in Indian Buddhism and show some promise of productive dialogue with areas of the modern sciences.

iv. This last phrase is close to the literal meaning of the four "inversions" (*viparyāsa*): regarding the impermanent as permanent, the dissatisfactory as satisfactory, the impure as pure, and what is not self as self. Since in the Buddhist view only *nirvāṇa* promises lasting satisfaction, the four inversions describe our attempts to find—in a world lacking impermanence, satisfactoriness and any abiding self (the three marks of existence, *trilakṣaṇa*)—what is not possible to find, to secure what is not possible to secure, and to attain what is not possible to attain. This essay could be considered an extended meditation upon the implications of these inversions, especially in terms of their traditional classification into the inverted perceptions, thoughts and ideas (*saññā-*, *citta-*, *diṭṭi-vipallāsa*) that impute permanence, satisfaction, and self where they cannot be found. Nyanatiloka, 1977, 196. (In addition to the page numbers of the respective English translation, we also refer to the various collections of Pāli texts using their standard abbreviations: A = *Āṅguttara Nikāya*; M = *Majjhima Nikāya*; S = *Saṃyutta Nikāya*. These are followed by volume and page number of the PTS edition.) This formula is found in many texts, i.e., A IV 49 (*anicce niccan ti, dukkhe sukhan ti, anattani attā ti, asubhe subhan ti*); *Abhidharmakośa* (henceforth AKBh) V ad 9, Poussin 21, Shastri 888 (*anitye nityam iti, duḥkhe sukham iti, aśucau śuci iti, anātmani ātma iti*). The centrality of these "inversions" is succinctly expressed in this passage: "as long as their minds (*citta*) are turned upside-down by the four inverted views, beings will never transcend this unreal cycle of birth and death (*saṃsāra*)" (*caturbhir viparyāsair viparyasta-cittāḥ sattvā imam abhūtaṃ saṃsāraṃ nātikrāmantī*) *Prasannapadā*, xxiii, cited in Conze, 1973, 40, 276,n.31; see pp. 34-46 for an extended discussion of the three "marks" and the inverted views.

v. *Sabbaśava-sutta*, Ñāṇamoli, 1995, 92f. The psychologist, Ernest Wolf (1991, 169) describes the same universal "conviction that I am the person who was born in a certain place at a certain time as the son of the parents whom I knew and that I am the person who has had a history in which I can identify the 'I' of yesteryear as the 'I' of yesterday and, hopefully, of tomorrow." As cited in Mitchell 1993, 109.

vi. There is a close affinity between the Buddhist theory of dependent arising and self-organization theory and its close cousins, general systems and chaos theory. For a good synthesis of recent developments in self-organization theory, especially as it applies to evolution, see Capra 1997. General Systems Theory and

Buddhist thought are compared in Macy 1991. Varela, Thompson, and Rosch 1991 astutely use Buddhist concepts to bridge cognitive science and Western phenomenology.

vii. Buddhists do not hold a materialist world view, that consciousness is *merely* an epiphenomenon of neural states. Most Buddhist traditions hold that some processes of an individual's "mind-stream" persist from one life to the next (usually *vijñāna*), and whose "descent into" and "exit" from the body defines the span of a single lifetime. This does not vitiate, I believe, a comparison between evolution and Buddhist thought as causal theories regarding the dependent origination of species through the aggregate activities of sentient beings, the focus of our comparison here. There are, of course, major divergences between Buddhism and biology concerning how the effects of these activities may be transmitted from one generation to the next. On this and other issues, Buddhist perspectives appear largely incommensurate with current scientific assumptions.

viii. The "three poisons" ("greed, hatred, delusion" are variant terms) effectively epitomize a much larger range of human emotion and behavior, itemized more specifically as follows:

"Greed: liking, wishing, longing, fondness, affection, attachment, lust, cupidity, craving, passion, self-indulgence, possessiveness, avarice; desire for the five sense objects; desire for wealth, offspring, fame, etc.

Hatred: dislike, disgust, revulsion, resentment, grudge, ill-humour, vexation, irritability, antagonism, aversion, anger, wrath, vengefulness.

Delusion: stupidity, dullness, confusion, ignorance of essentials (e.g. the Four Noble Truths), prejudice, ideological dogmatism, fanaticism, wrong views, conceit." (Nyanaponika 1986, 99).

ix. As the Buddha observed:

He regards feeling as self.... Apperception as self.... Volitional formation as self.... consciousness as self, or self as possessing consciousness, or consciousness as in self, or self as in consciousness. That consciousness of his changes and alters. With the change and alteration of consciousness, his mind becomes preoccupied with the change of consciousness. Agitation and a constellation of mental states born of preoccupation with the change of consciousness remain obsessing his mind. Because his mind is obsessed, he is frightened, distressed, and anxious, and through clinging becomes agitated. (Bodhi 2000, S III 16f)

x. The disheartening dynamics discussed in this paper touch only upon the first two of the Four Noble Truths of Buddhism: the universality of human suffering/dissatisfaction and its basic underlying cause, our attachment to a constructed, yet ultimately untenable sense of permanent self-identity. The last two of the Four Noble Truths declare the radical possibility of complete freedom from such suffering and the path toward that freedom through eliminating the heartfelt belief in an independent, autonomous, fixed self and the actions that belief instigates. Using Buddhist ideas to examine this particular set of issues no more vindicates persisting stereotypes of Buddhism as "pessimistic" than using the findings of epidemiologists to understand the conditions for the spread of disease demonstrates their incorrigibly morbid mentalities. Findings are relative to the questions being posed, and the epidemiologists' findings are valued for their ameliorative effects. Buddhists traditionally understand the four Noble Truths in similar medical terms. An equally compelling and nearly exact mirror-image of this paper could well have been written, especially from the Mahāyāna Buddhist point of view, on the beneficent influence of compassion and cooperation on evolution, history, and social, cultural and political life. But that is not the question we are pursuing here.

xi. The three "poisons" of attachment, aggression and ignorance are depicted in the very center of traditional representations of the Wheel of Life, the cycle of death and rebirth, where they are represented by the cock, snake and pig, respectively. Since the afflictions (*kleśa*) are basically elaborations or specifications of the three poisons, I am treating them interchangeably for the purposes of this essay.

