Evolutionary Tendencies in Realist and Liberal IR Theory

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In Evolutionary Interpretations of World Politics, ed. William R. Thompson, New York: Routledge 2001

INTRODUCTION

This chapter examines realist and liberal international relations (IR) theory from an evolutionary theoretical perspective. It argues that evolutionary themes, concepts, and concerns inform each theory's assumptive frameworks and the research agendas pursued by its practitioners. There are several reasons why such an examination and conclusion are important. First, it could serve as a necessary corrective to the voguish tendency to lump realism and liberalism together merely as theories of rational choice. Ruggie is representative in this regard, arguing that the more popular variants of realism and liberalism—neorealism and neoliberal institutionalism—are "neo-utilitarian" theories that stipulate that "identities and interests of states are given, a priori and exogenously," and "both assume that states are rational actors maximizing their own expected utilities" (1998: 9). The premise that realism, liberalism, and rationalism may simply be equated with one another is what has justified the development of an approach such as constructivism that is committed to sociological history instead. Realism has been described as "a generic commitment to the assumption of rational state behavior" with little content variance to distinguish it from other IR theories (Legro and Moravcsik 1999: 53).

These assertions, while popular, reflect considerable confusion over what it means to share a positivist epistemology versus agreement on theoretical substance (Smith 1996). As Jervis points out, rationalism and constructivism are styles of thought that "need to be filled with content in order to become theoretical statements, and much of their explanatory power must come from auxiliary assumptions about the identities of actors, their goals, and their beliefs" (1998: 975). He goes on to argue that because realism and liberalism provide the necessary auxiliary assumptions, "rationalism then should not be contrasted with liberalism or realism" because it needs theories like these to do any explanatory work" (1998: 976; see also Little 1996, 83–84). Indeed the relationship among realism, liberalism, and rationalism threatens to obscure the substantive differences that continue to exist between these two theoretical paradigms. Realism and liberalism provide not only the necessary auxiliary assumptions in order for a rational-choice approach to work, they also provide alternative and contrasting auxiliary assumptions that produce very different explanations as a result. The fact that practitioners of either theory may adopt a common epistemology does not also make the substance of their auxiliary assumptions or the theoretical frameworks within which they operate similar.

In addition, the extent to which the substantive theoretical frameworks of either realism or liberalism rely upon or demand a rational choice assumption is questionable. It is just as common for evolutionary terms and concepts to be invoked when characterizing them. Realism is often described in evolutionary terms because of its reliance on a "survival of the fittest" imagery. Lebow (1994: 273) equates realism with Darwinism in his discussion of the post-Cold War order, because "like Darwin, Waltz assumes that the environment (international structure in the language of neorealism) rewards certain adaptations in structure and behavior and punishes others" (see also Lapid and Kratochwil 1996: 215–14; Thayer 2000). In a similar vein, Modelski and Poznanski (1996: 319) assert that "in its emphasis on competition and self-help, neorealism shows a close affinity for social Darwinism (though not Darwinism itself) which marked social thought at the turn of the twentieth century." And at least one of the reasons why realism may be described in these terms is because the connection between rationalism and realism is by no means obvious. While Elman (1996: 43–44) points out that "the dominant reading of neorealism is that it employs a rationality assumption, not an evolutionary selection mechanism," Kahler (1998: 923) also notes that realism's "relationship with rationalist theorizing has been uneasy, in both its classical, power-maximizing form and its neorealist and structural variants" (see also Schweller 1999).

The same may be said for liberalism that, like realism, has also frequently been described in evolutionary terms. Hasenclever, Mayer, and Rittberger (1997: 367) note, for example, that although Keohane (1984: 64) explicitly dismisses "a Darwinian type of explanation," at the same time he relies heavily upon the idea of "the evolution of norms and rules" in After Hegemony. This is consistent with Zacher and Matthew's (1995: 110, 117) characterization of liberalism as an "evolutionary perspective" that involves the belief "that international relations are evolving (or probably will evolve) gradually and irregularly along lines that will promote greater human freedom." Modelski and Poznanski (1996: 319) note that "in its search for sources of harmony in world organization" liberalism stands "close to those strands of evolutionary thought that take cooperation to be a basic organizing principle or survival strategy." These characteristics suggest that the ahistorical, atomistic quality of rational choice theorizing cannot be so pervasive within these two paradigms as is commonly alleged. If, as Modelski (1996: 327–28) argues, "rational choice is the study of decisions" while an evolutionary approach is "the study of long-range social processes," then the ability to successfully recast...
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the future of world politics will look like. But because their assumption building blocks are substantively and fundamentally different, the stories each theory tells about the evolution of global political institutions and social practices are very different as well.

There are many advantages to be gained by examining realism and liberalism from an evolutionary perspective as a result. Not only does such a recasting once again highlight what is essential and hence different about each of these paradigms, but it also allows us to recast old debates and questions into new and sometimes startling reconfigurations. That such a recasting is appropriate is the primary subject of this chapter. In the sections that follow I compare realism and liberalism to the development of evolutionary theory in its biological context and to one another in light of their evolutionary tendencies. Not only do obvious parallels exist between theories of evolutionary biology and theories of IR in the utilization of common concepts, themes, and connecting logics, but the philosophical disagreements that informed the development of evolutionary biology are replicated as well. The issue that continues to divide many evolutionary biologists, paleontologists, and sociobiologists is the extent to which biological insights apply to human beings, or whether the ability to construct their own social realities makes human beings too unique for such applications.

Realism and liberalism parallel alternative evolutionary biological perspectives on the subject. Realism concurs with Darwinism that human beings are primarily shaped by their environment so that the institutions they create and nurture are affected by a "selection-by-competition" logic. Liberalism, on the other hand, conflates with Larmorckian perspectives that human beings are primarily shapers of their environments and the institutions they create are determined by a "selection-by-learning" logic. These alternative logics produce very different accounts for the process of global institutional adaptation. Here, realists parallel Darwinian perspectives on evolutionary gradualism and continuity, while liberals parallel paleontologists who argue for periods of discontinuity and "punctuated equilibrium."

The final section of the chapter applies their alternative logics to the European Union (EU) in order to illustrate how both realism and liberalism have theoretically viable accounts of that institution, yet remain at fundamental odds over what it represents. Such an example also underscores why viewing realism and liberalism through a prism informed by evolutionary concepts and concerns may promote new insights and perspectives in the study of global institutional phenomenon.

Caveats and Standards

Before turning to this comparison, several caveats regarding the scope of this discussion and an explication of the standards used to assess evolutionary tendencies are required. This examination is by no means meant to exhaust the subject of evolution in IR theorizing. In fact practitioners of world-system history have long

A final reason why a comparison of realist and liberal evolutionary tendencies is an important undertaking is because it provides new ways of looking at old things. The introduction of an approach or perspective such as evolutionary world politics into IR theorizing can have considerable value if it can recast ongoing questions into new, interesting, and provocative ways. One of the ways in which a new approach may be particularly productive is if it can also highlight what differentiates both epistemology from theoretical substance and particular theoretical frameworks from one another. An evolutionary perspective has all of these capacities. Beyond positing only that organisms will adapt to their environment, an evolutionary approach says nothing about the nature of the auxiliary assumptions necessary to make the approach work as explanation. A host of building-block assumptions still must be specified, including the nature of the organisms involved, the nature of the environment and the organism's relationship to it, and how selection of characteristics would work within the given environment.

By examining the assumptions made by realism and liberalism regarding each of these elements, it is possible to recast them as alternative theories of world political institutional evolution that remain fundamentally and irreconcilably at odds over why and how political institutional adaptation occurs in the first place. Both are concerned with similar types of organisms, namely human institutions and collective practices as they relate to the allocation of resources. Both are concerned with multiple types of political organisms, whether it be an "individual, a cabinet, a legislature, a political party, a regime, a state, an international organization, or a revolutionary movement" (Rosenau 1981, 3). Both are concerned with the "politics of adaptation," defined by Rosenau (1981: 2) as "the need for every political organism to keep fluctuations in its essential structures within acceptable limits."

Both provide what an evolutionary biologist would call "just so stories" for why world politics looks the way it does. That is, they both provide speculative histories and prehistorical hunches for how we got to where we are today with regards to global politics. Both also draw upon these stories to make predictions about what
argued for a historical, evolutionary perspective that does not subscribe to the
assumptive frameworks of either realism or liberalism. This chapter focuses only
on the two dominant paradigms of the field and contains some initial, tentative
thoughts about how they rely upon or utilize evolutionary concepts and logic. In
so doing they evoke themes and debates that have occurred in other evolutionary
theoretical contexts as well.

Furthermore this examination is not meant to be the final or even exhaustive
word on what is evolutionary about realism and liberalism per se. For some evolu-
tional concepts I assert an equivalency that is open to challenge and debate. The
same may be said for my characterization of the theories and their differences with
regard to global institutional evolution. In particular the realist evolutionary
perspective delineated here may appear to be relatively unique given the orthodox
association of rational choice and realism within the field. Yet the discussion is con-
sistently informed by both realist and liberal texts, and I have attempted to focus
on those core elements of each theory that even practitioners and critics who are
committed to a rationalist interpretation should find familiar. In addition, the the-
ories are neutrally juxtaposed so that the tendencies of each as evolutionary theories
(albeit alternative theories) can be fully appreciated. Thus the discussion touches
upon some of the major themes and questions that must be addressed in any
attempt to develop or employ evolutionary theory in the field of IR. In that con-
text, it is meant to serve as a starting point of differentiation even for those schol-
ars inclined to reject both paradigms as adequate for evolutionary IR theorizing.

In undertaking to map out comparatively the evolutionary tendencies in realist
and liberal theory, one is also immediately confronted with the question of to what
they should be compared. To assert that they have evolutionary tendencies implies
that there exists a single theory of evolution to which they may be neatly con-
trasted. Yet many disciplines utilize the concept of evolution and it has different
implications and meanings in each context. Bowler (1984: 8) notes that the term
evolution "means no more than the belief that the existing structure of the world
we live in has been formed by a long series of natural changes," but that, "as soon
as we begin to unpack this basic statement, we realize that there are many different
ways in which these changes can be imagined to have taken place."

One way to proceed is to establish the conceptual criteria that must inform any
theory of evolution regardless of discipline. Along these lines, Modelski (1996: 323) cites R. C. Lewontin, who argued for a hierarchy of principles, including
"change, order, direction, progress and perfectibility," and "evolutionary theories
are distinguished by how many of these are successively included as essential." A
problem that immediately arises with this approach, however, is that these con-
cepts are not value-free within the context of IR theorizing. Many IR scholars
automatically equate "change" and "order" with liberal theory because, as Buzan,
Jones, and Little (1993: 27) point out, continuity and change already had specific
connotations within the field. As a result there would be a tendency within the
field to preclude realism as theoretically adequate from the start, despite the fact
that upon closer inspection realism does offer a deductively viable explanation for
historical change in global political institutions.

