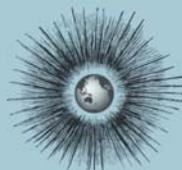


SPECIAL ISSUE:

GLOBALIZATIONS FROM 'ABOVE' AND 'BELOW'
THE FUTURE OF WORLD SOCIETY

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ABSTRACT:

Observing the latest trends of a rise in interest in the development of power distribution in a world-system created and dominated by states but increasingly challenged as such, this paper takes a deeper look at the historical evolution of this system, its current transformation, and likely future development. After a brief discussion of prevalent concepts of world(-)system development and its socio-political control, this work offers an evolu-

tionary perspective to place current changes of power and its distribution in the dynamic long-term development of global system formation. It then presents alternative visions of the future development of political and economic hegemony. It concludes that a further rise in instability of global political power distribution accompanied by a likely challenge to existing distributional patterns has a high probability of occurrence.

CHAOS OR REORDER? THE FUTURE OF HEGEMONY IN A WORLD-SYSTEM IN UPHEAVAL*

Joachim Karl Rennstich

INTRODUCTION

The latest resurgence of interest in the concept of hegemony¹—in the context of this study understood as the power of a state to exercise functions of leadership and governance over a system of sovereign states (Arrighi 1994: 27)—and empire, both in the popular and academic realm, has been mostly the result of a change in the perception of power, specifically its sources, application, and distribution. But what kind of hegemony? Hegemony over what? And why the sudden burst of interest in “empires,” at times used as a substitute for hegemony (implicitly or not), but often to describe a new or different kind of hegemonic power? More to the point, though: How did such confusion arise, when those concepts, especially in the sociology literature, had received plenty of attention and scholarship, not only recently but several decades ago? These questions make it well worth it to remind ourselves not only of the unfortunate disjunc-

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¹ “Hegemony” and “hegemonic leadership” are highly contested concepts and definitions vary significantly (for a discussion on the various definitions in this context, see Rapkin 1990; Goldstein 1988, especially chaps. 6 and 13). For the purposes of this paper, we use the terms hegemony, hegemonic leadership, and system leader interchangeably. We follow thus the Gramscian perception of hegemony as a combination of power in form of leadership based on both coercion and consent.

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tion of sociological and (mainstream) political science studies of systemic state power but also of the uncertainty within the world-systems literature over its current state and future development. This article first challenges the arguments of discontinuation of the world-system as a result of the decline of states and the globalized nature in its current stage, then continues to argue for an analytical synthesis, not only of the existing sociology and political science literatures on the *problématique* of global hegemony, but also the broad spectrum of the social sciences in the form of an evolutionary model, briefly presenting such an approach.²

THE RISE AND DECLINE OF HEGEMONY³

Starting in the 1970s, the notion of waning U.S. power, both economically as well as militarily, introduced new interest in the discussion of hegemonic power status—characterized as having a disproportionate share of power in a social and interrelated world system—and the inherent cause for decline that lay in the exertion of acting as a “benign” hegemonic power, creating a stable liberal world market order (Kindleberger 1996) and thus allowing competitors to rise.

For world-systems students (in the tradition of Wallerstein 1974; Chase-Dunn 1989; Arrighi 1994; Taylor 1996) and others following the structural world-historical development of the world system during the past centuries (in various lengths and variations, but as an interconnected social system, e.g., Frank 1978; Huggill 1993; Modelski and Thompson 1996; Dark 1998; for a summary of the literature on long waves, see Goldstein 1988) this was hardly a surprising development. In fact, it was to be expected, as the decline from the initial height of American hegemony after World War II was merely following past trajectories of the rise and fall of actors characterized as hegemons (such as Portugal, the Dutch, and the British).

² This model has been discussed in much greater detail elsewhere (Rennstich 2003b, forthcoming).

³ The following review reflects an extremely broad-brushed image of these developments and leaves out many more nuanced approaches present in the political science literature during these phases. Its purpose is to portray the different paths in the study of hegemonic power, or more specifically, the power of states to act as predominant leaders based on means of coercion or attraction, to readers who might be less familiar with these developments in the political science literature, rather than to paint a nuanced picture of this very diverse field itself.

Alongside neorealist structural studies of power distribution in a (Westphalian) state system, a new debate emerged about the meaning of what constituted power that would enable a state to exert influence over others. The new currency of power was thought to be coined through cooperation rather than coercion, as soft power replaced hard power as the critical element in such an environment (Keohane and Nye 1977, 1997; see also Nye 2004). The future issues seemed to be the forms of cooperative power, the effects of complex interdependencies on the rules of engagement in a new, transforming and globalizing world system, and the rise of regional powers rather than the question of a possible challenge to the old hegemonic power status of the United States (Keohane 1984). For these observers, the very concept of the possibility of hegemonic power status in the traditional sense (of a mostly coercive nature executed by states) seemed to have lost any explanatory or predictive strength. But through the introduction of “new” forms of power, it was thought possible for the existing hegemon to lose one kind of power and substitute it with another, thus securing its relative share of power. These analytical developments were largely the result of a division of labor in political science, where “security” students focused largely on an independent system of sovereign states battling over “high politics” (and hard power), whereas studies of the international political economy focused on the issues of “low politics” (and soft power) in at times overlapping, but mostly separate systems. As a result, many political scientists lost interest in the world-systems-based (and other long-term structural systemic) concepts of hegemonic power.

However, the lack of an emergent “new world order” after the fall of the Berlin Wall (as announced by George Bush, Sr. but also promoted by Bill Clinton in another form) centered around a cooperative, interdependent world of states and non-state actors, but most certainly the events surrounding the 9/11 attacks muddled the analytical waters deeply and put to rest the “end of history.” Not surprisingly, the concepts of hegemony and/or empire have reappeared as a way out of this analytical mess in both the academic and more popular treatments of the subject (e.g., Hardt and Negri 2000; Chomsky 2003; Ferguson 2003, 2004; Rupert and Fitts 2004; Johnson 2005; Merry 2005). While it is true that the constituting elements of an interdependent world have not suddenly vanished, recent events in world politics (such as the American but also European responses to the 9/11 attacks, and the rise of China as a regional, if not global power) have demonstrated the continued role and importance of “traditional” (i.e., coercive) capabilities for the establishment and projection of power in the global system.

The overwhelming massing of these traditional capabilities in a single and similarly traditional unit (i.e., a state) has brought back the analytical focus on the need for a thorough understanding of the complex and cyclical system of

hegemonic leadership. However, just as in the political science literature, scholars more traditionally associated with the question of global hegemony struggled throughout the 1990s to connect the world they seemed to experience with the traditional world-system concepts. Wallersteinians (Hopkins and Wallerstein 1996) declared an age of transition to the world-system (and even the end of the world) as we know it, Bornschier (1999) argued for “hegemony without a hegemon,” and the predominant question was that of (expected) systemic chaos but of a rather uncertain future, characterized by weakened states and a lack of alternatives to the structures instilled by the declining hegemonic power.