The afflictions *per se* were not fully enumerated in the earliest Buddhist literature attributed to the Buddha himself, but were elaborated in the later Abhidharma traditions. The ten afflictions in the Theravādin Abhidhamma (*Dhamma-saṅgaṇi*, *Visuddhimagga*, etc) are: 1. greed (*lobha*), 2. hatred (*dosa*), 3. delusion (*moha*) (1-3 are the three poisons), 4. conceit (*māna*), 5. speculative views (*diṭṭhi*), 6. skeptical doubt (*vicikicchā*), 7. mental torpor (*thīna*), 8. restlessness (*uddhacca*), 9. shamelessness (*ahirika*), 10. lack of moral dread, or unconscientiousness (*anottappa*). See Nyanatiloka 1977, 77.

The *Abhidharmakośa* (V 1c-d) also enumerates six, parallel to the Theravādin list (attachment, aggression, ignorance, pride, false view, and doubt), as well as an expanded list of ten (V 3) wherein “false view” (*dr̥ṣṭi*) is divided into five—roughly: 1. view of self-existence (*satkāyadr̥ṣṭi*), 2. extreme views (*antaḡrāha-dr̥ṣṭi* i.e., eternalism and nihilism), 3. false views based on wrong ideas (*dr̥ṣṭiparāmarśa*), 4. false views about the efficacy of rules and rituals (*śīlavrataparāmarśa*), 5. false views about causality (*mithyādr̥ṣṭi*). See, among others, Guenther and Kawamura, *Mind in Buddhist Psychology* 1975, 64-81. The “view of self-existence” (*satkāyadr̥ṣṭi*), upon which much of the discussion that follows focuses, plays a more fundamental role in Buddhist thought than its position here might suggest. Although its etymology is disputed, it uniformly refers to the range of misguided views regarding, and the attributions of a permanent “self” onto, the five groups (*skandha*) of physical and mental processes that constitute human existence.

There are also challenges and controversies surrounding the most suitable way to translate *kleśa*. Snellgrove (1987, 109) succinctly outlines these vexing issues:

Difficulty in fixing suitable terms in English... is caused by the word *kleśa*, which means literally “anguish” or “distress”, but which in Buddhist usage comes to mean whatever is morally distressful and thus in effect “sinful emotions”..... Although quite sure that it comes close enough to the actual meaning of this difficult term, I have tried to avoid the translation “sin” out of deference to a new generation of westernized Buddhists, who react very quickly against the introduction into Buddhist texts of terms with a specialized Christian application. “Affliction” may be regarded as a tolerable translation in that it can refer to anything that upsets the equanimity of the mind, although it misses the moral aspect of the disturbance, which must be understood as also included.

xii. Though many South Asian cosmogonies attribute the formation of the material universe to karma as well, we are limiting discussion to conceptions of the development of sentient life, which provide the most grounds for productive comparison on the influences of the afflictions.

xiii. In all likelihood, this was not even originally a Buddhist account but rather an ironic parody of traditional Vedic cosmogonies. See Collins 1993; and Carrithers 1992, 117-145.

xiv. “The first person who, having fenced off a plot of ground, took it into his head to say *this is mine* and found people simple enough to believe him, was the true founder of civil society.” J.J. Rousseau, *The First and Second Discourses* (New York: St. Martin's 1964, 141) as cited in Becker 1975, 40.

xv. AKBh ad V 1a. Poussin, 1; Shastri, 759. (*“karmajaṃ lokavaicitrayaṃ” ityuktam / tāni ca karmāṇi anuśayavaśād upacayaṃ gacchanti, antareṇa cānuśayān bhavābhinirvartane na samarthāni bhavanti / ato veditavyāḥ mūlaṃ bhavasvānuśayāḥ*; Tib.: *las las 'jig rten sna tshogs skyes zhes bshad pa / las te dag kyang phra rgyas gyi gbang gyis bsags par 'gyur gyi / phra rgyas med par ni srid pa mngon par 'grub par mi nus pa de'i phyir / srid pa'i rtsa ba phra rgyas yin par rig bar bya ste*).

xvi. *Nāyaṃ... kāyo tuṃhākaṃ na 'pi aññaṃ purāṇaṃ idaṃ bhikkhave kammaṃ abhisankhataṃ abhisāṇcetayitaṃ vediniyaṃ dāṭṭhabbaṃ*. Unless indicated otherwise, Pāli texts are cited from the translations of the Pali Text Society; technical terms altered for the sake of consistency.

xvii. As we shall see below, the genetic component of heritable characteristics is just one factor within a complex of factors that give rise to life in general and to behavioral patterns in particular. The persistence and causal influences of natural and social environments, importantly including behavior itself, are also indispensable conditions in the circular feedback processes of evolution.

xviii. The narrow focus of this paper precludes any *comprehensive* account of human psychology, which would have to give all these behaviors and capabilities their due consideration. Current biological thinking, in any case, is at quite the opposite pole from nineteenth century Social Darwinism: “Life is much less a competitive struggle for survival than a triumph of cooperation and creativity. Indeed, since the creation of the first nucleated cells, evolution has proceeded through ever more intricate arrangements of cooperation and coevolution” (Capra, 1997, 243).

xix. We are not suggesting that these are comparable in all respects, but only that we may find some common ground in their conceptions of long-term causal or conditioning influences. Evolutionary biology typically considers these questions in terms of the development of particular gene pools and populations while Buddhist thinking largely speaks in terms of the trajectories of individual “mind-streams” coursing through multiple lifetimes.

xx. "Darwinism... banished essentialism—the idea that species members instantiated immutable types." (Richards, 1987, 4).