There is, in addition, a danger that listed principles will be treated as if they
constituted an ideal model to which an evolutionary theory must aspire, rather
than merely as a list of those issues with which evolutionary theories have been
most often concerned. Alternatively, Bowler argues that it may be more appro-
ariate to differentiate theories according to the way in which they imagine the
processes producing change to have worked. He cites Gould in listing three funda-
mental pairings—steady-state versus development, internal versus external con-
control of evolution, and continuity versus discontinuity—for categorizing and
differentiating evolutionary theories (1984: 9–13). Hereto, however, it is difficult
to determine what these pairings mean outside the context to which they are most
appropriate, that is, evolutionary biology.

In fact, it is no accident that when illustrating the content of each distinctive
pairing Bowler consistently draws upon evolutionary biology. While other disci-
plines might utilize evolutionary concepts, the development of evolutionary theory
occurred earliest in association with the ideas of Charles Darwin and has been
most developed in the study of biology. Eldredge (1995: 1) argues, in fact, that,
"Charles Robert Darwin was truly the founding father of evolutionary discourse,
and all sides of the basic evolutionary disputes legitimately find their patrimony in
his work." Given its pertinence to evolutionary theorizing in general and its influ-
ence on all other disciplines, evolutionary biology is my starting point for compar-
ison as well. I am aware, however, that this will make some readers uncomfortable.

There is, for example, the argument that neo-Darwinism is a hegemonic dis-
course grounded in European scientific and enlightenment values. Hence it gives
us no greater purchase on the "real" parameters of evolution, particularly of human
institutions and social practices, than any other discourse one might call evolu-
tionary. This charge deserves serious consideration, particularly if realist and liberal
theories are replicating the parameters of this discourse, because it involves the
degree to which we as scholars propagate "just so stories" that simply reify the
discourses in which we have been trained. Yet my goal here is to examine the extent to
which realists and liberals have been participating in what is considered the hege-
monic discourse to begin with. The marginalization of other evolutionary dis-
courses is not as relevant to these purposes, although it is a legitimate issue that
might be considered in an alternative venue.

Another concern with utilizing evolutionary biology as the comparative stan-
dard is that the use of evolutionary biology appears to imply a recouping of IR
theories in biological terms. Yet the dominant versions of realism and liberalism are
currently systemic in focus, and so this would appear to preclude a severe reduc-
tionism that traced IR outcomes to processes of genetic reproduction and behav-
ioral predispositions. My argument on this point is two-fold. First, as I will
of genetic bases for IR behavior and outcomes. This is particularly true for neorealism that Waltz proposed in part to avoid classical realism's tendency to trace IR outcomes to human predispositions. And as debates within evolutionary biology illustrate, even if there is common agreement with the general idea that an environment encourages adaptation to it, there is still substantial room for disagreement over how to characterize an organism's relationship to its environment and hence how adaptation occurs. How this may be the case in the context of IR is the subject of the next section.

ENVIRONMENT AS THE IMPETUS FOR ADAPTIVE CHANGE

In much the same way that realism is often used in IR theory as a point of departure for discussion and disagreement, the theory of natural selection proposed by Charles Darwin in the *Origin of Species by Means of Natural Selection* (1859) became the springboard or touchstone for the development of almost all biological evolutionary theory thereafter. Yet it would be misleading to argue that the notion of evolution was Darwin's alone. The idea that the environment encouraged adaptation to it had a venerable scientific history long before Darwin, and his own theory was well-informed by existing ideas on the subject. It was also the general and preexisting acceptance of the idea of evolution within the scientific community that provided the atmosphere in which Darwin's ideas could be accepted by other scientists at the time (however controversial his ideas remained to the public). As Bowler (1984: 177) notes, naturalists were particularly receptive to Darwin's arguments, and "without the support of this group, Darwinism would have died an early death."

What made Darwin unique was not his proposal that the environment encouraged organisms to adapt to it, but his announcement of how the process or mechanism of encouragement and adaptation actually worked. Thus it was quite possible for a scientist to accept the general idea of evolution but disagree with Darwin's particular explanation for how it worked to produce tremendous species variations. Before turning to the subject of natural selection and the mechanisms of evolution, then, it is important to highlight that evolutionary theory in its biological context involves the general acceptance of environmental adaptation, but that this is distinguishable from explanations for *how* adaptation occurs.

This distinction is important because it has direct parallels to theorizing in an IR context. Theorizing at the systemic level of analysis quite explicitly involves the assumption of an environmental context to which organisms must adaptively respond. The organism that has received the most attention in IR is the nation-state, although analysis (even realist analysis) has included or been extended to any political unit that operates transnationally or globally (such as international organizations, multinational corporations, interest groups, and so on). The current emphasis on systemic-level analysis in the field of IR reflects agreement across these
two paradigms that there is an environment to which pertinent political organisms attempt to adapt. It also reflects agreement that it is essential to specify and examine the repercussions of that environment not only for the larger picture of global politics but also for the internal composition of political units within it. And as with evolutionary biological theory, both realism and liberalism can accept the idea of environmental adaptation without necessarily agreeing on the nature of the environment and how adaptation occurs.

Gourevitch's (1978: see also Almond 1989) "Second-Image Reversed" remains the definitive statement in this regard, as it outlines how structures within nation-states can be examined as consequences of alternatively specified global political environments. Depending on which characteristics the IR theorist emphasizes about the international system, it is possible to draw different conclusions about its consequences for state formation and domestic politics. With the English and Prussian domestic political orders as prime examples, Gourevitch (1978: 896) examines arguments that "the vulnerability of states to [anarchic] pressures is not uniform since some occupy a more exposed position than others. Hence, the pressure for certain organizational forms differs." And because the notion "that international market forces affect politics and have done so for a long time seems incontrovertible," he (Gourevitch 1978: 884) also reviews arguments "which posit systematic relationships between such forces and certain configurations of regime type and coalition pattern." His analysis amply illustrates that there already exists a rich and varied history of IR theorizing, including, but hardly limited to, realism and liberalism, which accepts the basic idea that human beings adapt their political institutions to a given environment or external context.

As with the acceptance of the idea of evolution in its biological context, many IR theorists are already persuaded that the environment is an important cause for institutional adaptive change in the units within it. And they can agree on this point without necessarily concurring with one another's characterization of the environment or how institutional adaptation actually occurs. In other words, the debates in IR theory today are usually not about whether the international system has an impact on the units within it. Rather they involve how to define the system, its pertinent characteristics, and the mechanisms of selective adaptation that are most relevant to change and stability in the political practices and institutions. These differences also determine which types of organisms or political units are of most interest to the scholars of each paradigm.

In addition, because a "second-image reversed" perspective is not an argument about the selection mechanism of adaptation itself (that is, how adaptation occurs) but rather a general and relatively non-denominational observation that the international system has consequences for the internal characteristics of the units within it and for the ways in which they interact, all the major IR paradigms have some practitioners who subscribe to this perspective. Thus there are IR scholars of all theoretical stripes who already accept what would be the basic premise of evolu-

tionary theory from a biological perspective: There is a causal relationship between the international environment or system, the internal composition or characteristics of units within it, and their subsequent behavior. Ultimately what most realists and liberals disagree over is not the idea of evolutionary adaptation per se, but over how adaptation occurs.

Natural Selection and the Status of Human Beings

Given that prior to Darwin there was already agreement within the scientific community that the environment was a cause for adaptation, what made Darwin revolutionary was his delineation of a particular selection mechanism. That is, he provided an argument that not only argued the environment caused adaptation but also delineated precisely how it encouraged, forced, or prompted organisms to adapt to it. His mechanism was called natural selection. Darwin argued that it was the struggle for existence within a zero-sum environment that prompted the adaptation process.[14] For any given population of species, the environment was zero-sum between species as well as within because natural resources and hence food supplies were not infinite, and in an environment of finite resources, populations could not survive and breed infinitely. This meant that all other organisms within the environment were potential competitors in either an indirect (consumption) or direct (predatory) manner. Hence the environment consisted not only of what was external to each organism (air, water, land, and so forth), but also all other organisms that were necessarily competitors for resources. Constant competition between and within species populations was the dynamic result, and Darwin argued that from it sprang the tremendous variety and diversification we see in the natural world.

This variety and diversification occurred because even organisms within the same population tended to have individual and entirely accidental characteristic variations. These individual variations could, in turn, be favored by the environment because those variations might allow the particular individual organism that had them to obtain greater access to the food supply. Greater access meant they would survive longer, in better health, and would therefore have a greater chance of breeding. In breeding, their characteristic variation would be transmitted to their offspring. Given that a portion of their offspring would have the variation, they too would gain greater access to food supplies, survive in better health, and have a better chance of breeding. In each succeeding surviving generation, there would be an increased tendency for the characteristic to be present and then gradually, but eventually, it would become dominant. The giraffe's long neck is a frequently used example:

In the original population of grass-feeders, some individuals would by chance have longer than average necks, others shorter. When the grass began to disappear, those
with longer necks would be able to reach leaves on trees more easily; because they could exploit the alternative source of food more effectively, they would be healthier and able to breed more readily; their offspring would be more numerous and inherit the extra length of neck. Conversely, those animals with shorter necks would get less food and not breed so easily; in the extreme case they would die of starvation, although a difference in rate of reproduction is all the mechanism requires. It then follows that in the next generation more individuals will come from long-necked parents than from short... (Bowler 1984: 157)

Not only would the inherited characteristic eventually cause a major changes in the species, but the selection mechanism would also lead to species differentiation and hence diversity because variations in characteristics would also allow different populations to exploit different resources.

One important conceptual point to highlight for the purposes of this discussion is that Darwin's mechanism of natural selection involved, as two separate steps, the impact of a zero-sum resource environment and the genetic inheritance of variations. There was a great deal of debate in the field of biology at the turn of the twentieth century, however, over how heredity actually worked. With the development of modern genetics it is easy to view these debates as part of the primitive understanding that existed about the subject at the time. In fact modern genetics was initially posed as an alternative to natural selection, and it was only gradually realized that the two could be synthesized (and subsequently have) to make the case for Darwin's mechanism stronger.