Here we aim to provide not only a challenge to the view of “declining” states (arguing instead for a change of their roles to the one they occupied in earlier stages of the world system understood as an interconnected social network structure), and the view of a significantly different and thus in its development distinct world-system as the result of its true “globalization” (making the case for the need of a broadening of the conceptualization of the world-system as an identifiable social unit). We propose an alternative model that allows the inclusion of a wide range of literatures without a significant loss of epistemological rigidity in the form of an evolutionary model of what is termed here an evolving global system.

WORLD-SYSTEMS OR WORLD SYSTEM FORMATION – THE DEBATE

Beginning with the work of Braudel (1992 [1979]), Wallerstein (1974, 1980, 1984, 1989) and others, significant steps have been taken toward⁴ an understanding of the development of the world system/world-system in its historical evolution. This has expressed itself in the development of a wider range of what constitutes such a “world-creating” (following Wallerstein’s [1993: 294] notion of the world-system as a system that “is a world”) “set of nested and overlapping interaction networks that link all units of social analysis” (Grimes 1999: 30).

For Wallerstein and many others in the world-systems tradition, the *differentiae specifica*e of the world-system born out of sixteenth century Europe was

⁴ See e.g., Abu-Lughod (1989); Arrighi (1994; see also Arrighi et al. 1999); Boswell (1999); Buzan and Little (2000); Chase-Dunn (1989, see also 1995; Chase-Dunn and Hall 1997); Dark (1998); Denmark et al. (2000); Frank (1978, 1998); Frank and Gills (1993); Freeman (1983; see also Freeman and Louçã 2001); Gilpin (1987); Goldstein (1988); Kennedy (1988); Modelski and Thompson (1996); Hugill (1993); Modelski (1987, 2000); Pomeranz and Topik (1999); Pomeranz (2000); Rasler and Thompson (1989, 1994); Taylor (1996); Thompson (1999, 2001); Tilly (1992); Tilly and Stinchcombe (1997).

the “*ceaseless* accumulation of capital,” a feature characterizing “no other historical system that ever existed before” (Wallerstein 1993: 293). It is important to note this difference, because this view does not deny the existence of previous existing interaction networks. However, they are viewed as so systemically different in their “operating principle” that they need to be analytically categorized as separate entities and based on their different organizational principle marked as “world-empires” (Wallerstein 1993: 293–294).

From this perspective, the expansion of the world-system into a truly global, all-encompassing interaction-network of social, economic, and political relations, results in a new phase of world-system development, marking, if not the end, then at least an unknown outcome of the current state of systemic chaos and thus the “end of the world as we know it” (Wallerstein 1999; see also Hopkins and Wallerstein 1996). In this view, the source and location of power changes dramatically, as states have lost their previous power status and thus their imprint on the world-system they previously shaped so significantly. It is hardly surprising, then, to see a renewed interest in the analytical framework of “empires” in the literature (as discussed earlier). The operational mode of production—and thus the mode that created the world-system—has changed, as has the main unit of systemic development and control, the state. The next logical step is to ask: might this be the time now, when the world-system reverts back to a world characterized by the proto-capitalist empire-created *modus operandus*?⁵

Here we argue that an alternative view on the evolution of the historical world system (with *and* without the hyphen) into today’s global system can help to clear some of the analytical fog that has characterized the confused state of world-system analysis. We agree with Frank and Gills (1993: 303) in that “it is not the mode of production which determines the overall developmental patterns and outcomes of this game [i.e., world system/world-system development]—but the nature of the game itself, of which the various modes are (only) an element.” In this view, the driver of all world system history influencing the outcome of “development” in any particular part of the system is an element of the prevailing conditions of “development” (in particular capital accumulation) of the whole world system (Frank and Gills 1993: 302). If one can accept this notion of system development, world system development takes on a rather evolutionary character: the nature and the rules of Frank and Gill’s “game” do not change as much as implied by the world-system view of development. What does change are tech-

⁵ For a review of views on different forms of *modi operandi* in the economic-sociology literature, see e.g., Nee and Swedberg (2005).

niques of competition, of which the basic *modi operandi* have in fact been around for a considerably longer time than the sixteenth century. The actors, however, are merely changing positions. From this perspective, systems change in character and developmental style and control over much of the past century of world history, but not so significantly as to merit a world-system of their own (see e.g., Frank 1998; Modelski 1990; Modelski and Thompson 1996; Huggill 1993).

Both sides of the debate agree on one thing, however: the transformation of a (or the) world(-) system into a global one. As argued above, the aim here is not to discuss the start of this global system, but rather to focus on the question of its current state: has the evolution of the system come to a halt or is the current state of systemic “chaos” just part of the regular transformation or maybe of a similar transformation than the one that took place with the rise of Europe as its (new) center in the sixteenth century? To ask this question is critical if one is to seek an answer for the future *modus operandus* and thus the necessary means of control within it, or put differently, what constitutes power and who can aim to wield it? Does hegemony continue to exert itself in a similar fashion as in the past (a single state possessing a disproportionate share of power in a system of states that acts as the overarching organizing principle of the world system) or not (new power-centers striving for the creation of far-reaching systems under their control, i.e., a return to empire-systems)?

GLOBAL SYSTEM DEVELOPMENT: AN EVOLUTIONARY APPROACH

Evolutionary models are characterized by a focus on change, dynamics, and selection. Change in this view is constant, but never linear in its unfolding—it changes pace, intensity, and impact depending on the environment in which this change unfolds. In doing so, changes are affecting the development of environments that in turn affect them (feedback effects). The world system constitutes such an environment of dynamical change. It follows in its development an “evolutionary logic” that explains the creation of “possibility space” or in other words the potential options for change open to the systems and its parts (see Clark et al. 1995). This evolutionary logic driving the global system process is based on the following set of epistemological assumptions of evolutionary economics (Andersen 1994), that also build the basis of the model presented here :

- agents (e.g., individuals, groups, organizations, etc.) can never be “perfectly informed” and thus have to optimize (at best) locally, rather than globally;
- an agent’s decision-making is (normally) bound to rules, norms, and institutions;

- agents are to some extent able to imitate the rules of other agents (imitation), to learn for themselves, and are able to create novelty (innovation);
- the processes of imitation and innovation are characterized by significant degrees of cumulativeness and path-dependency (but may be interrupted by occasional discontinuities);
- the interactions between the agents take place in situations of disequilibrium and result in either successes or failures of commodity variants and method variants as well as of agents; and
- these processes of change are non-deterministic, open-ended, and irreversible.

Thus, socio-political and ultimately global system change seen in this light is always a historical, dynamic process involving the use as well as the creation of resources (as diverse as simple objects, techniques and knowledge, or even entire social organizations). The evolutionary logic is the result of social interaction and thus human agency. This agency, however, takes place and is embedded in an institutional and technological context. In other words, whereas the driving logic (human agency) of this process remains the same, its context changes, constituting a “social learning algorithm” of evolutionary change that is at work at all levels of the global system process (from the individual to the change of the global system as a whole). Within the framework presented here, the four mechanisms driving the evolutionary globalization process and constituting a “social learning algorithm” are: (i) variety creation (very broadly: cultural process); (ii) cooperation or segregation (social process); (iii) selection (political process); and (iv) preservation and transmission (economic process).