The ability to make the switch from essentialist thinking to population thinking is what made the theory of evolution through natural selection possible.... Organisms... have a mechanism for the storage of historically acquired information... The genotype (genetic program) is the product of a history that goes back to the origin of life, and thus it incorporates the 'experiences' of all ancestors.... It is this which makes organisms historical phenomena." (Mayr 1988, 15f)

xxi. The study of behaviour has now emerged as one of the most central issues in modern evolutionary analysis. With hindsight, it is easy to see why this should be so. After all, natural selection and genetic change depend, as we now interpret Darwin, upon the way in which an animal behaves since its behaviour, in particular everything leading up to the act of reproduction and later the protection of offspring, determines the direction of evolution as a result of differential breeding rates. (Nichols (1974, 264)

xxii. Ñāṇamoli 1995, 537f., *Malunḡya-sutta* M I 433.

For a young tender infant lying prone does not even have the notion 'personality' [*sakkāya*, or “self-identity”], so how could personality view arise in him? Yet the underlying tendency (*anusaya*) to personality view lies within him. A young tender infant lying prone does not even have the notion “teachings,” so how could doubt about teachings arise in him? Yet the underlying tendency to doubt lies within him. A young tender infant lying prone does not even have the notion “rule,” so how could adherence to rules and observances arise in him? Yet the underlying tendency to adhere to rules and observances lies within him. A young tender infant lying prone does not even have the notion “sensual pleasures,” so how could sensual desire arise in him? Yet the underlying tendency to sensual lust lies within him. A young tender infant lying prone does not even have the notion “being,” so how could ill will towards beings arise in him? Yet the underlying tendency to ill will lies within him."

These tendencies comprise the five lower fetters, enumerated in note 31 below.

xxiii. Later Buddhist analysis of the arising of the afflictions is more nuanced than this. Abhidharma traditions, for example, analyze the relationship between a latent disposition and the particular objects by which it is triggered in ways that closely resemble psychoanalytic conceptions of “invested” or “cathected” (*besetzen*) objects. 1. First, each type of affliction is “bound up” and attached to certain objects and reacts to them in certain conditioned ways. 2. Then, whenever the appropriate object appears in its respective sense-field, it evokes an “outburst” of that affliction. So, for example, sensual desire arises whenever an object (*dharma*) that “provokes an outburst of sensual desire” (*kāmarāgaparyavasthānīya-dharma*) appears in the sense fields and one has not abandoned or correctly understood the latent disposition toward it (*rāgānuśaya*). 3. This latter condition explains why ignorance is said to be the root of them all. (1) AKBh ad V 22; Shastri 801; Poussin 48. *yasya pudgalasya yo 'nuśayo yasmin ālambane 'nuśete sa tena tasmin samprayuktaḥ*. AKBh ad V 18c-d; Shastri, 793; Poussin, 39. *yena yaḥ samprayuktas tu sa tasmin samprayogataḥ //... te cānuśayāḥ samprayogato 'nuśayīrannāmbanataḥ*; (2) AKBh ad V 34; Shastri, 829; Poussin, 72f; *tat yathā rāgānuśayo 'prahīṇo bhavati aparijñātaḥ kāmarāgaparyavasthānīyāś ca dharmā ābhāsagatābhavanti. tatra ca ayoniśo manaskāra evaṃ kāmarāga utpadyate*; (3) AKBh ad V 36c-d; Shastri, 831; Poussin, 74; *sarveṣāṃ teṣāṃ mūlam avidyā*.

xxiv. We tend to identify with all our bodily feelings, sense objects, psychological processes, etc.: "Now, monks, this is the way leading to the origination of personality [*sakkāya*, or ‘self-identity’]. One regards the eye thus: 'This is mine, this I am, this is my self.' One regards [bodily] form and so on [i.e. all the sensory and mental processes comprising human life] thus: 'This is mine, this I am, this is my self.'" Ñāṇamoli 1995, 1133, M III 285.

xxv. The distinction between merely *conducting* to certain behaviors and wholly *determining* them is crucial. There are relatively indirect causal influences between what brings about the dispositions and the way that they in turn conduce to specific behaviors, i.e. the dispositions are important factors within a larger, more multifaceted set of interdependent links no one of which is capable of unilaterally determining behavior. Barkow (1989, 74) emphasizes this important distinction: "It will surprise no one that we are capable of selfishness, deceit, and other such behaviours. It should not be surprising that the capacity to act in such ways is a product of natural selection. Whether or how such behavior can be moderated or even eliminated depends on the nature of the mechanisms that produce it—our psychology—and not on the selection pressures that produced the psychology. This distinction, between our evolved behavioural mechanisms—our social psychology, our human nature—and the selection pressures that have generated them, is crucial.... Human psychology is a product of natural selection, but human behavior hardly reduces to a calculus of selection pressures."