This initial confusion encouraged an alternative perspective on heredity, based on J. Lamarck’s argument for “in-use” inheritance, which exerted a great deal of influence on the development of evolutionary biological theories. Writing at the turn of the nineteenth century, Lamarck had argued for what is called “soft” heredity in which the characteristics favored by the environment were acquired as a result of effort within a given generation and could then be transmitted to the offspring that would spread the effect cumulatively throughout the population. In returning to the example of giraffes as a point of comparison, Lamarck’s perspective on heredity suggested that:

...the short-necked ancestors of the modern giraffe were at some point in their history forced to begin feeding from trees. All the individuals stretched their necks upwards and as a result this part of the body grew in size. The next generation inherited the extra neck-length and stretched it even further, so that over a long period of time the giraffe gradually acquired the long neck we see today. (Bowler 1984: 81)

The work of Lamarck was seized upon by many of Darwin’s critics as an alternative to natural selection because it avoided the nastier implications involved with competition for survival and breeding as central to environmental adaptation. Accord-
occurred in a manner similar and is therefore comparable to the evolution of other organisms. The emphasis at this end of the spectrum is on human beings as organisms that have been genetically shaped by a separate environment and that shaping continues to have consequences for human behavior today. At the other end of the spectrum lies Lamarckism, which allows that the relationship between environment and human organism in particular is not as pure as Darwinism would suggest. Thus it posits that human evolution is dissimilar to and incomparable with the evolution of other organisms. The emphasis here is on human beings as shapers of their own environment and who exert greater control over their own evolution and destinies as a result.

The Human-Environment Relationship in IR Theory

What is striking about these debates within evolutionary biology are the parallels one can draw between Darwin's theory of natural selection and realism on the one hand, and a Lamarckian-type theory of in-use inheritance and liberalism on the other. These are alternative theories of the evolutionary mechanism of selection and their differences derive primarily from their alternative assumptions regarding the relationship between human beings and their environment. Like Darwinism, realism tends to emphasize the extent to which human beings are separate from and shaped by their environment. And liberalism, like Lamarck and other alternative selection theories, tends to emphasize the extent to which human beings are shapers of their environments.

The difference in their emphasis can initially be traced to the different ways in which realism and liberalism define the environment. Both describe the environment of world politics as anarchic, meaning the absence of a common interstate government. But as Greico (1990: 36–38) has pointed out, there is "a fundamental divergence in their interpretations of the basic meaning of international anarchy," with liberals emphasizing that "no agency can reliably enforce promises" and realists emphasizing that "there is no overarching authority to prevent others from using violence, or the threat of violence, to dominate or even destroy them." Why each theory interprets anarchy in different ways ultimately derives from their basic assumptions about the relationship between the anarchic environment and human beings.

In summarizing the realist assumption on this point, Mearsheimer (1994–1995: 41) manages to match it precisely to a Darwinian perspective: "Realists maintain that there is an objective and knowable world, which is separate from the observing individual." For realists, human beings remain distinct from their environment because anarchy is an essentially primordial realm with a central characteristic that exists independently of what human beings do. The realist fixation with survival is a reflection of this characteristic because the antithesis of survival is death. From the realist perspective, death is a primordial or natural feature of the environment in that it ultimately cannot be prevented by human activity. Nor is it necessarily related to human activity, since the physical substance of which human beings are comprised will expire regardless of human interaction, effort, or intervention. Copeland provides a useful example of this perspective:

...individuals and societies can learn about the material implications of physical objects without any necessary interaction between them. Across all cultures, for example, individuals typically learn the concept "fire" through direct personal contact with the object—burning their hand as a child, watching a campfire turn logs into ashes, perhaps watching their home burn to the ground. Thus it is not surprising that across cultures, people have an understandable caution about things that would produce uncontrollable fires (and why people almost universally panic when trapped in a burning building). (1998: 14)

This fear can be generated without past socialization because it is the unknown quality and seeming finality of death that acts as a powerful motivator in its short-term avoidance. Hence according to realism it deserves pride of place among all other potential selection mechanisms in the environment, and it will deserve this place so long as human beings remain subject to it. Ultimately it is this environmentally induced fear of death that drives human beings to create collectives and engage in social practices in the first place.

Although survival is frequently acknowledged as a prerequisite to the pursuit of all other interests in liberal theory, the fixation with death and survival is not replicated. Why this would be the case can again be traced to the theory's basic assumptions about the relationship between environment and human beings. From a liberal perspective it is because human beings have capacities far beyond those of other species and have developed more sophisticated ways of transmitting adaptive variations from one generation to the next (what Dennett (1995: 331) refers to as "the cultural transmission of information") that they may transcend an all-encompassing primordial fear of death. From a liberal perspective, the short-term emphasis on survival over all other goals varies according to context and can frequently be discounted for precisely this reason. In an off-handed manner, Keohane provides an excellent example of the difference between realists and liberals in this regard. In After Hegemony, he explicitly assumes that future rewards must be valued in order for cooperation to take place, and rejects the realist alternative that because players would "emphasize with Keynes that 'in the long run we're all dead,' they may prefer to defect to obtain better results in the present" (1984: 75–76).

Since liberalism largely discounts what is for realism a non-human and primarily causal characteristic of the environment, it is not surprising that its definition or interpretation of anarchy is very different as well. Anarchy does not constitute a force separate from what human beings do in liberalism. It is instead a vacuum at the global level that historically contained less human interaction and hence less
human activity, processes, and institutions on aggregate than it does today. There is nothing about this vacuum that demands a short-term emphasis on survival, self-help, or violence. Wendt (1992) provides a good example of how these behavioral tendencies developed largely by accident to produce predation (an argument he explicitly presents in support of liberal IR Theory), although he also points out that once institutionalized materially and ideationally they become difficult to transcend. The anarchic global vacuum has become increasingly filled in the twentieth century thanks to the development of modern science and technology. This has contributed to the development of global interdependence in the generic sense of having "shrunk the geographic social, economic, and political distances that separate states and vastly multiplied the points at which their needs, interests, ideas, products, organizations and publics overlap" (Rosenau 1976: 38).

The importance of this for liberal theory is that it establishes a new systemic context or external environment for which realist theory is no longer appropriate. Realist theory is about human interaction prior to modern technology and the higher levels of "interaction capacity" that it has induced. Buzan, Little, and Jones (1993: 69) argue that this capacity must be considered a systemic variable in that "the evolution of technology continuously raises the absolute capability for interaction available within the system," and Ruggie (1998: chap. 5) offers a similar argument regarding "dynamic density." Modern technology has, in essence, shrunk the world so that action is impossible without interaction. In historical terms this is a new external context because human beings and the nation-states they created (as a dominant institutional form globally) were designed for an environment in which they could successfully obtain their interests autonomously. Their ability to do so in the new global environment of interdependence seriously compromises this ability. Existing institutions were adaptations to an entirely different environment and now human beings must adapt those institutions (both materially and ideationally) to another. 16

The environment that confronts human beings is very different in each theory as a result. If anarchy is a primordial environment beyond human control in realism, it is for liberalism an environment composed of what human beings do. For realism the processes and institutions in which human beings engage are shaped by the environment. They serve as the means to survival in the environment and are not ends in and of themselves, although realism does anticipate cognitive and emotional attachments to form around the institutions and social practices human beings create. 17 But because the anarchic environment engenders a dominant, ongoing interest—the avoidance of death—the processes and institutions developed by human beings have been shaped by and are answers or responses to this interest in some way. The emphasis is on human practices as acted upon in realist theory, rather than as primarily or primordially causal.

For liberalism these same processes and institutions are the environment. They are not simply means to a particular end but ends in and of themselves and as such induce their own specific interests and identities. Thus there are multiple interests associated with different types of processes and institutions, such as (to name only a few) the realms of security, economics, ecology, and culture. The purposes of each set of processes and institutions varies, and they contain a logic of their own that the systemic condition of interdependence affects differently. Each must be examined from a perspective that, as Keohane and Nye (1977) had argued in Power and Interdependence, acknowledges the broad impact of interdependence but also recognizes what is specific and appropriate to each realm. When compared to realism, then, the emphasis is on human practices as acting upon in liberal theory, hence human processes are primarily or primordially causal.

The very different assumptions each theory makes with regards to the human-environment relationship produces very different assumptions about human nature and its consequences for political behaviors and practices as well. Although it remains unfashionable for IR scholars to attribute causality to a particular conception of human nature, alternative conceptions continue to implicitly inform the work of realists and liberals. In her study of the "consensual view of human nature and motivation" in realist texts, Freyberg-Inan (1999: 6; also Falger 1997; Shimko 1992: 286) provides ample evidence that realists continue to adopt a conception of human nature that is not only profoundly pessimistic but also assumes it is fixed and universal. Brooks (1997: 449; also Crawford 2000: 120–22) points out that this conception is present in neorealism, which relies on psychological fear as the primary cause for behavior and outcomes. Such a conception of human nature makes sense if one is also assuming, as realists do, that the environment in which human beings exist produces a fixed and universal fear of death in the species.

Alternatively, liberal IR theory relies upon an entirely different conception of human nature. As Michael Howard (1978: 11; also Shimko 1992: 285) has observed, liberals "have faith in the power of human reason and human action so to change [the world] that the inner potential of all human beings can be more fully realized." What liberal IR theorists have in common according to Zacher and Matthew (1995: 140), is the belief "that international politics is about the changing interests of the inhabitants of states (or other entities) and that the underlying forces of change are creating opportunities for increased cooperation and a greater realization of peace, welfare and justice." It is on this basis that Keohane (1990: 172) chastises both realism and Marxism for their determinism, which he argues is "an unsatisfactory doctrine for human beings," who are "agents in history." Here, a such a conception of human nature makes sense if one is also assuming, as liberals do, that the environment in which human beings exist is primarily one of their own making and is therefore subject to human intent that is developing along normatively progressive lines.

This synopsis of each theory's perspective on environment is obviously a generalization. As such, it ignores some important differences within each paradigm as
well as some important similarities (other than a shared rational choice methodology) that exist between them. The concept of interdependence, for example, is an implicit underlying condition for many strands of liberal theory, but for others (such as those concerned with the democratic-peace thesis) it is not. Thus the extent to which these general observations would apply to those strands may be limited as well. In a similar vein, many realist scholars accept a discount rate that places long-term before short-term interests, with ongoing disagreements among offensive and defensive realists involving the extent to which particular social practices and institutions might mitigate fear and the aggressive tendencies it produces. This suggests that the realist-liberal distinction I have drawn about the human-environment relationship and some of my asserted paradigmatic ramifications may not be as sharp in practice. Indeed, Shimko (1992: 299) has argued that neo-realism is not that distinct from liberal IR theory (as classical realism was) because it is "philosophically antiseptic" about the human condition and so leaves open the possibility that its nastier attributes might yet be overcome. In making this argument, Shimko parallels a number of other works that suggest that the development of all IR theory has been informed by the predominantly liberal and optimistic values and beliefs of the American social milieu (such as Hoffman 1995; Waever 1998).