Since such a synthesis has to be an ordered one, all world system processes have a time-structure that allows for successive optimizations of these mechanisms in a formal-logical “learning sequence” (following the numbered sequence above). Global system processes in this view, then, are seen as nested and synchronized (i.e., coevolving) four-phased temporal learning experiments driven by a common evolutionary logic inherent in all these processes.

From an evolutionary perspective, the development of the global system as we experience it today has been characterized by what McNeill and McNeill (2003) describe as a process of intensifying connections of human “webs.” These webs were rather diverse in their form, strength of connections, and the areas and peoples that they covered. Through the gradual amalgamation of many smaller webs into a single world web, the global system emerged in the form of the “Old World Web” spanning most of Eurasia and North Africa and formed about 2,000 years ago. With the expansion of oceanic navigation, a more complex and extended (both in depth and width) single “cosmopolitan web” emerged out of

existing metropolitan (and the few remaining local) webs, creating a truly global, single human web.

Descriptions of the development of a global system abound (as discussed above). The analysis of McNeill and McNeill has been used here in order to highlight two of the most important aspects of the global system formation, often only implicitly acknowledged in the respective analyses: the evolutionary character of its development and the complexity of its connection. This study is based on and extends the empirical analysis of the development of the modern era system (i.e., the current global organization phase in the global or world system process) as put forward by Modelski and Thompson (1996) and Rennstich (2003b). The model developed there takes into account the dynamic processes of the evolutionary drive of the global world system process and the resulting change in the overall network structure of the nested, coevolving cultural, social, political, and economic processes.

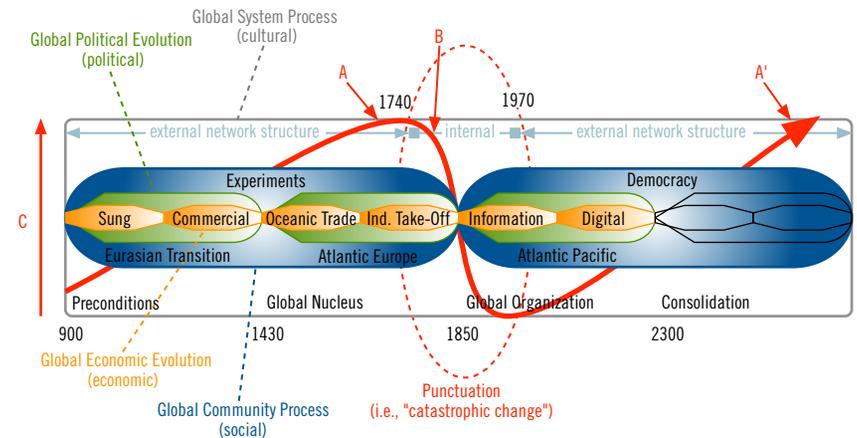
SYSTEM COMPLEXITY AND WORLD SYSTEM EVOLUTION

To readers familiar with existing long-wave narratives of world system development it is important to note the inclusion of the element of system complexity in the model presented here. In this view, a crucial aspect in terms of its evolution from a set of previously loosely related webs or sub-systems into the far more interconnected global system of today is the connection between system complexity and the “weaving of the global web” as a developmental process. The advantage of employing an evolutionary model in the analysis of systems even on a “world” scale is that it allows us to draw on the important insights of other research traditions, employing findings from seemingly unrelated subject matters, that nonetheless contribute significant theoretical and empirical findings for our study of global system evolution. Especially the work of Devezas and his collaborators (Devezas and Corredine 2001, 2002; Devezas and Modelski 2003) has significant implications for a more thorough understanding of the evolutionary processes shaping world system development.

Change in complex systems, whether in the direction of greater or lesser complexity, produce a trajectory or “historical path,” limiting future options and thus becoming path-dependent in this way.⁶ As a consequence, complex systems

⁶ This is the result of the structure of complex systems. Whereas in systems theory all sub-systems relate to each other, complex systems consist of networks of links of various types between all parts of the system, but each part is not necessarily linked with all others, in the same way.

Figure 1 – Evolutionary Model of Global System Formation, 930CE–2300CE*



* Figure 1 graphically summarizes our model of the modern era globalization process that is the basis of this analysis. In this view, the global system process is driven by the nested processes of economic development (most-inner octagon, labeled Sung, Commercial, Oceanic trade, Industrial take-off, Information, and Digital); political development (bullet-shaped boxes, labeled Eurasian transition, Atlantic-Europe, and Atlantic Pacific); and social development (rounded boxes labeled Experiments and Democracy). Together, they constitute the global system development (represented by the thin-grey box framing all other processes).

such as the nested global economic, political, social, and cultural processes under study here exhibit a tendency to “self-organization,” that is, the endogenous ordering into hierarchies gives them a system-wide form.⁷ The way the inter-relationships between parts of the systems are established—i.e., the weaving of the webs or, put differently, the structure of the networks making up the global system—thus becomes crucial for our understanding of the dynamics of these coevolving structures.

Figure 1 illustrates graphically the relationship between the rate of change, rising system complexity, and prevalent system network structure or “mode of web-weaving” (see Rennstich 2003b, for a more thorough discussion of this argument). C represents the rate of complexity that rises over time, displayed on the

⁷ As a result, these complex systems exhibit “morphogenesis” (i.e., the development of an organism or of some part of one, as it changes as a species) based on processes that are partly independent of agency, although they require agents to both initiate and enact them (Dark 1998).

x-axis. This graphical representation does not aim to portray any “exact” starting date from which world system formation sprang up. The date indicated (from around 930 C.E.) marks instead the first emergence of the system-weaving mode (or *modus operandus*) of the stage in world (and ultimately global) system development that characterizes global system development until somewhere in 2300 C.E., when this developmental stage is expected to take on a new dynamic. The y-axis label C is short for “system complexity” and represented by the bold-grey, wave-like arrow in Figure 1). A indicates the point at which growth in complexity will begin to slow, as hypercoherence takes affect and the possibilities for change (i.e., possibility space) begin to decrease rapidly. Since complex socio-political systems (like all complex systems) will inhibit an internal dynamic which leads them to increase in complexity, the rate of decision-making must, necessarily, keep pace with this increased complexity (see also Devezas and Corredine 2001, 2002).

This system increases in reach and overall complexity until (during the nineteenth century) it reaches a state in which the path-dependent system eventually runs out of future possible choices, a state also referred to as “hypercoherence”⁸ that regularly occurs in any complex system.⁹ In other words, the global system experiences a systemic punctuation (also referred to as “catastrophic change”) around 1850, resulting in the end of the experimental phase in the global community process and starting with the democratic phase as the set-up that seems the most fit and efficient in the global social system (see Rennstich 2003b).