xxvi. If this were not the case, the theory of karma would amount to a narrow determinism and negate the very possibility of liberation. But the Buddhist theory of causality, however, depicts neither the absolute inescapability of consequences nor a strict determinism. Rather, karmic activities set into motion patterns of energies that *conduce* to effects consonant with the motivations that instigated them, which in turn *tend* to instigate further actions. Otherwise, the Buddha warned, there would be no way out of the vicious cycle and hence no point in religious practice: "If anyone should say: 'just as this man performs an action, just so will he experience the consequence'—if this were correct, there would be no pure life and no opportunity would be known for the stopping of suffering. A I 249. (*Yo... evaṃ vadeyya—yathā yathāyaṃ puriso kammaṃ karoti tathā tathā taṃ paṭisaṃvediyatīti—evaṃ santaṃ... brahmacariyavāso na hoti okāso na paññāyati sammā dukkhassa antakiriya*) (Johansson 1979, 146). Such a disheartening interpretation, the Buddha warned, would lead to an ill-advised passivity, a fatalistic and defeatist attitude that was the antithesis of the Buddha's exhortation to work toward one's own liberation: "for those who fall back on the former deed as the essential reason (*sārato paccāgacchataṃ*) [for their present actions], there is neither desire to do, nor effort to do, nor necessity to do this deed or abstain from that deed. So then, the necessity for action or inaction not being found to exist in truth and verity [for you].... you live in a state of bewilderment with faculties unwarded." A I 174 (PTS translation).

xxvii. One Pāli sutta (S II 65) states: "If one does not will, O Monks, does not intend, yet [a disposition] lies latent, this becomes an object for the persistence of consciousness. There being an object, there comes to be a support of consciousness. Consciousness being supported and growing, there comes to be the descent of name-and-form; conditioned by name-and-form, the six sense-spheres arises, etc.... Such is the arising of this entire mass of suffering."

xxviii. Vasubandhu describes this classic account of cyclic causality in terms of one's "mind stream": "the mind stream (*santāna*) increases gradually by the mental afflictions (*kleśa*) and by actions (*karma*), and goes again to the next world. In this way the circle of existence is without beginning." (AKBh III 19a-d, Poussin, 57-59; Shastri, 433-4. *yathākṣepaṃ kramād vṛddhaṃ santānaḥ kleśakarmabhiḥ / paralokaṃ punaryāti... ityanādhavacakraṃ*.)

xxix. These become a *sine qua non* of Buddhist liberation. Ñāṇamoli, 1995, 133, M I 47:

When a noble disciple has thus understood the unwholesome and the root of the unwholesome, he entirely abandons the underlying tendency to lust, he abolishes the underlying tendency to aversion, he extirpates the underlying tendency to the view and the conceit "I am," and by abandoning ignorance and arousing true knowledge he here and now makes an end of suffering. In that way too a noble disciple is one of right view, whose view is straight, who has perfect confidence in the Dhamma, and has arrived at this true Dhamma.

xxx. "Abandon what is unwholesome [i.e. the three poisons], O monks! One can abandon the unwholesome, O monks! If that were not possible, I would not ask you to do so." Nyanaponika 1986, 127, A II 19.

xxxi. The five lower fetters that tie beings to the sensuous world were mentioned above in the *Malunkya-sutta* (M I 433 in 1995, 537f). They are: 1. a belief in self-identity or self-existence (*sakkāyadiṭṭhi*), 2. skeptical doubt (*vicikicchā*), 3. attachment to rules and observances (*sīlabbataparāmāso*), 4. sensuous craving

(*kāma-rāga*), and 5. ill-will (*vyāpāda*). See Nyanatiloka 1977. These expand into the ten afflictions (*kleśa*) in later Abhidharma literature.

xxxii. "A well-taught noble disciple... does not abide with a mind obsessed and enslaved by personality view [or "view of self-existence," *sakkāyadiṭṭhi*]; he understands as it actually is the escape from the arisen personality view, and personality view together with the underlying tendency to it is abandoned in him. Ñāṇamoli, 1995, 538, M I 434.

xxxiii. This point follows naturally from the principles of evolutionary biology and applies to all the sensory faculties: "The visual system is not built to represent an exact copy of the actual world; it is built to work by cues that maximize its function" (Gazzaniga 1998, 87).

xxxiv. The psychologist and Buddhist scholar Rune Johansson (1978, 173) concurs that, however ultimately illusory it may be, such a sense of self nevertheless serves important practical functions: "The ego-illusion is the glue or, rather, the structural tension that keeps the person together in a certain form. It gives a feeling of unity. A person without this feeling of identity or a wish to keep his identity or assert it will easily get a sense of unreality and of falling apart."

xxxv. The psychologist Henry Stack Sullivan, in Mitchell's (1993, 106) words, "also stressed repeatedly the illusory nature of the self we ordinarily take ourselves to be—singular, unique, in control of our self-revelations and self-concealments—which he felt was at enormous odds with what we actually do with other people... Sullivan came to regard the experience people have of possessing a unique personal individuality as essentially a narcissistic illusion—"the very mother of illusions"—in the service of allaying anxiety and distracting attention from ways in which people actually operate with others." Mitchell considers the utility of this: "What may have begun as an illusion often becomes an actual guide to living by virtue of our necessary belief in it" (111).

xxxvi. These are the main Buddhist criticisms of a fixed "self." Though differing substantially on the ultimate nature of the body-mind relation, many scientific works on brain and consciousness also argue that our sense of a "unified, freely acting agent" is illusory because: 1. consciousness is merely a witness, not an agent, accompanying the mostly unconscious processes in the brain; 2. the notion of a "self" in control of these processes is therefore illusory; but that, interesting enough, 3. *this illusion evolved because it served important survival needs*.

For example, brain scientist Richard Restak (1994, xvi) argues: "Modular theory... holds that our experience is not a matter of combining at one master site within the brain all of separate components into one central perception... there is no master site, no center of convergence.... This means that no 'pontifical' cell or area holds sway over all others, nor do all areas of the brain 'report' to an overall supervisory center. Thus... the General Manager is a fictional character." Restak concludes (111-121): "Brain research on consciousness carried out over the past two decades casts important doubts on our traditional ideas about the unity and indissolubility of our mental lives" (121), particularly "the concept of ourself as a unified, freely acting agent directing our behavior."