In the context of a comparison of theoretical evolutionary tendencies, however, the alternative conceptions of environment and human nature remain relatively stark even if moderated in particular applications or paradigmatic variants. Ultimately what makes realism and liberalism so distinct (and leaves proponents of each theory talking past each other) is the alternative perspectives each adopts on the human-environment relationship and hence the different causal priority each gives to human activity within the anarchic environment. While some realists may be able to accept that particular institutions can mitigate violent behavior, ultimately differences among them still involve questions such as "how often—and not whether—actors are expected to behave in a highly cautious and conservative manner" in the anarchic environment (Brooks 1997: 473). And while some liberals may accept that uncertainty and fear can drive behavior in a functional security realm, they are united in their "emphasis on the cumulative effects of human action" and in their conviction that "people really do make their own history" (Keohane 1990: 173). Despite frequent calls to do so, there is little room for meeting in the middle since each theory views the relationship between the environment, human beings, and human-generated institutions and social practices in diametrically opposed terms.

THE SELECTION-BY-COMPETITION LOGIC OF REALISM

Since they have different assumptions about the relationship between the environment and human beings, realism and liberalism go onto explain how the environment encourages institutional adaptation in very different ways. These differences again parallel alternative theories of selection in evolutionary biology, with realism adopting a selection mechanism similar to Darwin's and liberalism adopting a selection mechanism similar to Lamarck's. Because realism concedes with Darwinism that the world contains finite resources and hence is zero-sum with regards to survival, human beings necessarily compete with one another. This intra-species struggle for survival encompasses all other struggles and all other interests. To put this another way, because competition for survival is the dominant logic, all human-created processes are adaptive variations within this ongoing context. In fact, according to realism, competitive struggle is the reason why human beings adapt at all, thus making the production of global social reality itself an adaptation resulting from and informed by the logic of competition.

Despite a common commitment to this selection-by-competition logic as a transcultural boundary to human social activity, disagreement exists among realists over whether competitive behavior results from the zero-sum anarchic environment in which human beings find themselves or a particular genetic characteristic engendered by the environment such as power-lust. The result is that in their emulation of the Darwinian selection mechanism realists have tended to treat environment and genetics as if they were alternative rather than interrelated causes (as modern evolutionary biology now recognizes them to be). Yet cutting across this divide is a common unit of analysis. Despite persistent claims by its critics that the nation-state is realism's primary interest, realist scholars have just as consistently pointed out that they are interested in the behavioral patterns of any group, be it "tribes, petty principalities, empires, nations, or street gangs" (Waltz 1979: 67; also Schuller and Priess 1997: 6). As Lapid (1996: 240) has observed, there is a "realist consensus concerning ontology (conflictual group fragmentation) and problematique (survival/war)." The reason for this interest in groups is not difficult to surmise. Individuals could expect to survive longer on aggregate within groups than not, so that the formation of groups as collective enterprises with their own binding social practices could be anticipated in the context of a zero-sum resource environment.

The question as to whether the tendency to form groups is genetically produced has remained largely unaddressed in the realist literature, although practitioners of yet a third variant known as "neoclassical" realism have explored the issue to some extent. Mercier's (1995) reliance on social-identity theory, for example, argues that in-group favoritism and out-group discrimination is a basic biological parameter of social reality that supports realist expectations. A selection-by-competition logic would explain the development of social practices encouraging intra-group identification, cooperation, and altruism, since these practices would facilitate group cohesion and hence its ability to access food supplies and procreate (see also Druckman 1994: 44–45; Hinde 1993: 31). And since competition for resources serves as the primary motivation for group formation, that same logic...
also indicates that the extension of cooperative processes across groups would be limited. Thus realism anticipates that in-group interaction in a zero-sum environment would be primarily cooperative while inter-group interaction would remain primarily competitive. There is nothing in realist logic that demands this competition necessarily be violent, since resources and inter-group exposure varies. But because competition would remain a fundamental feature of inter-group interaction, it is no surprise from a realist perspective that competition frequently turns deadly.

The anarchic environment specified by realism also serves as a relatively dynamic force for institutional adaptation. This is because Darwin’s mechanism of natural selection is not about which functions would be selected but how the environment promotes adaptation in the first place. A zero-sum resource environment is the mechanism necessary to overcome genetic complacency and sameness thereby inducing genetic innovation and diversity instead. Realism’s reliance on a similar logic also allows it to explain why and how social practices are developed and adapted in general, although this same logic would limit its ability to predict the specific adaptations adopted by any given group. Competition for survival would favor those groups that were willing or able to adapt their practices and institutions as changing circumstances warranted. It would, in turn, punish those groups that were or could not institutionally adapt. In other words, a zero-sum environment would promote experimentation of social practices for the purposes of group survival, and it would favor change in existing practices that appeared insufficient to the task.

Although innovation and experimentation with intra-group institutions and practices is always an option, the primary source for group “design revision” in realist theory is usually the imitation of one another’s social practices (Resende-Santos 1996, 1999; Sterling-Folker 1997; Waltz 1999). The practices of the comparably more powerful groups are typically favored in this regard, since power indicates an ability to extract resources on behalf of the group. Realist logic also suggests that previously developed social practices and institutions would act as counterweights to institutional change precisely because they had been adopted as a means to survival in the first place (Gillpin 1994: 413). And because groups would avoid imitating those practices that they believed had failed to obtain the survival of other groups, adaptive institutional change across groups would occur within a band that was relatively narrow in comparison to the tremendous variation in human social practices and institutions that might be imagined within groups.

In this context, neorealism may be seen as a stand of realist theorizing that accepts the existence of this narrow band and is particularly interested in exploring competitive patterns of behavior and institutions within it. More specifically, it is interested in documenting why and how institutions (such as nation-states) and social practices (such as balance of power) that are associated with explicit group competition (in particular, war) are continually reproduced in a zero-sum environ-

ment and hence are a reoccurring feature of human existence. As Waltz puts it, his theory of international politics is meant to explain, “why the range of expected outcomes falls within certain limits... why patterns of behavior recur... why events repeat themselves” (1979: 69). Thus the emphasis in neorealism scholarship has been on exploring continuity in these particular types of social practices within the modern (usually twentieth century) period, rather than on examining how these practices have been adapted, modified, and changed throughout history. This is why its critics frequently assert that because it “contains only a reproductive logic, but no transformational logic,” it simply cannot account for fundamental or constitutive changes in the political units within a global system (Ruggie 1998: 154).

Yet from an evolutionary perspective, the larger realist framework of which neorealism is a part is very much about institutional adaptation because it specifies a zero-sum environment which, as with Darwin’s mechanism of natural selection, acts as a constant incentive for institutional adaptation and variation. Certainly it is the case that neorealism scholarship has been more interested in what cannot be changed within such an environment, namely that it is a selection-by-competition logic that induces institutional adaptation to begin with. But this hardly exhausts the potential adaptive implications that can be drawn from a realist (or even neorealist) theoretical framework. Kahler notes, for example, that:

An evolutionary theory requires very little information about units and very few assumptions, if any, about their behavior. Waltz’s structural realism, rationalized and individualized by others, explicitly adopts selection as one of the key links between system and unit, and the only link that can explain change. Unfortunately Waltz himself and other neorealists have not extended this critical (and briefly remarked) feature of structural realism. (1997: 44, see also Kahler 1998: 925)

Extending this feature reveals that what a zero-sum environment would produce is certainly adaptation and hence change in an evolutionary sense. Much like the assump
tive framework of natural selection, the selection-by-competition logic of realism is capable of accounting for change and variation in human social activities. Despite realism’s reputation as a theory of stasis, from an evolutionary perspective it contains all the ingredients necessary to explain why, within limits promoted by the environment itself, institutional adaptation and variation would be a consistently anticipated characteristic of human activity.23

As with Darwin’s theory of evolution it is also clear that realism places human beings squarely in the realm of nature, along with all other organisms. While human beings may have been more creative in their adaptations, the very reason why they adapt their institutions, and in so doing accept institutional change in the first place, is because they remain subject to the same environmental inducements to competition experienced by all other organisms. Thus the very institutions and social practices human beings have created are informed by a
This theme of human control over human destiny informs all liberal IR theorizing (see, for example, Zachar and Matthew 1995). This does not mean that liberal IR scholars believe there is an automatic, perfect concordance among human beings, since some contexts may indeed involve zero-sum resources and hence competition for survival. Rather it is because human beings have the capacity to change the contexts in which they find themselves that they also have the capacity to harmonize their common interest in survival in a way that other organisms do not. As Lebow (1994: 275) puts it, "an understanding of structure creates the possibility of modifying it or of escaping from some of its apparent consequences. Human beings possess this capability." In other words, while liberalism accepts that human beings want to survive, it argues that competition with one another is not an inevitable outcome of that desire. The fact that human beings can manipulate the finite quality of their natural environment to such a large extent means that liberalism's preferred selection mechanism for evolution is quite similar to Lamarck's in-use inheritance, that is, adaptation occurs through human effort and, as Keohane (1990: 172) asserts, through "the effects of conscious human action."

Thus adaptation and change are not driven by a selection-by-competition logic in liberal theory. They depend instead on conscious and immediate innovation appropriate to the context at hand and this, in turn, depends on an appropriate cognitive recognition of the context. From a theoretical perspective this is actually a more demanding mechanism for adaptation than is natural selection because it involves a two-step learning process in which human beings must not only accurately understand their given contexts but also recognize the adaptations appropriate to them. Adler, Crawford, and Donnelly (1991: 28–29) call this learning mechanism "cognitive evolution," and describe it as "the process of intellectual innovation and political selection that occurs within and between institutional settings" when a new context leads to "the recognition that old interests ... have become dysfunctional. In turn, this recognition could trigger a reevaluation process that ends up in new definitions of interests and the way they are pursued." The mechanism of adaptation for liberalism is a selection-by-learning logic that gives humans control over their institutional adaptations.

Given their differing perspectives on the relationship between environment and human beings, it is hardly surprising that realism and liberalism would also have such different perspectives on the role of learning and consciousness in adaptive change. These are central to a liberal mechanism of environmental adaptation, while realism is highly skeptical that learning and cognition need play any central role in institutional adaptation (Levy 1994). Or, to put this another way, according to realism adaptation can occur in the absence of an adequate understanding of one’s environment. And if learning, in the sense of appropriate recognition of one’s context, does play a role in realist adaptation it is as a cognitive revelation that one exists in an environment that requires selection-by-competition. Hence the most skillful politicians from a realist perspective are those who recognize the limitations
imposed by a selection-by-competition logic and seek to manipulate institutions and social practices within its boundaries.