Decision-making (and thus the process of agency) does not take place in an isolated environment but rather a strongly contextual one, marked by high levels of feedback effects: agency affects the environment in which it unfolds, but also is formed by it. Thus, it is important not only to focus on the agents (in the context of this work states aiming for systemic leadership or hegemony) but also to identify the contextual environment in which this agency takes place.

⁸ The terms “hypercoherence” or “catastrophic change” refer not to the overall breakdown of the global system process, but rather to the terminology used in chaos- and catastrophe-theory. They represent an “option-narrowing” as the result of the selection of a new organizational and institutional setting in the global community process. After a relatively short period of internal network structure dominance, the system reverts to an external system structure, setting in motion a new rise of complexity, bringing with it a new phase of externally open systems and consequently in the end leading to a new stage of hypercoherence.

⁹ For a discussion of complex-systems theories, see Auyang (1998).

This structure is mainly the result of the need to cope with a rise in complex decision-making through externalization of the decision-making process.¹⁰ However, the more complex the system becomes—that is, the wider the possibility space extends—the more liable it is to collapse. This collapse takes place in the form of a selection of best adapted organizational and institutional variance, as the possibility space for change begins to close and the system becomes hypercoherent.

Surrounding the time of this punctuation (starting around the middle of the eighteenth century), the global system process is marked by an important change in the form of its “web-weaving” or network formation. Rather than seeking to manage the extension between webs, large metropolitan webs aim to turn into single, large “mono-structures” with control over the entire web rather than mainly the external connections to other webs, manifesting the selected organizational and institutional structures. This network-system mode remains largely in place, until a new phase of evolutionary dynamic sets in the late twentieth century (in the second half of the twentieth century, see Figure 1), bringing back the main focus on the organizational control of the connections between existing webs or networks.

Point B in Figure 1 represents the point at which catastrophic change into a decline mode occurs. The network structure of the global system during its initial unfolding remains external in nature, bringing with it ever-higher levels of complexity as the webs deepen in both depth and width. During point A, the point of hypercoherence, the network structure becomes internally oriented, leading to point B, to “catastrophic change” or punctuation (i.e., the selection of a macro organizational and institutional model in the global community process).¹¹

¹⁰ A good example might be the difference in organization of the decision-making process in a small four-person firm in contrast to the hierarchical structure found in much larger enterprises. The sheer complexity of the need for individual decisions renders it impossible for a single person to make all the necessary decisions. Rather, these organizations develop mechanisms of delegating decision-making, connecting several agents over a number of hierarchies in a joint decision-making network. The world as a whole also resembles such a joint decision-making network. It permeates from the global system process to the nested social and political processes and the inner core of the economic process. During this “search phase” of expanding possibility space, the dynamics of the system develop best in a relatively (externally) open environment.

¹¹ It is important to note that “catastrophic change” here refers not to a breakdown of the global system process, but rather to the terminology used in chaos- and catastrophe-theory and represents an “option-narrowing” as the result of the selection of a new organizational and institutional setting in the global community process. After a

New innovations and technologies and their accompanying institutional arrangements or paradigms¹² made it possible to extend the management of entire webs rather than just the external network of relationships between existing webs, the major units of the global web—large, metropolitan webs with their respective hinterlands—could now viably seek to extend those hinterlands and incorporate large chunks of previously connected but largely independent webs into their own domain. As a result, the major mode of network structure creation and control switched from an external network-oriented one to one focused on the control of internal networks that remained connected with other webs (forming a large global web) but shifted their focus on the internal networks rather than the external ones.

Ultimately, however, the control of these systems proved too complex, resulting in a state of hypercoherence of the global web (as described above). Since the middle of the twentieth century, the global system—again as a result of new technologies shifting the focus on control of external network connections rather than control over entire webs—has begun a new stage of global system formation that now incorporates not only the physical domain of human interaction but also the “virtual” one that can be captured in a binary (or “digital”) code.

SYSTEM COMPLEXITY AND WORLD SYSTEM NETWORK STRUCTURES

To use the image employed by McNeill and McNeill, the punctuation of the global system (starting around the middle of the eighteenth century) marks a change in the “spinning” of the global system web. Up to this point, webs had been extended and newly formed mostly in the form of the establishment of linkages between preexisting (metropolitan) webs and in turn creating a larger, single web, a process we could describe as “external network” or web extension. What changes during this time, is the increasing tendency of “internal web weaving,” that is the attempt to extend preexisting large webs internally to create rivaling, that is, alternative rather than complementing webs or networks.¹³

relatively short period of internal network structure dominance, the system reverts to an external system structure, setting in motion a new rise of complexity, bringing with it a new phase of externally open systems and consequently in the end leading to a new stage of hypercoherence.

¹² See Perez (2002) for an excellent discussion on the relationship between technology, capital, and socio-economic and techno-economic paradigms that determine what in evolutionary models is referred to as possibility space.

¹³ We do by no means intend to deny a continuing connection between these webs—a prerequisite for the argument of a continued development of a single, extending

Table 1 lists the development of the network structure in addition to the coevolution of the economic and political process of globalization, describing the leading sectors of each economic Kondratiev- or K-wave and the lead economy of each political long wave of global world system leadership.¹⁴ The roots of the three main network systems in existence so far can be found in the evolutionary “trials” (as part of the evolutionary development of variety creation) during the two Chinese-dominated periods emerging roughly in 900 C.E.¹⁵ Especially the Southern Sung period during the eleventh and twelfth century provides many elements that are similar to those present in the following maritime network system. Given their lineage and the larger evolutionary pattern of development, however, it is analytically more sensible to regard them as evolutionary trials rather than part of the first external network system.

Observing this process, we are able to mark three distinct network phases during the evolution of the modern world system: a maritime commercial phase (Genoa, Venice, Portugal, Dutch, England I), an industrial phase (England II, US I), and the emerging digital commercial phase (US II). All three phases can be divided into two meta-systems of internal and external network phases (as a result of leading sectors and the different technological styles, see Table 1).¹⁶ In sum, the global system process during the time of the punctuation (from roughly the 1740s to 1970s, see Figure 1) changes from a process marked by external structure connections to one marked by internalizing webs, manifesting the selected

global system. What is important in this context is the shift of emphasis from control of web connections to one of control over larger sub-webs as a whole. This process often included the usurpation of smaller, existing webs into a larger “imperial” web with the aim to extend the sphere of control of a web, rather than extending the web through external connections only through the focus on the control of the connections rather than the other webs themselves.

¹⁴ Kondratiev or K-waves describe the emergence and subsequent decline of long-term economic cycles (roughly 50 years in length) that are superimposed on shorter—and better known—business cycles, describing the “capitalist pulse” of the economic global system process. For a discussion of the concept of K-waves in the context of the model employed here, see Rennstich (2003a, 2003b). For a more general discussion on K-waves, see Duijn (1983); Goldstein (1988); Berry (1991); Freeman and Louçã (2001).

¹⁵ This work follows the increasing use of C.E. (Common Era) and B.C.E. (before the Common Era), which replaces the traditional dating system employing A.D. and B.C. respectively for the same periods.