The neurophysiologist, Michael Gazzaniga concurs, arguing for conclusions remarkably similar to the Buddhist idea of no fixed 'self' (*anātman*) and the implications we are drawing from it:

Split-brain research... revealed that the left hemisphere contains the interpreter, whose job is to interpret our behavior and our responses, whether cognitive or emotional, to environmental challenges. The interpreter constantly establishes a running narrative of our actions, emotions, thoughts, and dreams. It is the glue that unifies our story and creates our sense of being a whole, rational agent. It brings to our bag of individual instincts *the illusion that we are something other than what we are*. It builds our theories about our own life, and these narratives of our past behavior pervade our awareness... The insertion of an interpreter... that asks how infinite numbers of things relate to each other and gleans productive answers to that question *can't help but give birth to the concept of self*. Surely one of the questions the device would ask is "Who is solving these problems?" Call that "me," and away the problem goes!... The interpretation of things past... produces the wonderful sensation that our self is in charge of our destiny.

The interpreter... *creates the illusion that we are in control of all our actions and reasoning...* Is it truly a human instinct, an adaptation that supplies a competitive edge in enhancing reproductive success? I think it is and my guess is that the very device which helped us conquer the vicissitudes of the environment enabled us to become psychologically interesting to ourselves as a species. (1998, 174f, 151; emphasis added).

xxxvii. Sociologists also find the notion that “self” is a function of narrative continuity useful for understanding identity in the modern world (Giddens 1991, 53): “Self-identity, in other words, is not something that is just given... but is something that has to be routinely created and sustained in the reflexive activities of the individual... Self-identity is... *the self as reflexively understood by the person in terms of her or his biography...* A person's identity is not to be found in behaviour... but in the capacity *to keep a particular narrative going*” (54). “In the reflexive project of the self, the narrative of self-identity is inherently fragile. The task of forging a distinct identity... is clearly a burden. A self-identity has to be created and more or less continually reordered against the backdrop of shifting experiences of day-to-day life and the fragmenting tendencies of modern institutions” (185).

xxxviii. Blind-sightedness is a phenomenon in which individuals with impaired visual fields (a blind spot) can nevertheless accurately (80% success rate) guess the location of an object presented to that blind spot without, however, being conscious of seeing it. Split brain patients, whose connecting tissue (corpus callosum) between the two hemispheres of the brain has been severed for medical reasons, demonstrate the same capacity in experimental settings: “the right hemisphere is conscious of important distinctions... yet if asked about them, consciousness is denied.... The right brain makes the correct decisions, but the person cannot consciously explain how that was done.” Scientists conclude that our neurological architecture divides the processes that take place in the right hemisphere from the ability of the left hemisphere, the locus of the “interpreter” that “creates our sense of being a whole, rational agent,” to consciously and discursively communicate those processes. Restak (1994, 129f) draws the conclusion, widely accepted in cognitive science, that “a distinction must be made here between awareness and consciousness. While consciousness implies awareness, the relationship is not reciprocal. We can respond to something, implying some level of awareness, yet we may remain blithely unconscious of what's happening.” See Kihlstrom 1987 on the “cognitive unconscious.”

xxxix. Scientific developments, such as we have investigated in this essay, have drastically exasperated this situation. Minsky (1986, 306f), for example, speaks of the untenable predicament brought about by cognitive science: “We each believe that we possess an Ego, Self or Final Center of Control... We're virtually forced to maintain that belief, even though we know it's false.”

Gazzaniga (1998, 172) colorfully depicts this same predicament:

“Goddamn it, I am me and I am in control.” Whatever it is that brain and mind scientists are finding out, there is no way they can take that feeling away from each and every one of us. Sure, life is a fiction, but it's our fiction and it feels good and we are in charge of it. That is the sentiment we all feel as we listen to tales of the automatic brain. We don't feel like zombies; we feel like in-charge, conscious entities—period. This is the puzzle that brain scientists want to solve... the gap between our understanding of the brain and the sensation of our conscious lives.

This is precisely the puzzle that *The Embodied Mind* (Varela, Thompson, and Rosch 1991) addresses utilizing basic Buddhist ideas.

xl. By a certain stage of human development, these same dynamics of identity construction at the social and cultural levels became predominant, self-perpetuating evolutionary forces in their own right. Carrithers (1992, 49):

The notion of an evolutionary ratchet is consonant with the idea of co-evolution, which suggests that organisms may produce changes in the environment, changes which redound on themselves, creating a circle of positive feedback. The only peculiarity in human evolution was that human social arrangements and their unintended consequences became a selective force in themselves... And with the appearance of these forms there appeared the forms of causation associated with them: not just ecological causation... but now distinctly human social, political, and economic causation. These animals were, so to speak, released into history.

xli. Progress in understanding the complex patterns of interdependence has arguably been hindered by adherence to outmoded, unproductive conceptual dichotomies. Barkow, Cosmides, Tooby (1992, 36f):

Thus, the debate on the role of biology in human life has been consistently framed as being between optimistic environmentalists who plan for human betterment and sorrowful, but realistic nativists who lament the unwelcome inevitability of such things as aggression, or who defend the status quo as inevitable and natural..... This morality play... has been through innumerable incarnations... (rationalism versus empiricism, heredity versus environment, instinct versus learning, nature versus nurture, human universals versus cultural relativism, human nature versus human culture, innate behavior versus acquired behavior, Chomsky versus Piaget, biological determinism versus social determinism, essentialism versus social construction, modularity versus domain-generality, and so on). It is perennial because it is inherent in how the issues have been defined in the Standard Social Science Model itself, which even governs how the dissidents frame the nature of their dissent.