For liberalism, on the other hand, there are multiple environments in the twentieth century, all of which overlap and none of which can be ranked hierarchically (Keohane and Nye 1977: 25). These environments are comprised of the different processes in which human beings are engaged, and they can be categorized according to types of functional interest. Buzan, Jones, and Little (1993: 30–31) describe these environments as “sectors” that are “not subsystems in the normal sense of a subset of units located within a larger set,” but as “selective lens that highlight one particular aspect of the relationship” or “different aspects of its reality.” Because each sector is concerned with a different set of functional interests, adaptive change occurs according to a selection-by-learning logic unique to each. While interdependence affects all sectors, in that interests can no longer be obtained unilaterally, each sector also has a logic of its own that is what human beings must recognize if they are to adapt appropriately to the sector. They have to learn how interdependence has changed the sector so that they are now unable to unilaterally obtain interests in it, and they have to recognize what behavioral and institutional changes are now required by the sector.

Adler, Crawford, and Donnelly (1991: 38) sum up this logic with regards to interdependence in general, arguing that, “perceptions of interdependence can change decision makers’ calculations about the usefulness of unilateral action in states’ international relations,” and “it can modify the calculations by which states choose to exercise their power.” In a similar vein, according to Keohane and Nye (1977: 232) economic interdependence would require that nation-states “accept much more international participation in their decision-making processes than they have in the past,” and that “the illusion that major macroeconomics policies can be purely domestic will have to be discarded, along with the search for total control over one’s own economic system.” This was because, as Rosenau (1976: 43–44) put it, interdependent interests “do not lend themselves so readily to unilateral action,” and so “a modicum of cooperation with counterparts abroad” is necessary in order to obtain them. And Keohane (1990: 172) provides an interesting summation of issue areas that demand “conscious human action” including the avoidance of nuclear war, retarding nuclear proliferation, promoting equitable Third World development, protecting the global environment, and managing the joint pursuit of wealth in capitalist market. Finally, a common yet controversial assertion in liberal theory is that multilateralism is the appropriate, demanded institutional form in these newly interdependent sectoral environments.

As a result, liberal scholars are interested in how human beings will recognize the new process-based contexts in which they exist and in delineating what institutions would be appropriate to those contexts. There is an obvious danger of functional institutional teleology here, particularly when utilized as an explanation for international cooperation in the moment, but for many scholars the primary virtue of liberalism remains its prescriptive rather than explanatory capacities. Keohane (1990: 173 194; also 1989: 10, 158), for example, characterizes liberal IR theory as a “guide to choice” and asserts that, “liberalism holds out the prospect that we can affect, if not control, our fate, and thus encourages both better theory and improved practice. It constitutes an antidote to fatalism and a source of hope for the human race.”

What undergirds this optimism is the belief that human beings can control their own adaptations, not only because they have capacities far beyond other organisms but because the environment(s) to which they must adapt are human constructions as well. This presumption aligns liberals with constructivists and, rather bizarrely, postmodernists—“bizarrely” because the enlightenment values to which liberalism subscribes are precisely postmodernism’s target. Yet from an evolutionary perspective these theories have more in common than not, because each of them considers the institutions and social practices that human beings have created to be the only pertinent environment. Thus they tend to produce what Somit and Peterson (1999: 42, 1998) call a “political behavior is learning behavior” type of explanation that recognizes no causal space for anything that cannot be classified as either human consciousness and intent or accident and pure chance.

All of them are process-based theories as result, and realism remains an ontological alternative to each of them because it insists that biological parameters derived from an objectively separate natural environment continue to encompass and confine human social activity. Within the context of this evolutionary comparison Copeland’s (1998: 20) observations regarding the difference between realism and constructivism hit the mark:

It is perhaps even more fundamentally a divide between nature and nurture—between those building a universal theory on a few spare (and typically implicit) notions regarding the properties of humane existence and those building a historically-contingent theory of socialization through time.

Realism refuses to concur (critics would undoubtedly say “acknowledge”) that anarchy is what human beings have made of it. It argues instead that the evolution of IR and global politics cannot be accounted for by reference to chance and human social practice alone.

DEBATES OVER THE PROCESS OF ADAPTATION IN EVOLUTIONARY BIOLOGY

The discussion to this point has focused on how the first step in Darwin’s theory of natural selection—the environmental inducement for adaptation—compares to similar arguments in the two dominant paradigms of IR theory. The second step in Darwinism involved genetic inheritance and, as already noted, necessarily blurs
with the first step when the subject is human beings and the evolution of their social plays. But it is important to examine the causal role that genetic inheritance plays within the theory of natural selection, because it involves conceptual issues that differ from those related to the first step. As such, these are issues that any evolutionary theory, regardless of discipline, must grapple with and address.

It is in Darwin's second step that the scientist is forced to grapple with the question of how exactly adaptation works in practice. The parameters initially appear to be straightforward. While the zero-sum resource environment would favor the variations of some individuals over others for the purposes of survival and breeding, Darwin posited that it was the inheritance of those variations that acted to preserve it in each subsequent generation. Darwin's initial perspective on heredity was "as a conservative force trying to maintain the original character of the species, while variation tried to disturb the process by introducing new characteristics" (Bowler 1984: 242). That perspective has since been superseded by the modern synthesis of natural selection and genetics in which heredity could both reinforce a particular variation and be the source for new characteristic variations in the future. In other words, as Darwinism developed in evolutionary biology, heredity became not merely a conservative force but a force for "dynamic equilibria" because "populations do indeed contain substantial reservoirs of genetic variation that can be tapped under new conditions" (Bowler 1984: 298).

Thus one of the roles that genetic inheritance plays in biological evolutionary theory is as a simultaneous source for stasis and change. It explains how some characteristic variations can come to dominate over time so that the composition of the organism and hence the species becomes relatively stable. Yet it also explains from where new characteristic variations can come when conditions in the external environment change to encourage subsequent adaptations. It is, as a result, the pool from which subsequent organism innovation is tapped and, at the same time, a conservative force that keeps the organism within prescribed physical and behavioral boundaries. This suggests, in turn, that any evolutionary theory must address the issue of "dynamic equilibria" and be capable of accounting for both stasis and change in a theoretically coherent manner. In other words, it must strike a logical balance between what Modelski (1996: 336) calls "persistence of strategies" and "sources of variation which introduce innovation." Evolutionary theory too heavily skewed toward one or the other would produce explanation that would tend to argue either for persistence in everything or for innovation everywhere.

These are, in fact, the very grounds upon which critics of both realism and liberalism have frequently mounted their attacks. If, for example, the fear of death is a primary motivation, competition inevitable, and human institutions and social practices more effectual then causal, then why do any differences in human institutions exist and what serves as the source or inspiration for institutional change? By choosing an unchanging environmental inducement to competition as its selection mechanism, realism runs the risk of arguing that change simply directs groups to become functionally and institutionally similar. Waltz (1979: 97) implies as much in asserting that "each state duplicates the activities of other states at least to a considerable extent," and that "international politics consists of like units duplicating one another's activities." Thus realism is commonly characterized as a theory of stasis incapable of explaining how change occurs or why institutional differences exist between groups.

Alternatively, if human beings are motivated by a myriad of interests, respond to contexts that are comprised of social practices, and can directly affect those contexts through their own actions, then why do so many practices and institutions look so similar and what are the sources for their institutional stasis? By choosing human cognition and learning as its selection mechanism, liberalism runs the risk of arguing that global institutional variations are infinite and subject to such rapid rates of change that it would be impossible to discuss or account for institutional similarity in a global or historical context. Indeed, it is not clear why, if liberals are correct that "human and state interests are shaped by a wide variety of domestic and international conditions" (Zacher and Matthew 1995: 119), we should witness any institutional stasis or convergence. Thus liberalism is sometimes characterized as a theory of institutional change incapable of explaining why there is any institutional convergence or stasis in global politics (Jackson and Nexon 1999).

Closer inspection reveals that there are attempts at a theoretical balance between institutional stasis and change in both realist and liberal explanations for how human institutions and social practices evolve. Whether these attempts are sufficient is the subject of considerable theoretical debate, of course, but in each case the institutions and social practices that human beings create serve as both a source of stasis as well as the resource pool from which subsequent institutional changes are drawn. Stasis occurs because both assume that institutions and social practices are collective creations that materially and ideationally reward individuals for having certain identities, interests, and behaviors. As Wendt (1992: 397) puts it, "actors acquire identities—relatively stable, role-specific understandings and expectations about self—by participating in such collective meanings." This assertion is neither a liberal nor realist one in its own right, as Wendt points out. Regarding self-help systems, he (1992: 412) notes that "the realist might concede that such systems are socially constructed and still argue that after the corresponding identities and interests have become institutionalized, they are almost impossible to transform." The difference, I would argue, is more fundamental (hinging on whether, even if we could wipe the slate clean, the environment's selection-by-competition logic would simply reinstitutionalize a self-help system), but Wendt is certainly correct in that the general concept of institutionalization is not purely liberal nor necessarily antithetical to realist theorizing.

Because the institutions human beings create as adaptive responses to their environment can be sources of stasis in both realism and liberalism, they accord with
What disturbs many paleontologists, on the other hand, is that the fossil record often does not appear to conform to Darwinist expectations in "that species remain imperturbably, implacably resistant to change as a matter of course—often for millions of years" (Eldredge 1995: 3).

Eldredge and Gould (1972; Gould and Eldredge 1977) have argued instead for a model of "punctuated equilibrium" in which the evolutionary process is subject to episodes of rapid albeit infrequent change. They contend that the sudden appearance of a totally new mutation might channel an organism’s evolution in an entirely new direction. A new characteristic might appear quite suddenly and by accident (due to genetic mutation) and would only then become subject to the forces of natural selection. As Bowler (1984: 325–26) puts this, "only the superficial character of the organ is molded to an adaptive purpose by selection," and "selection has acted to make adaptive use of the new structure once it had been formed in this way." Thus while they agree with evolutionary biologists that natural selection does play a role in the adaptive process, it does so only after a genetic characteristic has been spontaneously (albeit unconsciously) selected by the organism itself. The result is an emphasis on discontinuity over continuity and on historical contingency over path-dependency.

The theory of "punctuated equilibrium" has been subject to extensive criticism, and evolutionary biologists have mounted a major campaign against it in the form of convergence theory.26 If organisms spontaneously generate their own response and historical contingency is so important then why, critics ask, is it relatively common to find physical and behavioral convergence among species that are unrelated? The answer, according to Morris (1998: 202), is that "all organisms are under constant scrutiny of natural selection," so that physical and chemical constraints "severely limit the action of all inhabitants of the biosphere." According to Angier, Morris notes that the role of contingency is important at some level because:

We're all the product of one very, very lucky sperm. On the other hand, when you look at the broad structure of the history of life, you can't help but be impressed by the number of organisms that began at different starting points and have come together... The world is a rich and wonderful place, but its not one of untrammeled possibilities. (Angier 1998)

The repetition of physical patterns throughout the planet would remain inexplicable if genetic chance or accident played such a large a role in the process of adaptive evolution.