¹⁶ For a full discussion of these phases, see Rennstich (2004b; see also Rennstich 2003a).

Table 1 – Evolutionary Global System Process Model, 930 CE–2080 CE

Starting (≈year)	Global System Process	Global Community Process	Global Political Evolution (long cycles)	Global Economic Evolution (K-waves)	Network Structure
930	Preconditions	Experiments Reforming	Eurasian Transition North Sung South Sung	Sung Break-Through	build-up, transition external
1190		Republican	Genoa Venice	Commercial / Nautical Revolution	external
1430	Global Nucleus	Calvinist	Atlantic Europe Portugal Dutch Republic	Oceanic Trade	external
1640		Liberal	Britain I Britain II	Industrial Take-Off	transition internal
1850	Global Organization	Democracy Democratic groundwork	Atlantic-Pacific USA	Information K17 Electric, steel K18 Electronics Digital K19 Informational Industries K20 Digital Network (?)	internal transition external external
2080			China (?)	K21 (?)	

Source: Based on Modelski (2000) and own additions. All years C.E.

organizational and institutional structures, until a new phase of evolutionary dynamic sets in during the late twentieth century.¹⁷

HEGEMONY AND WORLD SYSTEM EVOLUTION

Having described the environment that forms what we identify as the world and now global “system,” what about the actors that aim at exercising control

¹⁷ The change in the dominant mode of the weaving of the global web is crucial for a full understanding of the meaning of “domination” and “control” of the global system. Hegemony—as we understand here based on a disproportionate share of power in the global web—means quite different things in a system based on external-network control or in one that is characterized by hegemonic units controlling entire large webs, focusing on internal-network control (see below for an extension of this discussion).

within and partially over it? Both views discussed earlier might not agree on the evolutionary story line of world system(s)/world-system(s) development, they do, however, agree upon its most powerful actors. An apparent characteristic of hegemonic leadership within the world system (with or without the hyphen) in most treatments of the subject seems to be located in the state and is marked by the inability of the existing leader to prevent its own decline in relative position dominance. This shift in the geographical and socio-political location of power has been explained as the outcome of the leader’s experience of success in the current setting, creating an entrenched institutional setting (in a broader sense) that proves adaptive in defending its turf but less so in fostering the rise of new leading sectors.¹⁸

The regular clustering of innovations (both technological and institutional) in space and time leads to the emergence of new leading sectors, thereby marking the “pulse” of the global web and determining the speed and form of its weaving. These new leading sectors enable a new way of solving old, existing global problems (communication, transportation, production, facilitation of trade, social organization, etc.), allowing one particular unit of the global web (here: states) to exercise a disproportionate share of dominance and control over the global web for a limited period of time, until the advancements made by one unit are diffused among the system, laying the foundation for a beat of the pulse to emerge. This pattern is captured in long-waves of the co-development of economic and political advancement and subsequent dominance of particular units of the global web and summarized in Table 1.

It is important in this context to keep the evolutionary development of the global web in mind: hegemony during the early stages of the weaving of the global web requires different capabilities and takes different forms than the exercise of a disproportionate share of power in more recent years. As we will argue in the following section, this development also is by no means linear. Being able to exercise hegemony in the global web of 2004 does not simply require *x*-times more capabilities than it did in the 1800s. Rather, we have to differentiate between divergent types of capabilities, different meanings of control, and as a result different concepts of what establishes hegemony over the global web.¹⁹ Therefore, we have

¹⁸ See footnote 5 for narratives from a wide range of perspectives.

¹⁹ We agree with Arrighi (1994: 33), that “inter-state and inter-enterprise competition can take different forms, and the form they take has important consequences for the way in which the modern world system—as a mode of rule and as a mode of accumulation—functions or does not function.”

to pay special attention not only to the evolutionary character of the unfolding of the global web, but also the factors that determine the “type of weaving” of the global web, here identified as “internal” and “external network systems.”

INTERNAL AND EXTERNAL NETWORK SYSTEMS

The commercial maritime system is in large part characterized by its emphasis on external networks of production and other value-adding processes (including the division of labor) and the importance of flows within the world economic system. The leading sectors in this phase are predominately service- or flow-oriented. These include the Champagne fairs and Genoan Atlantic trade and trade in the Black Sea during long cycle three (under Genoan leadership), Romanian and Levantine galley fleets during long cycle four (Venice), the control over Guinean gold and Indian pepper (Portugal), Baltic, Atlantic, and later Asian trade control of the Dutch, and Amerasian trade control of the British during long cycles five, six, and seven respectively (see Table 1).²⁰

It also is important to note that the controlling metropolitan centers of these dominant webs during this phase of the global system development remain relatively small in size (in terms of population and geographic extension, including their respective hinterlands). Their main focus on the control of the external web-connections (and internal control over the most profitable new leading sectors) rather than attempting to create entire webs under their control allowed them to exercise an extraordinarily high level of control—or hegemony—in the expanding global system as a whole. Hegemony in this context therefore refers to a disproportionate share of external network control in the global system.

As argued earlier, beginning in the period often referred to as “industrialization,” new innovations and technologies enabled the management (and thus centralized control) of far more extended webs, both in institutional depth and geographic width. The leading sectors that are the basis of the capitalist pulse during this period (see Table 1) are marked not only by the enabling of manageability of far more complex systems or webs but also in the dual strategic significance for military self-sufficiency and national economic independence held to provide the rationale for the desire to acquire this group of industries (Sen 1984).

So-called “great-power states”—the main “web-weavers” in this system—try to establish internal rather than external networks, in order to, as Rosecrance

²⁰. Although the earlier Sung periods (especially the second, southern Sung) could be regarded as maritime in nature, we view them here as parts of the experimental variety-creation process inherit in evolutionary systems.

(1996: 6) puts it, “excel in all economic functions, from mining and agriculture to production and distribution.” During this phase the main focus of network-creation and control is on the internal aspect of the systems. This emphasis on self-sufficiency and national economic independence characterizing the industrial global economic phase stands in stark contrast to the necessities of an external network- and service-based environment as found in the maritime commercial and digital commercial systems.

The industrial system, in contrast to the maritime commercial system, has its main center located in internal production networks. The leading sectors in this mode are commonly associated with our understanding of “industrialization”—Britain’s dominance of cotton and iron production, and later railroads and steam during the eighth long cycle, followed by the leadership in steel, chemicals, electric power, motor vehicles, aviation, and electronics of the United States during the ninth long wave (see Table 1).