In many respects, this is largely a matter of searching for conceptual clarity. As Barkow, Cosmides, Tooby. (1992, 83f) argue: "Despite the routine use of such dualistic concepts and terms by large numbers of researchers throughout the social and biological sciences, there is nothing in the real world that actually corresponds to such concepts as 'genetic determination' or 'environmental determination.' There is nothing in the logic of development to justify the idea that traits can be divided into genetically versus environmentally controlled sets." Biologist Susan Oyama concurs: "What all this means is not that genes and environment are necessary for all characteristics, inherited or acquired (the usual enlightened position), but that there is no intelligible distinction between inherited (biological, genetically based) and acquired (environmentally mediated) characteristics." (1985, 122), cited in Varela, Thompson and Rosch 1991, 199f.

The models of complex, interdependent causality such as those found in evolutionary biology, self-organization theory, or Buddhism go far in avoiding the conundrums created by these unproductive dichotomies by thinking in terms of *patterns of relationship* rather than in terms of fixed, independent entities. These models effectively preclude dichotomization by encompassing their opposite poles in their basic definitions. See Capra (1997) for a straightforward introduction to these issues, and Waldron (2002) "Beyond Nature/Nurture: Buddhism and Biology on Interdependence," for a treatment of them in dialogue with Buddhist perspectives.

xlii. Behavioral biologists, for example, have long recognized the complexity that these co-evolutionary processes require: "The point is... that *evolutionary processes are inseparable from the behaviour and social organization of animal species*.... Ethological theory has quite strictly supported the neo-Darwinian view of the interdependence of genetic and behavioral evolution.... this is not to argue for 'instinctive determinism', but to pose a more complex model in which genetic disposition, critical learning, and social environment all interact, even in the simplest and most stereotyped of species." Nichols (1974, 265f).

Nor is this to suggest that distinct discourses can or should be reduced to a single "master narrative," particularly a biological one. "Darwinian theory," the anthropologist, Carrithers (1992, 41), argues "differs from sociological and social anthropological styles of thought: it does not concern humans as persons, humans as realized and accountable agents in a social setting, but only humans as organisms. Evolutionary theory, in other words, does not pretend to explain the full detail of human life in all its dimensions. And because that theory speaks only of humans as organisms, then it can coexist with very different notions of, and practices concerning, human persons constructed in different cultural and social historical circumstances."

xliii. We must acknowledge yet qualify Geertz' (1979, 59) cautionary counsel against uncritically projecting Western notions of "self" onto the world's cultures: "the Western conception of the person as a bounded, unique, more or less integrated motivational and cognitive universe, a dynamic center of awareness, emotion, judgement, and action organized into a distinctive whole and set contrastively both against other such wholes and against a social and natural background is, however incorrigible it may seem to us, a rather peculiar idea within the context of the world's cultures."

First, while the explicit *concepts* of selfhood, the obvious object of Geertz' remarks, do indeed vary radically from culture to culture, this does not *prima facie* preclude the possibility of an innate *sense* of selfhood and psychic organization, such as the evolutionary psychologists and cognitive scientists posit and which by definition is a universal, species-wide capacity. Biologists are, after all, discussing humans as organisms, not as socially or culturally-defined persons. Some Buddhists, at any rate, make a similar distinction between a view of self-existence which is innate (and supposedly common to birds and other

animals) (*sahajā satkāyadr̥ṣṭi*) and those views which are conceptual or deliberated (*vikalpita*) and hence unique to the human species. (AKBh ad V 19; Shastri 794; Poussin 40. *kāmadhātau satkāyāntagrāhadṛṣṭi tat saṃprayuktā ca avidyā avyākṛtāḥ. Kiṃ kāraṇam? dānādibhir aviruddhāvāt. Ahaṃ pretya sukhī bhaviṣyāmi iti dānaṃ dadāti śīlaṃ rakṣati.... sahajā satkāyadr̥ṣṭir avyākṛtā. yā mṛgapakṣiṇām api vartate. vikalpitā tu akuśala iti pūrvācāryāḥ*). Moreover, one might infer from the history of Buddhism that such “Western” conceptions of self and personhood are indeed found in other times and places. When Buddhists explicitly argued against a notion of self (*ātman*) that was remarkably similar to Geertz’ “peculiar idea”, in classical India for example, they consistently met with equally explicit, well-argued and often strident defenses of it. Moreover, the Buddhist refutation of such a “self” initially met with puzzled and often antagonistic responses nearly everywhere Buddhism spread. We should therefore be as wary of a reconstructed exceptionalism couched in terms of cultural relativism as we need be of uncritical assumptions of cultural universality.

xliv. Hans Mol (1976: 8f), a sociologist of religion, elaborates this important point:

Both in animals and in human beings, security is bound up with order... The need for identity (or for a stable niche in this whole complex of physiological, psychological, and sociological patterns of interaction) is very much bound up with continuous regularity.... Order means survival; chaos means extinction.... Identity, order, and views of reality are all intertwined.... The point is that an interpretation (*any* interpretation) of reality is necessary for the wholeness (and wholesomeness) of individual and society.

xliv. There exists convincing fossil evidence that the increased size of our brains and the development of culture are closely linked.... This... resulted in very rapid selection for large brains, and a very finely organized, interdependent system. Our minds evolved in the context of culture, just as culture has always been produced by the action of our minds. (Barash 1979, 221)

xlvi. [T]here is no such thing as a human independent of culture... As our central nervous system - and most particularly its crowning curse and glory, the neocortex - grew up in great part in interaction with culture, it is incapable of directing our behavior or organizing our experience without the guidance provided by systems of significant symbols... Such symbols are thus not mere expressions, instrumentalities, or correlates of our biological, psychological, and social existence; they are prerequisites of it. (Geertz, 1973, 49)

xlvi. This is an important postulate in the sociology of knowledge (Berger and Luckmann 1966, 183): "Man is biologically predestined to construct and to inhabit a world with others. This world becomes for him the dominant and definitive reality. Its limits are set by nature, but once constructed, this world acts back upon nature. In the dialectic between nature and the socially constructed world the human organism itself is transformed. In this same dialectic man produces reality and thereby produces himself."