It is also interesting that one of the charges leveled at "punctuated equilibrium" returns us once again to the debate over the role of human activity in the process of human beings' own environmental adaptation. The organism's ability to spontaneously generate its own response revisits the Lamarckian issue of directed
adaptation, since it involves the extent to which the environment imposes genetic outcomes on organisms, and this has obvious implications for human beings. Indeed, in his examination of Gould's entire body of theoretical work, Dennett (1995, chap. 10) argues that many of Gould's arguments are actually consistent with Darwinism. Dennett (1995: 299, 309) goes on to suggest that what actually offends Gould about Darwinism is its "predictable, mindless trudge up the slopes of Design Space," and that Gould's tendency to emphasize radical contingency over convergence in general is driven by "a desire to protect or restore the Mind-first, top-down vision of John Locke—at the very least to secure our place in the cosmos."

As a Darwinist, on the other hand, Dennett (1995: 311) argues that "punctuated equilibrium" would not "create any more elbow room for the power of contemporary events and personalities to shape and direct the actual path taken among myriad possibilities." One can see, in Dennett's response, a similarity to realist skepticism that it is ever possible to wipe the institutional slate clean of self-help processes and that interdependence has transformative effects in this regard. According to Waltz (1979: 145), those who argue otherwise "have discovered the complexity of processes and have lost sight of how processes are affected by structure." And Dennett's accusations directly touch upon the human-environment relationship assumed by liberal IR theory. In fact, the philosophical issues that are central to these scientific debates are also what distinguish realist and liberal explanations for how exactly the process of institutional adaptation works in practice.

THE PROCESS OF INSTITUTIONAL ADAPTATION IN REALIST AND LIBERAL THEORY

Despite the balance between stasis and change that both realism and liberalism attempt to strike in their accounts of the institutional adaptive process, alternative emphases on continuity or discontinuity remain. In part this is a function of the different chronological order in which they arrange causal concepts (with, for example, realism treating inter-group competition as a motivation for innovation and liberalism including it causally only after innovation has taken place). But these arrangements are, in turn, proscribed by their alternative selection logics and assumptions about the human-environment relationship. Thus the debates between evolutionary biologists and paleontologists have direct parallels to the debates between realists and liberals regarding the process by which political institutional adaptation occurs. Given its selection-by-competition logic, a realist process of institutional adaptation tends to approximate a Darwinian emphasis on gradualism, continuity, and convergence. And given its alternative selection-by-learning logic, a liberal process of adaptation tends to approximate the paleontological emphasis on suddenness, discontinuity, and contingency.

Realism's selection-by-competition logic implies that groups would not only accept but actively promote experimentation and change in their institutions. One of the primary sources for new ideas and alternative practices would be the social practices and institutions of other groups, particularly those who were very powerful. Institutional imitation driven by the competitive pressures of the environment (what Waltz called socialization) is one of the major reasons why group institutions tend to become similar over time (Resende-Santos 1996; Brooks 1997: 465). It is also why the practices and institutions of the most powerful groups in the system tend to become global hegemonic discourses (Thomson 1992; Schweller and Priess 1997: 12).

Yet it is from this tendency for institutional imitation among groups that realism also derives expectations regarding stasis and subsequent adaptation. Stasis would occur because domestic actors could be expected to develop vested identities and interests in imitated practices and institutions. Thus even when the environment subsequently exerted pressures for innovation, individuals and subgroups would exert pressure in the opposite direction in order to keep institutions as they were. Foreign policy analysts frequently lament that foreign policy is "inefficient" according to the demands of the international context (See, for example, Quandt 1988). Yet from a realist evolutionary perspective such lamentations are misplaced because foreign policy behavior results from a dual context and can only be understood and evaluated within it. The decision-maker is confronted with pressures for institutional change that emanate from the environment, yet these pressures are counteracted by existing group institutions and the decision-maker's own role and vested interests in them. That decision-makers would attempt to satisfy both pressures simultaneously, and to the complete satisfaction of neither, is to be expected.

Given the investment that individuals and subgroups would make in existing group social practices, the source for subsequent institutional innovation in realist theory derives from the act of imitation itself. Existing institutions and practices serve as a source of stasis, since the development of vested identities and interests in intra-group institutions would make them more difficult to modify and change over time. When institutional imitation does occur it cannot start with a clean slate and is instead amalgamated with or layered onto existing group processes to create a slightly different institutional variation with each act of imitation (Resende-Santos 1996; Posen 1984). In other words, the imitation would never produce identical institutions across groups, and the reason this is important is because if these variations appear successful to other groups they might then become the objects of imitation in the future. Institutional variants result from this formulation and these variants may become the subject of inter-group imitation at a later point in time. Thus a selection-by-competition logic simultaneously promotes intra-group commitment to existing institutions and inter-group institutional imitation.

The competitive anarchic environment would, for example, encourage weaker states to imitate the economic practices of the more powerful. But the replication would never be precisely identical because each state would already have existing
institutions on top of which the imitation would be layered. From this perspective, realists would join many comparativists and scholars of the Third World in their skepticism that a liberal "one-size-fits-all" development model could ever work in practice (see, for example, Colclough and Manor 1991). Given its anticipation of a layering effect, realism would expect that each imitation of capitalist, free markets would create a slightly different institutional variant that would be similar but not identical to the economic liberalization efforts of other groups. And if one of these variants subsequently appeared to be relatively more successful at amassing capitalist wealth, its particulars would become the subject of inter-group institutional imitation. This same dynamic explains why, despite conscious imitation, no two democracies have precisely the same electoral institutions and practices.

Because the layering it entails and the variations it then produces could be imitated later and hence account for future rounds of adaptive institutional change, institutional imitation remains a crucial source for innovative change in the realist argument. The institutional variants that are created as a result of this layering serve as the "genetic" pool from which subsequent institutional imitations and hence process adaptations are drawn. Yet simultaneously the cognitive and functional investiture made in group social practices would provide a degree of institutional stasis. Thus in realist theory the particular ways in which the selection-by-competition logic affects institution-building itself is what accounts for both stasis and subsequent change in the social realities human beings create.

Liberalism's explanation for stasis and subsequent adaptation is very different. What provides the element of stasis in liberal theory are not the institutions in which individuals become invested but the functional interests that all human societies must address in some way. Human beings create institutions in order to meet these interests as efficiently as possible within their sectoral contexts. The desire to maximize economic welfare, for example, may be posited as a relatively timeless functional interest, but the most efficient institutions for obtaining this interest will vary according to environmental conditions that affect economic activity as a functional sector. Increases in technology levels and interaction capacities would produce a new economic sectoral environment that requires economic institutions appropriate to it, thus prompting the desire and search for new institutions.

It is at this stage that institutional experimentation takes place, but it is not contingent upon competition or imitation that are only important later in the adaptive process. Instead, the development of new institutions and hence adaptive variants to the new economic environment derive from the specific path dependencies of existing institutions and social practices. Spruyt's (1994: 25-26) arguments with regards to the development of the sovereign state in Europe provides a prime example, since the expansion in trade between 1100 and 1300 provided the external environmental change necessary to provoke new political relationships and coalitions among existing subgroups such as kings, aristocrats, burghers, and the church. These relationships had to be modified if new market opportunities were to be exploited, yet the extent to which they could be (and how) varied geographically (Spruyt 1994: 154). Several institutional variants in response to new environmental conditions were then developed simultaneously and included city-leagues, city-states, and sovereign territory states.

The development of these variants ultimately depended on cognitive evolution. As market participants in the early Middle Ages became increasingly dissatisfied with the performance of existing institutions and practices, their willingness to experiment with and change those institutions increased as well. According to Keohane (1984), time-lags between environmental and institutional changes would be anticipated, since sectoral environmental changes or institutional efficiencies would not be immediately obvious to all participants. But sectoral environmental changes eventually kick-off a round of institution-building, starting with those participants who early in the process become conscious of their inability to obtain interests in the new environment. Institutional changes are promoted and accepted irrespective of existing institutions, because functional interests are more important to institutional participants than existing (and ultimately inefficient) practices.

Thus unlike realist theory, the institutional variations occur in liberal theory before there is inter-group competition, and the selection of a specific institutional arrangement is initially driven by intra-group dynamics. It is after those arrangements have been established (historically the period between the 1300s and 1600s in Europe) that the process of inter-group institutional selection and the role of competition then begins. This sequencing is necessary because it is only once the new institutional variants have been created and are in the process of exploiting new market opportunities that their capacities for doing so effectively may be consciously compared. Eventually the territorial, sovereign state proved better at maximizing profit (and protecting profit obtained) than did the other institutional variants, and institutional selection across groups then occurred via institutional imitation, which Spruyt (1994: 158) refers to as deliberate mimicry and exit. In other words, a number of synchronic institutional variants had emerged as the "genetic" pool from which the subsequent round of imitative adaptation draws. The institution within this pool that demonstrated that it had a competitive advantage in obtaining the interest within the new environmental context then became the subject of imitation by others.

Stasis only becomes relevant again in the liberal argument after the competition among institutional forms has been resolved. Once the institutional variant more appropriate to the environment has been imitated by most groups, its appropriateness ensures its stability. Groups would have no reason to change the chosen institutions unless environmental changes make them inappropriate for the continued pursuit of economic profit. Thus the vested interests human beings have in their institutions derive from the ability of those institutions to meet particular functional demands. As long they do so in a relatively efficient manner, participants will remain loyal to them and will develop interests (or sunken costs) that
make institutions difficult to modify. When environmental conditions change, however, participants will become increasingly dissatisfied with their institutions and social practices. Thus the cycle of institutional experimentation and competitive imitation begins anew, with a new institutional form eventually emerging to provide stasis thereafter.

The stark contrast between realist and liberal accounts for the process of institutional adaptation approximate the contemporary theoretical divisions between evolutionary biologists and paleontologists. In a realist account, all adaptations can be traced back to a selection-by-competition logic and all variations are subject to that logic. Competition is responsible for the development of social practices themselves, the cognitive commitment to intra-group institutions, the process of inter-group imitation and institutional innovation, and the dispersion of particular institutions and social practices on a global scale. Institutional evolution tends to be path-dependent in realist theory as a result, while the role of contingency remains relatively minor because adaptation occurs within boundaries proscribed by both an immutable natural environment and the social realities that have been created as the means to human survival in that environment.