Whereas previous innovations and technologies that developed into new leading sectors dominating the development of the global system were largely enablers of external network domination, the leading sectors and their accompanying technologies of the industrial phase allowed control of complexity on a much larger scale than previous technologies did. This transition can best be viewed in the structural change of textile manufacturing under British organization.²¹

In the seventeenth and eighteenth century, production factories set up by companies such as the English East India Company on the (eastern) outer realms of the British (and more generally, European) controlled network of the world economy spanned entire continents and included a sophisticated system of financing and what in today’s terms would be referred to as outsourcing of production to external, independent contractors. In the latter half of the eighteenth and nineteenth century, this production system was replaced by factories organized around individual firms in the center of a less externally-oriented, but more vertically integrated world-economy with its center in Britain.²²

Starting out in the beginning of the seventeenth century by concentrating on Surat and Bantam, it had by the 1680s moved on to Madras and the Coromandel,

²¹. It is important to note the emphasis on *production* networks. Trade flows remained their mode of expansion, both in volume and reach, throughout the entire period, although the center of control and the direction of flows changed substantially as a result of a change in production patterns.

²². As early as 1922, Unwin (1927), argued that “one of the largest and most obvious aspects of the Industrial Revolution is the change involved in the direction of world trade

and, by the end of the century, began to expand its operations in Bengal, Bihar, and Orissa, centralizing as much as it could of the Indian supply of piece goods through its use of the *dadni* (i.e., contract) system (Barr 1991). The networks of procurement and supervision set up by the English far surpassed in volume and density those of their predecessors and competitors, characterized by a simultaneous commercial and territorial expansion (Arrighi et al. 1999: chap. 2).

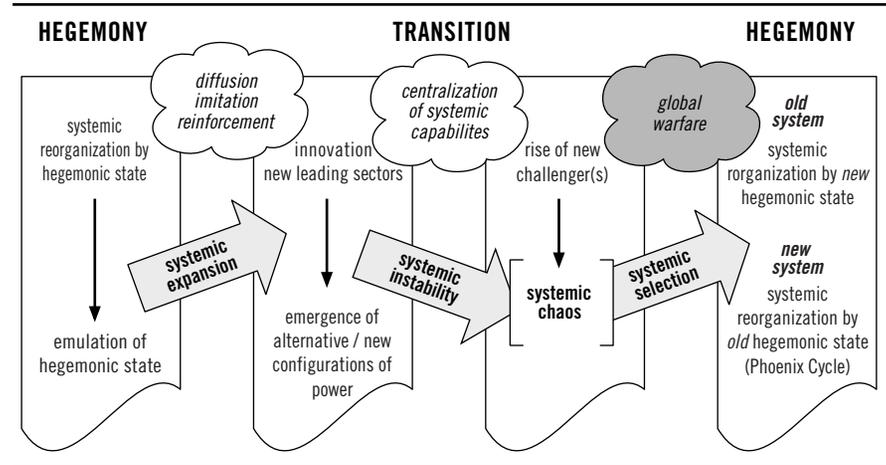
This marked a significant change from a preference of control over trading nodes to a preference for greater control of the production of key commodities, which involved necessarily greater territorial control as well. Thus, following a practice introduced in Bengal in the 1750s, the *dadni* system, which relied to a great degree on outsourcing the production to contracting partners, was replaced by an agency system (see Barr 1991). Under this new system, each of the company's factories integrated ("insourced") production in specialized centers, called *arangs*.

This higher level of centralized integration foreshadowed the transition from an external-network based production structure to an internal one. By the end of the eighteenth century, the regime of factories abroad was "an outdated and disintegrating regime...a regime in crisis" out of which a "new regime of factories at home" emerged, "which, by the 1830s, had effectively supplanted the regime of factories abroad" (Barr 1991: 82). The concentration of production and major reorganization of labor and other factors of production characterized this new regime, in new spatial arrangements, and with an increasing emphasis on mechanization of production.

The use of the example of Britain's ability to maintain its central position in the global system is not accidental. As argued earlier this period was one of transition from the external network structure of the maritime commercial system to that of internal networks marking the punctuation of the global system as a whole. As the example above makes clear, the grounds for Britain's preeminent position in the global system changed significantly during this period: the important aspect was, however, Britain's continuation of dominance when in all previous pulsations of the global system the location "hegemonic heart" of the system shifted in location (see Table 1).

in textiles. The flow of piece-goods, which had for a century been westwards from Asia to Europe, turned eastwards from Europe to Asia....[T]he new factory system of the west displaced, as far as the production of cotton goods was concerned, an older factory system, which we may regard as essentially of the east, and of which the English factories established in India in the early seventeenth century were representative cases" (quoted in Barr 1991: 81).

Figure 2 – Dynamics of Systemic Leadership Transitions?



Source: Based on Arrighi & Silver et.al. 1999: 29 and own additions.

SYSTEMIC CHAOS AND NETWORK SYSTEMS

The notion of systemic "chaos" as the result of the disintegration of the systemic system put into place by the hegemonic leader as an outcome of its waning power is present in both Arrighi's (1994) model (from whom we have adopted the term) and Modelski and Thompson's (1996) model (using the term "deconcentration") and both agree on the importance of the unraveling of the old for the creation of the new system. In our synthesis (see Rennstich 2004b for a more detailed discussion) we combine Modelski and Thompson's notion of hegemonic crisis and global war as a catalyst for the transition to the new system with Arrighi's concept of systemic transition and chaos. Figure 2 graphically summarizes this model of hegemonic transition.

The four boxes with the rounded bottom-part represent the global web as a whole (consisting of a variety of subwebs, etc. that are not graphically represented here) at each step of its development from one hegemonic phase to another. Systemic expansion, in this view, allows the development of new clusters of innovations that lead to the emergence of new leading sectors and result in the emergence of new configurations of power in the form of alternative political and economic institutions. These developments cause the rise of a new center of systemic capabilities and an increased inter-state and inter-enterprise competition, ultimately laying the foundation for a new commercial and organizational arrangement and also the rise of challengers to the existing leader, whose domination of the system starts to decline.

Two types of challengers have to be differentiated: catch-up challengers that aim to challenge the existing leader in the same “tracks”—staying with Arrighi’s metaphor—but with highly improved machinery aiming to overtake the leader on its own tracks. A second kind of challenger, however, aims to overtake the old leader on an all-together new “set of tracks” as a result of its innovative new means, both in technological and organizational terms and aiming to tackle global problems in a new commercial and organizational arrangement.²³ After the breakdown of the old arrangement results in a systemic chaos (equivalent to Modelski and Thompson’s deligitimation phase), the process of global warfare provides the macrodecision that triggers the rise of a new leader, so far always of the second “track-changing” kind, who reinforces the transformation of the world system through its institutional manifestation (push factor) of the new “technological paradigm” (Perez 1983; 2002) and experiences further reinforcement through the emulation of leader by other states during this phase (pull factor).

So far, we have witnessed one occurrence of hegemonic and systemic transition (as understood in our model), where the existing leader (Britain) was aiming to maintain and strengthen its leadership, and are currently experiencing a similar transition.²⁴ It is this co-occurrence of hegemonic and systemic transition that allows for the development of what we term the “phoenix cycle” of renewed hegemonic leadership.