xlvi. The psychiatrist, Hundert (1989, 107), describes these processes: "What is crucial here is the reciprocal nature of the developments of the capacity to have unitary subjective experiences and the capacity to experience unitary permanent objects. By studying the behaviour of infants, Piaget showed that, in normal human development, the notion of permanent *objects* and the notion of a separate *self* who is experiencing those objects develop together. From the starting-point of symbiosis, the origins of self and object proceed apace."

xlix. This distinction is one of the fundamental themes from traditional religion and philosophy that has been translated into the terminology of theoretical psychology: "Through reflection on the nature of self-consciousness, Kant demonstrated that the notion of 'self' (the 'I') carries with it the notion of 'object' (the external world). Kant said that 'object' *necessarily* accompanies 'subject' (conceptually). Piaget showed that what is *necessarily* so, is *actually* so (epistemologically)!... Not only does 'object' always accompany 'subject' (self), but *it is our experience with objects that enables us to 'objectify' them!*" (Hundert 1989, 108-9).

l. Anthropologist and primatologist Tomasello refers to the multidimensionality of specifically human forms of cognition: "Modern adult cognition of the human kind is the product not only of genetic events taking place over many millions of years in evolutionary time but also of cultural events taking place over many tens of

thousands of years in historical time and personal events taking place over many tens of thousand of hours in ontogenetic time" (Tomasello 1999, 216).

li. Berger, Berger and Kellner (1973, 78) make the same point, intertwining themes of selflessness, impermanence, insecurity and a deluded belief in self-identity: "On the one hand, modern identity is open-ended, transitory, liable to ongoing change. On the other hand, a subjective realm of identity is the individual's main foothold in reality. Something that is constantly changing is supposed to be the *ens realissimum*. Consequently it should not be a surprise that modern man is afflicted with a *permanent identity crisis*, a condition conducive to considerable nervousness."

lii. Although identities imply or require relatively well-defined boundaries, the world is seldom so neatly divided in practice. Identities must be forged, rather, through abstracting presumably shared qualities and categorizing people accordingly. As the anthropologist, Mary Douglas (1966, 4) argues: "Ideas about separating, purifying, demarcating and punishing transgressions have as their main function to impose system on an inherently untidy experience. It is only by exaggerating the difference between within and without, above and below, male and female, with and against, that a semblance of order is created."

Although we necessarily classify, categorize and discriminate for eminently practical reasons, fixing boundaries between peoples, groups, cultures, etc. by labeling and stereotyping them is almost never neutral. "The maintenance of any strong boundary," Mol (1976, 174, 11) observes, "requires emotional attachment to a specific focus of identity," since "it is precisely through emotional fixation that personal and social unity takes place."

liii. Mol (1976, 5f) defines *sacralization* as "the process by means of which on the level of symbol-systems certain patterns acquire the... taken-for-granted, stable, eternal, quality... Sacralization, then... [precludes threats to] the emotional security of personality and the integration of tribe or community.... Sacralization protects identity, a system of meaning, a definition of reality, and modifies, obstructs, or (if necessary) legitimates change."

liv. The inherently precarious and transitory constructions of human activity are thus given the semblance of ultimate security and permanence.... The institutions are magically lifted above these human, historical contingencies... They transcend the death of individuals and the decay of entire collectivities... In a sense, then, they become immortal... [The modern individual] is what-ever society has identified him as by virtue of a cosmic truth, as it were, and his social being becomes rooted in the sacred reality of the universe.... Like the institutions, then, roles become endowed with a quality of immortality (Berger 1967, 36f).

lv. Mystification, in the concept of reification, is basic to the sociology of knowledge. Berger and Luckmann (1966, 89f) make a distinction, similar to the Buddhist analysis of self-identity, between two levels of reification, one implicit and unreflective and the other explicit and cultivated. Reification is

the apprehension of the products of human activity *as if* they were something else than human products—such as facts of nature, results of cosmic laws, or manifestations of divine will... Reification is possible on both the pretheoretical and theoretical levels of consciousness... it would be an error to limit the concept of reification to the mental construction of intellectuals. Reification exists in the consciousness of the man in the street and, indeed, the latter presence is more practically significant. It would also be a mistake to look at reification as a perversion of an originally non-reified apprehension of the social world, a sort of cognitive fall from grace. On the contrary, the available ethnological and psychological evidence seems to indicate the opposite, namely, that the *original apprehension of the social world is highly reified both phylogenetically and ontogenetically*. (emphasis added)

That is to say, consistent with our main thesis, that we know the world by means of our evolved capacities to reify experience into the categories of language and social and cultural life. These are both fundamental and fundamentally obscuring.

lvi. As the anthropologist Eric Wolf warns: "By endowing nations, societies or cultures with the qualities of internally homogeneous and externally distinctive and bounded objects, we create a model of the world as a

global pool hall in which the entities spin off each other like so many hard and round billiard balls. Thus it becomes easy to sort the world into differently colored balls." Wolf 1982, 6, cited in Carrithers 1992, 25.

lvii. "Nationalism depends upon a particular social definition of a situation, that is, upon a collectively agreed-upon entity known as a particular nation.... The definition of a particular group of people as constituting a nation is always an act of social construction of reality. That is, it is always 'artificial.'" (Berger, Berger and Kellner 1973, 167). Such reification, Carrithers (1992, 19) argues, is "also fully consistent with, indeed necessary to, the notion of cultures or societies as bounded, integral wholes. For once mutability and the vicissitudes of history are allowed, the notion of the integrity and boundedness of cultures and societies begins to waver and melt." See Anderson (1983) for an historical approach to the rise of nations as "Imagined Communities."