The parallels here with Darwinism are striking. The role of institutional imitation, institutional layering, and unintentional variation in realist theory is similar in many respects to the gradual, continuous process of accumulated adaptation in the modern Darwinian synthesis. This puts realism on the side of continuity and convergence in the debate between evolutionary biologists and paleontologists. When Morris (1998: 2020) argues that, "put simply, convergence shows that in a real world not all things are possible," one can easily imagine most realists would readily concur given their assumptive framework.

Liberal accounts, on the other hand, rely on a selection-by-learning process that produces adaptive variations whitened down according to their competitive abilities within the particular sectoral environment. While inter-group competition drives the entire process of evolutionary adaptation and variation in realism, it serves in liberal theory only to select out a particular institutional form in the second stage of successive adaptation. And while path-dependency plays a role in the institutional variants created, historical contingency ultimately plays a far greater causal role in the final selection process. Those groups who will imitate are also willing to abandon their own institutional efforts for one that is functionally more efficient within the changed circumstances of the sector. Thus a particular institutional form comes to dominate globally in a relatively sudden, historically contingent manner.

In fact, it is no accident that in his account of European institutional change, Spruyt (1994: 24-25, 186) relies on Eldredge and Gould's theory of "punctuated equilibrium" as a more appropriate model than Darwin's theory of natural selection. In doing so he argues that, "whatever forms survive are not explained by reference to the types preceding the exogenous shock but by reference to the new environment and the now simultaneously existing forms which emerged after the shock" (Ibid.). In other words, human beings can and do consciously, purposefully abandon the institutional variations they had previously created. Thus we come full circle. Human beings remain in control of their own institutional adaptations in liberal theory in a way that they do not in realist theory. The similarities between liberal IR theory and Eldredge and Gould's "punctuated equilibrium," with its emphasis on discontinuity and historical contingency, are relatively obvious as a result.

EXAMPLES BY WAY OF CONCLUSIONS

In this concluding section I would like to highlight how this exploration of evolutionary tendencies has already provided a number of theoretical surprises. As noted earlier, the reconsideration of ongoing disagreements between realists and liberals in light of their evolutionary tendencies sheds more precise light on what it is they have been disagreeing about. Thus it should serve as a corrective to the growing tendency within the field to treat these theoretical paradigms as more similar than not on the basis of their common epistemology. As this discussion has repeatedly demonstrated, important substantive differences remain regarding the assumptions and causal organization within each theoretical framework. In addition, their re-conceptualization as theories of global institutional evolution generates questions and answers which, given the way in which each theory is typically characterized, can be considered unexpected or even counter intuitive.

One of the interesting aspects of the process of adaptation derived from each theory, for example, is the common role that imitation plays in intra-group interaction and global institutional evolution. Both realism and liberalism assume groups become socially similar by imitating one another's institutions, however the concept of imitation is utilized differently. In realism the initial institutional similarity between groups is immediately modified because its layering onto existing institutions will actually produce institutional variation in practice. Alternatively, institutional variation is largely displaced by the act of imitation in liberal theory so that units become more alike than not thereafter. What makes this observation interesting is that realism is so often accused of treating groups as functionally alike, while liberalism is frequently cited for its capacity to include institutional domestic differences as causal. Yet an evolutionary perspective indicates that these characterizations may actually be reversed.

More specifically, institutional variation only acts as a causal force in liberal theory after the environment has prompted the need for subsequent adaptation, and those institutional variations actually drop out of the system once the competitive choice among them has been made. Theoretically, then, one has institutionally "like-units" in liberal theory until the environment promotes another round of institutional experimentation and change, which makes similarity and difference a chronological phenomenon in liberal IR theory. In realist theory, on
the other hand, the institutional variations are always present and could be drawn upon for subsequent adaptations at any moment. Thus the extent to which units are alike and different is a simultaneous rather than chronological phenomenon in realism, a point which Waltz (1979, chap. 5) repeatedly underscores in his discussion of political structures. And although March and Olsen (1998: 956–57) read realism as a theory of functional teleology, from an evolutionary perspective there may actually be some compatibility between realism and the “new institutionalism” literature, since realism allows for institutional drag and path-dependency in a way that liberal IR theory does not.

In underscoring how an evolutionary approach produces new insights into old debates, it may also be pertinent to provide an explicit empirical example of how it can do so. For this purpose, the time and ink realists and liberals have spent mutually accusing one another of misunderstanding the dynamics at work in the European Union (EU), and in the present international system, is useful (see also Cornett and Caporaso 1992). These accusations are often phrased in rather unhelpful terms (by both camps) as a problem of maintaining “conceptual blinders,” which inhibit the other from “seeing” reality for what it “really” is (or is becoming). Ultimately, however, the differences between them derive from their fundamentally divergent assumptions about the ability of human beings to control their own institutional adaptations. These differing assumptions produce very different interpretations of an empirical phenomenon like the EU.

It is no secret that liberal scholars have always had high hopes for the EU, which has grown from the original European Coal and Steel Community (ECSC) founded in 1951 between six European nation-states to encompass a vast number of functional issue areas and other nation-states. Early post-WWII liberal theorizing focused on the developing EU and took several forms including federalist theory, transactionalism, and neo-functionalism. While the EU was largely abandoned as a liberal research topic after the 1960s, its efforts post-1990 to create a common currency encouraged a renewed liberal interest in the organization. Quite a number of scholars have since argued that the EU represents the transcendence of self-help social practices between its members (See, for example, Lebow 1994; Ruggie 1992: 561–63; Wendt 1992: 417–18, and 1994; Keohane 1993).

It is because European visionaries in the 1950s initiated the integrative steps that “would allow swords to be beaten into plowshares” that, according to Kegley (1991: 109), “today the prospect of an intra-European war is non-existent.” While acknowledging that the end of European warfare might have multiple causes (112), Kegley suggests that based on the European integrative example, “We might derive policy principles with which the West can deal constructively with the multipolar world on the horizon” (113). In a similar vein, Jervis (1991–1992: 56) has argued that historical patterns of conflict will not reassert themselves in Europe because the EU is “filled with stable, democratic governments that have learned to cooperate and have developed a stake in each other’s well-being.” Such arguments are clearly informed by a liberal selection-by-learning logic in that human beings have the ability to shape their institutional contexts so that violent forms of competition can be consciously circumvented.

What triggered the selection-by-learning process among EU countries were the new environmental conditions in the twentieth century, although it varies among liberal scholars as to what those conditions entailed. Zacher (1992) provides a list of commonly cited environmental factors including the development of advanced communication technologies and nuclear weapons, increased economic interdependence, and the spread of Western democratic and cultural values. From a liberal evolutionary perspective these constituted a new international environment so that what we have been witnessing in the EU is the emergence of a new institutional adaptation in response to those changing conditions (Spruyt 1994: 189–91). While the precise form of this adaptation has been driven largely by the particularities of the region, we might look to other regions, nation-states, and even levels-of-analysis to discover different institutional adaptations to the same environment. From this perspective much of the neoliberal institutional literature can be reread as an argument about international regimes as alternative adaptations to this changing environment. Wendt (1994) provides another example of a possible institutional alternative in his discussion of the emerging “international state.”

The extent to which liberal scholars have explored the next step of evolutionary competitive selection among these institutional alternatives has varied considerably. For some liberal scholars the EU constitutes the obvious choice, and so the future round of adaptive institutional imitation will involve the imitation of EU institutions and social practices. It is only within the context of a liberal evolutionary perspective that Francis Fukuyama’s (1989: 14) assertion—"we are far more likely to see the ‘Common Marketization’ of world politics than the disintegration of the EEC into nineteenth-century competitiveness"—makes any sense. While regime theorists are generally more cautious about predictions of this sort, the liberal literature does appear united in the belief that whatever institutional form is eventually selected will necessarily involve multilateralism and a loss of nation-state autonomy (Zacher 1992).

A realist evolutionary perspective on the EU is, of course, very different. Realists typically explain European cooperation and the creation of the EU by expanding the time-horizon and dynamics of alliance cooperation. Under the unique conditions of bipolarity following WWII, European nation-states shared a common threat from the Soviet Union and a common benefactor in the United States. This mitigated the effects of anarchy by, in the first instance, reducing European fears of one another and, in the second instance, having a hegemonic arbiter and protector (Mearsheimer 1990: 47; Waltz 1979: 71; Grieco 1990: 40–47). These were unusual international circumstances that allowed Western Europeans to pursue cooperative and economic enterprises that would normally have been impossible in anarchy and other polarities (Snyder 1990: 11–12). Or, as Schweller and Priest
inherent to human interaction itself and so it remains something that human beings cannot control. From the realist perspective any institutional project that seeks to deny or ignore this context is doomed to failure.

In summary, for liberals the EU represents a new institutional variant in response to new sectoral environments, and there is a possibility that it will serve as the institutional model for imitation in the future. From a liberal evolutionary perspective we are living in a period of conscious institutional adaptation induced by changed sectoral environmental conditions, and the EU is an empirical example of those adaptive efforts. For realists, on the other hand, the EU is an institutional adaptation to particular historical and geostrategic circumstances that have now disappeared. Certainly it may reflect the particulars of the European region as Greico (1999) has argued, but in the absence of favorable geostrategic conditions the EU’s ability to surmount intra-group differences and identities is not enhanced but rather worsened by the end of the Cold War. Because institution building is bounded by and subject to the logic of selection-by-competition, the ability of the EU to evolve further is determined by that logic and not the internal will of its participants. And because it is an institutional adaptation that never addressed the fundamental interest in survival that informs all group formation and inter-group behavior, it will eventually be selected out of the system simply because no other groups will imitate it.

While this account of each theory’s interpretation of the EU will probably do nothing to quiet the criticisms each continues to level at the other, I believe it does manage to underscore not only why each theory characterizes the EU in such different ways, but also how each account is derived from alternative philosophical perspectives that can be labeled evolutionary in both form and content. The question remains, however, which version of events is correct? The answer must undoubtedly be, neither. This is because realists and liberals are grappling with philosophical issues involving “nature vs. nurture” that, as this review of biological evolutionary debates has indicated, have remained unresolved. In addition, realism and liberalism clearly occupy alternative ends of the philosophical spectrum. For realism “nature” remains paramount in that it considers human evolution to be subject to the same biological processes that have affected the evolution of all other organisms on the planet, and this then places identifiable boundaries around the act of institution-building itself. For liberalism, “nurture” remains paramount in that it assumes human evolution has preceded according to a different logic which allows “that behavior is conditioned by the social environment” (Bowler 1984: 315). Reality, however, is somewhere in the middle, which is why evolutionary biologists have increasingly rejected the “nature vs. nurture” dichotomy in favor of synthesis.