THE PHOENIX CYCLE

In contrast to Arrighi’s argument that the emergence of a capitalist mode (based on the old one, but qualitatively different and novel)—identified in Figure 2 as “systemic change”—*always* seems to fall together with the rise of

²³. A necessary and more thorough discussion of the challenger process is unfortunately beyond the scope of this paper. We refer for the closest discussion of our understanding of the challenger process to the treatment of this issue in Rasler and Thompson (1989). Similar to Arrighi, Rasler and Thompson view the divide between territorially-based and maritime-commercial powers as a crucial divide, and identifies three major challenging strategies, the capture-the-center strategy, an attack on the global network and/or the creation of an alternative network, and carving-out-a-subsystem strategy. In their challenger model of global leadership they thus emphasize the factors of maritime-commercial orientation, proximity, similarity, and innovativeness of the challenger in comparison with the challenged leader.

²⁴. The discussion, as to why China (or rather Chinese leaders) decided against the expansion of their lead during the first occurrence of the co-occurrence of a hegemonic and systemic crisis is beyond the realm of this work but increasingly receives more attention in the literature.

a new hegemonic leader, we argue here that the emergence of a new capitalist mode as a result from an external network system to an internal one (or vice versa) *might* enable the existing leader to decline and emerge at the same time. In such a moment, when a switch in the main *modus operandus* changes the dynamics of world system evolution, it is conceivable for the existing leader to develop dual and alternative (but to some degree complimentary) centers of systemic capabilities, causing the development of a different form of “chaos” and allowing for the generation of a “phoenix cycle” of renewed leadership out of the ashes of its former status (for reasons laid out below).

The process leading to the development of a systemic chaos as depicted in Figure 2 is normally driven by the clustering of innovations outside the current hegemon’s realm (both in a geographical and technological sense), paired with the technological diffusion of core leading sectors technologies (again in a broader sense) and the emergence of new leading sectors. This triggers the centralization of new systemic capabilities in one or two newly new centers, eventually causing the rise of a challenger (or challengers) to the existing systemic leader.²⁵

One of the main characteristics of systemic leadership transitions in most treatments of the subject seems to be the inability of the existing leader to establish a similar leadership position in a newly emerging and structurally different commercial and organizational arrangement. This shift in the geographical and political location of power has been explained as the outcome of the leader’s experience of success in the current setting, creating an entrenched institutional setting (in a broader sense) that proves adaptive in defending its turf but less so in fostering the rise of new leading sectors. However, the case of Britain’s continued leadership over an extended period of time (and separate long waves) has shown that this is not always the case.

In the previous occurrence of a switch from one network system to another—as a result from the change in the type of capitalist mode of “global web weaving” (commercial maritime, industrial, and digital commercial) dominating the global system to a new one—we have witnessed a phenomenon here referred to as the phoenix cycle.²⁶ In instances where the systemic chaos is not only driven

²⁵. A more detailed discussion of this process has been put forward in Rennstich (2003b); for a discussion on the various definitions in this context, see Rapkin (1990), also Goldstein (1988, especially chaps. 6 and 13).

²⁶. For a discussion on the effect of these types on rivalries between great powers, see Rennstich (2004b). For a similar account, see Cantwell (1989; see also e.g., Levathes 1996; Pomeranz 2000; for an alternative account, see Frank 1998), who distinguishes between “merchant capitalism” (pre-1770s), “industrial capitalism” (1770s–1940s), and “global capitalism” (post-1940s).

by the “normal” process of hegemonic crisis and breakdown (see Figure 2), but also coincides with a systemic crisis (emerging out of the rising complexity of the system), the existing leader can defend its leadership position in the transforming world system. This shift is triggered by a change in the major socio-economic interaction mode of the system, leading to a shift in the system meta-structure (the “web-weaving”). Only if the parallel development of a new cluster of innovations and the rise of new leading sectors can occur within its domain, may the existing leader extend its leadership position (see Figure 2).

As shown by a number of authors²⁷ from various research traditions, past success often entails the very ingredients for future demise. Whereas continuous innovation still takes place within the existing leader, adaptation to a newly emerging, changed environment (as a result of the rise of new leading sectors elsewhere) proves very hard for a society that can (and usually does) become locked into economic practices and institutions that in the past proved so successful. Powerful vested interests resist change, especially in circumstances when a nation is so powerful as to institutionalize its commercial and organizational arrangement on a global level, a change direly needed however to maintain its leadership. Gilpin (1996: 413) thus concludes that “a national system of political economy most ‘fit’ and efficient in one era of technology and market demand is very likely to be ‘unfit’ in a succeeding age of new technologies and new demands.”

The cyclical emergence of new commercial and organizational arrangements as shown by Modelski and Thompson, Freeman, and others entails such an environmental change. Thus, hegemonic transitions usually involve the shift from one leader to another due to what Boswell (1999) calls the “advantage of backwardness.” If we view the emergence of new commercial and organizational arrangements as a largely endogenous process, its emergence also causes an environmental shift that can be understood as an exogenous factor as well. However, the response of the existing leader to this change is largely driven by endogenous factors again.

The same can be said for the change from one socio-economic interaction mode to another, setting off the transition from an internal network structure system to an external network-structured one (and vice versa). It is the set of leading sectors (an endogenous process) that causes—over time—the change of the systemic structure and thus a change of the meaning of “fitness” in the evolu-

²⁷ See e.g., Christensen (1997); Gilpin (2001); Freeman and Louçã (2001); Freeman and Soete (1997); Freeman and Perez (1988); Porter (1990); Nelson and Winter (1982).

tionary selection process. The shift from one *modus operandus* to another, then, is also both an endogenous but to some degree an exogenous process.

BACK TO THE FUTURE? HEGEMONY RENEWED

One of the main obstacles for any existing hegemon historically has been the entrenchment of its own success. The institutionalization of its successful strategies creates powerful incentives to “remain on course.” These institutions prove not only to be “sticky” (in the sense that they outlast their original intent and aim to preserve the existing order rather than adapt to change) but also defensive. New ways of doing things are thus less likely to emerge where such entrenched resistance exists, a phenomenon we can observe both on the micro- (individuals and firms) and macro-level (states).

Crucial factors we have to take into account are the kinds of global problems the actors are trying to address. In a systemic environment that is driven by the same capitalistic mode, these *problématiques* will be more closely connected than in a situation in which the power strategy is based on two different capitalistic modes. It is important to keep in mind that the two network systems—internal or external—are reflective of different power strategies. The rise of a new commercial and organizational arrangement reflective of a different network environment provides less of a threat to the existing entrenched order and thus will be met with less resistance.

We know that the emergence of new leading sectors is a path-dependent process. Leading sectors of a new network environment are products of a different path than that of the existing commercial and organizational arrangement (despite their co-existence and often to some degree parallel historical trajectories). Originating in different power-logics, they can be quite complimentary in their development, as Nef has shown:

[T]he commercial revolution...had a continuous influence reaching back to the Reformation upon industrial technology and the scale of mining and manufacturing. But so, in turn, the progress of industry had continuously stimulated in a variety of ways the progress of commerce. The former was quite as “revolutionary” as the latter, and quite as directly responsible for the “Industrial Revolution.” (Nef 1934: 22)

This “compatibility” or even complimentary character is to a large degree the result of not only the difference in power strategies but also the difference in commercial strategies. External network arrangements tend to be service-oriented (in today’s economic language) whereas internal network systems tend to be production-focused (see also the discussion above on the difference between internal and network systems).