lviii. The reification of processes into entities, a recurrent theme throughout this essay, is a problem for social theory as well, as Norbert Elias (1982 [1939], 228) explains:

concepts such as "individual" and "society" do not relate to two objects existing separately but to different yet inseparable aspects of the same human beings... Both have the character of processes... the relation between individual and social structures can only be clarified if both are investigated as changing, evolving entities.... the relation between what is referred to conceptually as the "individual" and as "society" will remain incomprehensible so long as these concepts are used as if they represented two separate bodies, and even bodies normally at rest, which only come into contact with one another afterwards as it were.

lix. This aspect of nationalism is a modern manifestation of an ancient phenomenon: "The tribe, the race, the nation, and the political state have always been considered sacred by those who shared such collective identities.... The nationalism of the nineteenth century gave rise to the sacred adoration of the nation in the twentieth century. Hitler's declaration that the fatherland was sacred left no room for doubt. Mussolini, Stalin and Mao followed suit. Now the nation became the arbiter of morality: anything that furthers the cause of one's country is good; whatever hinders it is evil" (Strivers 1982, 26f).

lx. Becker (1975, 119): "each heroic apotheosis is a variation on basic themes... Civilization, the rise of the state, kingship, the universal religions—all are fed by the same psychological dynamic: guilt and the need for redemption. If it is no longer the clan that represents the collective immortality pool, then it is the state, the nation, the revolutionary cell, the corporation, the scientific society, one's own race. Man still gropes for transcendence... the individual still gives himself with the same humble trembling as the primitive to his totemic ancestor."

lxi. Becker (1975, 148): "The result is one of the great tragedies of human existence, what we might call the need to 'fetishize evil', to locate the threat to life in some special places where it can be placated and controlled."

lxii. Anderson (11) eloquently describes the spiritual vacuum that nationalism came to fill in the early modern period: "In Western Europe the 18th century marks not only the dawn of the age of nationalism but the dusk of religious modes of thought. The century of the Enlightenment, of rationalist secularism, brought with it its own modern darkness. With the ebbing of religious belief, the suffering which belief in part composed did not disappear. Disintegration of paradise: nothing makes fatality more arbitrary. Absurdity of salvation: nothing makes another style of continuity more necessary. What then was required was a secular transformation of fatality into continuity, contingency into meaning." What resulted was the transformation of the modern nation-state into the sacralized locus of "secular" immortality, a transformation, we might add, that has not gone unchallenged, particularly by fundamentalists around the world. See Bruce Lawrence's incisive treatment of this conflict in *Defenders of God: the Fundamentalist Revolt against the Modern Age* (1989).

lxiii. "The hero is, then, the one who accrues power by his acts, and who placates invisible powers by his expiations. He kills those who threaten his group, he incorporates their powers to further protect his group, he sacrifices others to gain immunity for his group. In a word, he becomes a savior through blood" Becker (1975, 150).

lxiv. Whose desecration or 'de-sacralization', we should remember, is a criminal offense in many countries.

lxv. "Since men now hold for dear life onto the self-transcending meanings of the society in which they live, onto the immortality symbols which guarantee them indefinite duration of some kind, a new kind of instability and anxiety are created. And this anxiety is precisely what spills over into the affairs of men. In seeking to avoid evil, man is responsible for bringing more evil into the world than organisms could ever do by exercising their digestive tracts" (Becker 1975, 5).

lxvi. Some qualifications are in order here. First, I have neglected the most obvious and undeniable dimension of this: that ruling elites attain and accumulate personal power and material gain through organized violence. The analysis of these patterns of human interaction and their specific details belong, however, to the political or social sciences; they are not the issues being addressed here. Rather, we are concerned at this point in the essay with understanding the willing participation of the masses of individuals without whom organized violence would be impossible, and for which the 'sacralization' of personal, cultural and political identities and the mystifications surrounding the nation seem to be necessary, but certainly not sufficient, conditions. To suggest that the dynamics of these processes are similar in different countries or contexts, however, is by no means to imply either their "moral equivalence" or that they entail equally malicious intent to "deceive the masses." Some things surely are more worth defending than others and some are more compellingly true. They remain, nevertheless, consensual realities defined within our human "life worlds."

lxvii. This is why Buddhists do not aim to "destroy" such identities, since, as we have pointed out, these constructs also serve many useful purposes, both practical and spiritual. Rather, Buddhist traditions emphasize the problems that arise from *misconstruing* the nature of constructed identities, as if they were unconditioned, permanent, and self-substantially existent. The Buddhists therefore do not advocate destroying a substantive self, which never existed in the first place, but rather seeing through the illusion that such a constructed self is either substantially real or ultimately dependable and thereafter working with the attachments and desires associated with that sense of self in order to transmute them into more satisfying pathways, i.e. awakened and compassionate activities. A thorough discussion of such transformational practices, important as they are for understanding the relation between Buddhist thought and practice, would take us too far afield from our present focus on the second Noble Truth, the cause of suffering.

lxviii. It is striking to consider the unanimity of opinion concerning the lack of intrinsic or substantial identity—and its concomitant characteristics of being constructed, conflicted and obscuring—that has been reached in the diverse fields discussed so briefly in these few pages, as the extensive citations in the footnotes aim to demonstrate. Recent progress in many fields has often consisted of deconstructing false or outmoded dichotomies inherited from our earlier "billiard ball" models of life and replacing them with more process-oriented models, such as circular causality and self-organization theory—a change of perspective that relativizes the putative essences, entities, and dichotomies of previous eras that, though useful in their own day, now serve more as obstacles to deeper understanding, misleading at best and deleterious at worst.