Perhaps both realism and liberalism can ultimately be faulted for continuing to provide “just-so stories” that merely reflect extreme perspectives on human nature. Indeed, Lebow (1994: 276–77) provides a particularly strident example of fault-
finding in his accusations that the realist emphasis on nature instead of nurture is so misplaced that it is actually inhibiting human beings from exercising their capacities to evolve. This accusation is also common in much of the post-positivist IR literature (see, for example, Beer and Harriman 1996). Yet what these accusations amount to is an argument that Darwin’s theory of natural selection itself and its relevance to global political activity has inhibited human institutional evolution and normatively desirable outcomes. The very idea of natural selection is what appears to be so dangerous to many scholars, which is why Dennett’s (1995) review of reactions to Darwinism is so aptly entitled, “Darwin’s Dangerous Idea.” As he puts it:

“A review of all the major charges that have been leveled at Darwin’s dangerous idea reveals a few surprisingly harmless heresies, a few sources of serious confusion, and one deep but misguided fear: if Darwinism is true of us, what happens to our autonomy?” (1995: 312)

As explanations for social phenomenon go, it may be equally possible to fault liberalism for placing far too much emphasis on nurture. Yet perhaps it is also the case that by placing the realist-liberal debate within an evolutionary context, we might move to a dialogue that attempts some balance between the two extremes and thus gives us better theoretical purchase on the empirical and global phenomenon in which we are interested.

NOTES

1. Insightful feedback and ideas for the development of this chapter came from Annette Freyberg-Inan, Patrick Thaddeus Jackson, Miriam Fenidui Elman, Colin Elman, the participants at the ISP’s Fall Seminar Series (BCSIA, Harvard University, October 1999), Bill Thompson, and the participants at the conference on “Evolutionary Approaches to International Relations” (Indiana University, December 1998).

2. These issues are discussed extensively by Wendt as well (1992; 1994), and the entire fifteenth anniversary issue of International Organization was organized around the theme of rationalism vs. constructivism, with neorealism and neoliberal institutionalism classified together as examples of the former (Katzenstein, et. al. 1998).

3. As this study will demonstrate, however, this asserted affinity between Social Darwinism but not Darwinism is deductively incorrect. Social Darwinism was an illogical amalgamation of elements from Darwinism and Lamarckism (Bowler 1984: 274), while IR realism clearly parallels Darwinian, not Lamarckian arguments.

4. Particularly interesting in this regard is Dennett’s discussion of several philosophical “just so stories” from an evolutionary biological perspective, including Hobbes’ Leviathan, Rawls’ Theory of Justice, and Nietzsche’s Genealogy of Morals (1995, chap. 16).

5. Denemark provides a useful overview of world-systems history (1999), and the ongoing work of Modelski and Thompson should be noted in particular (for example Modelski and Thompson 1999; Modelski and Poznanski 1996; Thompson 1997).

6. On the other hand, see Lebow (1994) for an analysis that considers both to have evolutionary tendencies, but is clearly informed by a normative bias for liberal rather than realist theory that then obscures the extent to which both are treated as viable theories of global institutional evolution. A “realist evolutionary” response that questions Lebow’s obvious bias for liberal evolutionary theory may be found in Falger (1997: 169–71).

7. The Eugenics movement claimed that it was the state’s duty to limit the multiplication of its least-fit citizens, while Social Darwinism was the notion that progress came through struggle so that the strongest nations and races were justified in dominating the weak. In his examination of the social implications of Darwinism, Bowler points out that Social Darwinism was not actually based on Darwin’s theory of natural selection but on an amalgamation (and an illogical one) of alternative evolutionary theories, some of which specified entirely different mechanisms of selection (1984: 269–74). He also points out that evolutionary biological theories did not point to the accuracy or efficacy of perspectives such as Social Darwinism and other attempts at social engineering, but instead particular elements were drawn from theories of evolutionary biology in order to support preexisting perspectives and biases.

8. Sober provides a review of sociobiological arguments on cultural evolution and argues that the sociobiological position is “... genetic selection [that] has given our species the ability to engage in social learning. Once in place, this cultural transmission system allows characteristics to evolve that could not have evolved without it. In other words, it is only because the traits in question evolve in the context of a cultural transmission system that they are able to evolve at all” (1994: 487). As a result, sociobiologists are concerned with how this process of genetic selection combines with social learning to create particular social and physical consequences. But because it appears to have affinities with Social Darwinism and the like, the approach remains controversial and Eldredge (1995: 5) captures the more common perspective that, “sociobiology is an explicit application of ultra-Darwinian principles, asserting that social systems arise and evolve through competition for reproductive success.” Critics of some sociobiological excursions into IR theorizing may be found in Tuckner (1999), Goldstein (1987) and Kircher (1987).

9. This is one of Somit and Peterson’s arguments for why biopolitical theorizing has failed to gain favor in American social scientific circles (1998, 1999). Others have noted the impact that American ideology has had on the content of social scientific and IR theorizing, including Waever (1998: 721–22); Winnerstig (1999); and Shimko (1992).


12. A sampling of works that exemplify this perspective include: Desch (1996); Gurr (1988); Hinzte (1975); Rasler and Thompson (1994 1989); and Tilly (1975).

13. A sampling of works that exemplify this perspective include: Rogowski (1989, 1987); Gourevitch (1986); Katzenstein (1978); Milner (1988); Keohane and Milner (1996).

14. This description of natural selection is drawn from three sources: Bowler (1984); Dennett (1995); Sober (1994).

15. Sewell noted the direct link between liberal IR theories and Lamarckism in his 1966 study of functionalism, observing that Mitrany opened relatively upon Lamarck’s laws of evolution to explain the growth of functional unions (1966: 67–68). And this is
important because Mitran’s functionalism has remained a core component of all subsequent liberal IR theorizing (Sterling-Folker 2000).

16. For arguments along these lines see: Adler, Crawford, and Donnelly (1991); Held (1996); Keohane and Nye (1977, 1971); Keohane (1984); Rosecrance (1986); Rose- nau (1976); and Zacher (1992).

17. In fact a great deal of realist scholarship has been devoted to the exploration of how perception or organizational culture can inhibit efficient responses to external threat. Reviews of realist works on these subjects, include Brooks (1997); Schweller and Priess (1997); Rose (1998); Zakaria (1992), and many of the neoclassical realist authors discussed in a later note.

18. Reviews of these contending realist categories and their differences may be found in Brooks (1997), Jervis (1999), Rose (1998), Schweller and Priess (1997), Spirtas (1996), Taliaferro (2000/01). Vasquez has claimed that these debates indicate degeneration of the realist paradigm itself (1998, 1997), but as Walt argues, “It is hardly evidence of degeneration when realists advance contradictory arguments or reach different conclusions, just as it is not a major issue whenever neo-Keynesian economists, Kinzerian psychologists, Darwinian sociobiologists, or quantum physicists are at loggerheads” (1997: 933). See also Elman and Elman (1997b), Schweller (1999), and Buzan (1996).


20. Neoclassical realists are interested in how the domestic and individual levels of analysis act as filters for systemic pressures, and overviews of scholarly work that exemplifies this variant may be found in Rose (1998) and Schweller (1999). While the effects of domestic institutions is what interests many neoclassical realists, others are explicitly interested in how different biological parameters can affect foreign policy-making and international outcomes. The biological attributes of interest go far beyond the classical realist’s power-lust, however, and include in-group/out-group distinctions (Mercer 1995; Schweller and Priess 1997), emotions and perceptions (Mercer 1999; Wohlfahrt 1994/5), and risk-aversion (Taliaferro 2000).

21. Many sociobiologists argue that it is inappropriate to generalize the concept of natural selection to the individual or group level because behaviors in the interest of survival and reproduction differ (and are in conflict) depending on whether one is discussing genes, individuals, or a group. This point remains debatable even among sociobiologists, however, in that natural selection might operate simultaneously on more than one level, so that groups were equivalent to individual competitors thereby making the existence of other groups relevant to group selection. Essays in Sober’s collection (1984) that argue this issue include Williams, Wilson, Ruse and Wilson, Kitcher, and Sober.

22. In other words, realism can avoid positing functional institutional teleology if it recognizes that a Darwinist explanation can account for the evolutionary process but not necessarily the content of social practices and institutions. The issue of functional teleology is fundamental to Zakaria’s 1992 review of Jack Snyder’s Myths of Empire, for example, and critiques of defensive realism, which appears to assume that the anarchic environment demands particular types of institutions and practices in order to fulfill particular types of functions. The resulting implications of this formulation would be a teleological end-point toward which nation-state institutions should be evolving, while Zakaria claims this is not realism’s argument (1992: 194–96).

23. This is why the claim that neorealism needs a theory of the state in order to explain change is fundamentally misplaced. Hobden (1998: 69) and Wendt (1987: 342–44, 365–66) both make this argument, but it is greater explication of the implications of group formation in whatever historically contingent forms they take that is required instead. Thus while Hobden is correct that historical sociology cannot supply neorealism with a theory of the state (1998, 168), this is only because realism’s Darwinist ontology allows it to subsume historical sociology as an approach. The role of history in IR theorizing in general is considered in Jackson and Nexon (1999); Puchala (2000, 1995); Weber (1997); and a special symposium of International Security on “History and Theory” framed by Elman and Elman (1997a).

24. Waltz makes this argument in a number of places (1979: 76–77, 92–93, 118–119, 127–28), as does Zakaria (1992), and Levy notes that the role of learning “essentially has no independent explanatory power” in neorealism theory (1994: 297).

25. As Waiver (1998: 724) points out, while neoliberalism may be hegemonic in security studies, this is “in contrast to general IR, where numerous articles are legitimized as critiques of the allegedly hegemonic neoliberalism, and critiques far out number the purported hegemon.” Winestig provides ample evidence for this assertion (1999).


27. The work of Karl Deutsch remains the best example of transactionalism, Ernst Haas and Leon Lindberg represent the neofunctionalist approach, and examples of federalism include the work of Alviero Spinelli and Peter Hays.

28. Added to this was the problem that, unlike the U.S. colonies, the EU did not contain states who had fought a common enemy together and was actually a combination of former allies and enemies who then faced a new common enemy in the Soviet Union. Thus there was a degree of security ambivalence toward one another that the U.S. presence managed to dampen but never put out, and it remains pertinent to the Franco-German relationship in particular. Thus many scholars have argued that French cooperation in the EU context is driven by its fear of German ascendance, which is the sort of competitive pressure realism would argue that the EU has done nothing to dispel. See, for example, Gloannec (1992); Greco (1995, 1996); Hopmann (1994).

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