Thus, in the same manner as the commercial supremacy of Britain helped it to build up its industrial strength, the U.S. informational technologies and digital networking capabilities are based upon the strength of its earlier strengths in an internal network environment (i.e., microelectronics, mass production, aerospace technologies, and semiconductor production). As a result, the parallel development of two centers of systemic capabilities—one rooted in the external network power logic, the other in the internal network power—is not only possible but also complimentary and self-reinforcing.

Another argument regularly put forward for the likely rise of a new hegemon is the notion of capital “searching” for new and better opportunities (i.e., higher returns as a result of new monopoly rents). For reasons laid out above, these opportunities tend to arise outside of the institutionalized setting of the existing leader. This process usually leads to the flow of capital from the existing leader to the rising new one. However, in the case of a systemic network structure shift and thus the possible development of dual centers within the same “containers of power” (Giddens 1987), these capital flows can (as in the case of Britain during its transition from an external network to an internal network power logic) remain internal and simply shift from one center to another but within the realms of the existing leader.

We are witnessing a similar process currently in the case of the United States where not only internal flows are switching from an internal network power logic to opportunities arising in the emerging external network power logic driven enterprises but also external flows are significant for the rise of this new commercial and organizational arrangement. This does not only take place in the form of “venture-capital” financing, but also to a much larger degree in a shift from established institutions of capital distribution to newer forms. Put differently, in the case of a combined hegemonic and systemic breakdown, the old hegemonic leader re-emerges out of the ashes of its crumbling old commercial and organizational arrangement fed by the internal flows of its monetary capital (as well as that from others) and as a result is able to develop dual centers of systemic capability. The current co-development of dual financial centers within the United States may serve as an example of the continuation of this process.

Thus, instead of a disadvantage, the declining leader can use its existing institutional setting and capabilities not only to defend its predominance of the current commercial and organizational arrangement. At the same time it can facilitate these capabilities to its advantage by channeling the increasingly liquid capital flows not outside, but rather to the parallel developing new center of systemic capability. The ashes of its hegemonic decline prove to be fruitful in nurturing the rising new center. This does not prevent the rise of challengers. And it does not preclude the further unraveling of the existing order leading to a hege-

monic breakdown. However, the unique circumstances of a combined systemic and hegemonic transition provide the old leader with a significant head start in the development of its capabilities in the newly emerging system for reasons laid out above.

SUMMARY

The model presented here of world (and ultimately global) system development as an evolutionary process and the transitions of hegemonic leadership characterizing this systemic development hopes to achieve two main objectives. First, we hope to demonstrate the need to employ the “big picture” for a frame of reference when it comes to questions of global governance. The evolutionary character of the global system formation makes it essential to base one’s observations of relatively current developments into the frame of references of the more long-term processes of global system formation. Therefore, we can identify the industrialization phase for what it is: an aberration of the general mode of web-weaving of the global system rather than the nucleus of a globalized world economy. As a result, we have a much clearer picture as to what constitutes “hegemony” in a world that is characterized by an increased level of complexity, however also by an emphasis on external network-control as the main “capitalist mode.” Hegemony in such an environment is based on the control of external network connections, rather than aiming for—futile—attempts to dominate wide-reaching internal network structures in a build-up of global “imperial webs.” Hegemony in a globalized human web as it exists today is therefore different in character than previous forms of hegemony during the industrial phase, however it is not rendered impossible or implausible. And the historical trajectory we can identify so far seems to follow that of the previous phoenix cycle with the emergence of dual centers of systemic capabilities within the domain of the old systemic leader.

Second, this work aims to highlight the need for evolutionary models in the study of global governance issues regardless of the scale or questions involved. The interdependent, coevolving process of economic, political, social, and ultimately cultural dynamics that mark global system development cannot be fully grasped if analyzed in isolation. Acknowledging them as part of a larger system allows us to use the insights we have gained from more abstract models about system-development and system-behavior and tie them to seemingly unconnected areas of inquiry, such as the behavior of states, firms, or the role of technology on social institutions, to name just a few.

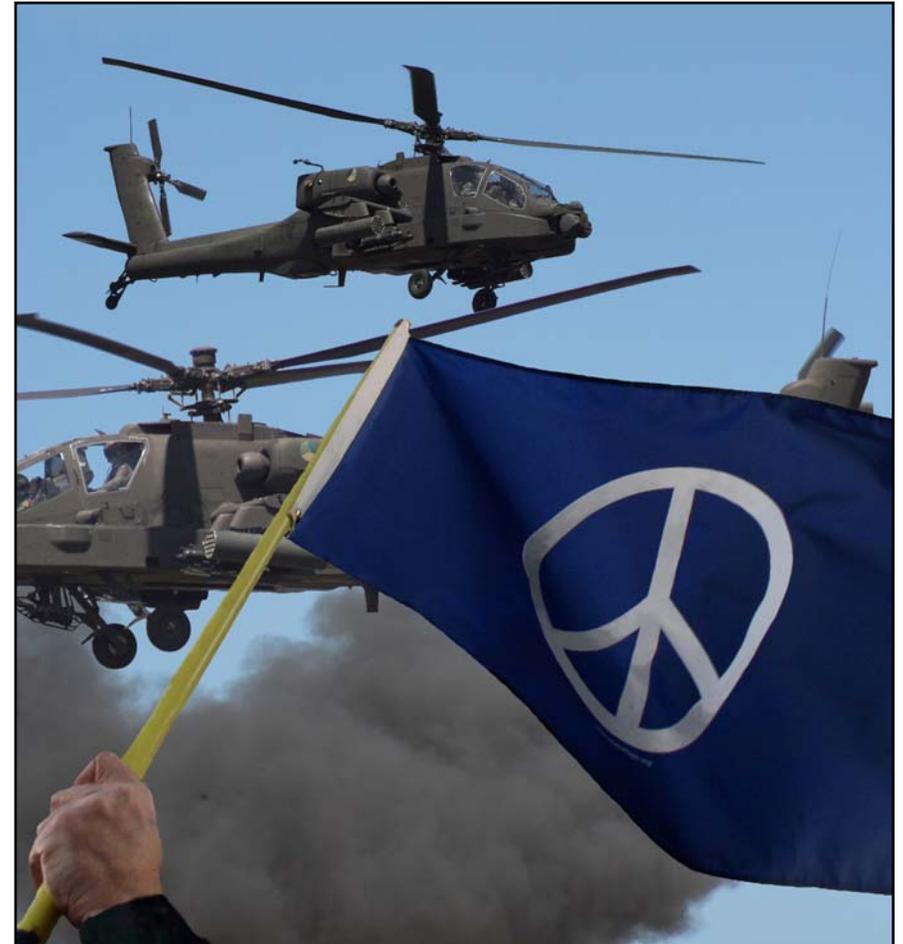
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