

4 The Future of Hegemony and Global System Leadership

Joachim Karl Rennstich

Introduction

The latest resurgence of interest in the concept of hegemony¹⁸ and empire – both in the popular and academic realm – has been mostly the result of a change in perception of power, specifically its sources, application, and distribution. 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 and the inherent cause for decline that lay in the exertion of a “benign” hegemonic power, creating a stable liberal world market order (Kindleberger 1996). The new currency of power was thought to be coined through cooperation rather than coercion, soft power replaced hard power as the critical element in such an environment (Keohane and Nye 1977, 1989, 1997).

The important 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 new 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). The very concept of the possibility of hegemonic power status seemed to have lost any explanatory or predictive strength.

18 „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 chs. 6 and 13). For the purposes of this paper, we use the terms hegemony, hegemonic leadership, and system leader interchangeably.

However, the – to most observers – relatively sudden and surprising end of the Cold War (and the effects it had on the global system as a whole), followed by a strong American rebound in economic as well as military capabilities (in relative terms as well as absolute), brought back “traditional” elements of structural power and dominance into the discussion of global system development. Increasingly, the concept of hegemony and/or empire has reappeared in both the academic and more popular treatments of the subject (e.g., Hardt and Negri 2000; Ferguson 2003). While it is true that the constituting elements of an interdependent world have not suddenly vanished, recent events in world politics 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.

After a brief discussion of prevalent concepts of political and economic hegemony, this work offers an evolutionary 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.

Global System Formation and its control

Beginning with the work of Braudel (1992; 1992; 1992), Wallerstein (1974; 1980; 1984; 1989) and others¹⁹ we have taken significant steps toward our understanding of the development of the world political economy in its historical evolution. The purpose of this work is to examine more closely the process of hegemonic

19 See e.g., Abu-Lughod (1989); Arrighi (1994; see also Arrighi, Silver, and Ahmad 1999); Buzan (2000); Chase-Dunn (1989; see also 1995; Chase-Dunn and Hall 1997); Dark (1998); Denmark (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 (1989; 1994); Thompson (1999; 2001); Tilly (1992); Tilly and Stinchcombe (1997); Boswell (1999).

leadership establishment and transition from one hegemonic leader to the next, employing an evolutionary framework to the study of the transition mechanism.

An apparent characteristic of hegemonic leadership in most treatments of the subject seems to be the inability of the existing leader to prevent the decline of the hegemon's relative position and unchallenged status as a leader over time. 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. In an earlier treatment of this process (Rennstich 2004), we have introduced the concept and highlighted the importance of internal and external global network environments in the global system and argued that the extension of leadership from an old to a new commercial and organizational arrangement is dependent on the capitalist mode and its effect on the systemic nature of the world system (for a summary of this concept, see below).

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 (many of which are listed in the literature noted earlier). 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.

Evolution of Global System Development

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 system process) of Modelski and Thompson (1996) and Rennstich (2003). The model used 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.

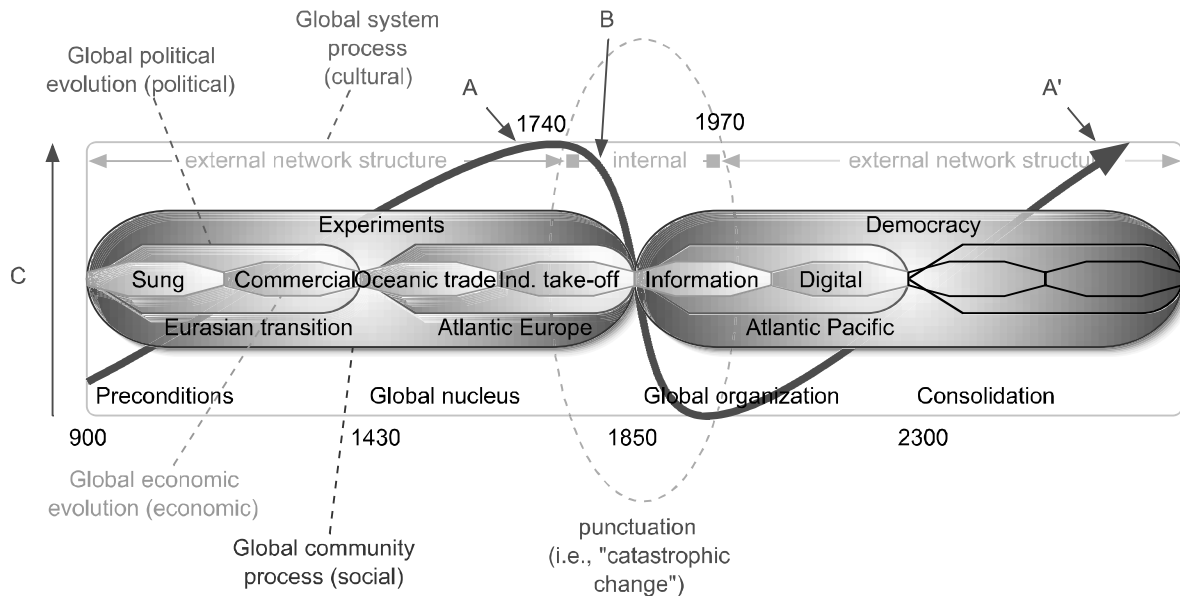
This global system increases in reach and overall complexity (with the Y-axis label “C” being short for “system complexity” and represented by the bold-grey, wave-like arrow in Figure 2-1) until – during the nineteenth century – it reaches a state in which the path-dependent system eventually runs out of future possible choices, a state also referred to as “hypercoherence”²⁰ that regularly occurs in any complex system.²¹ 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.²²

20 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.

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

22 For a more detailed account, see Rennstich (2003).

Figure 4-1: Evolutionary Model of Global System Formation
930 C.E. - 2300 C.E.²³



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, alternative rather than complementing webs or networks.²⁴

23 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).

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

Table 4-1 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.²⁵ 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.²⁶ 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 4-1).²⁷ In sum, the global system process during the time of the punctuation (from roughly the 1740s to 1970s, see Figure 4-1) changes from a process marked by external structure connections to one marked by internalizing webs, manifesting the selected

external connections only through the focus on the control of the connections rather than the other webs themselves.

25 Kondratiev or K-waves describe the emergence and subsequent decline of longterm 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 2003 (2003). For a more general discussion on K-waves, see Duijn (1983); Goldstein (1988); Berry (1991); Freeman and Louçã (2001).

26 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.

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

organizational and institutional structures, until a new phase of evolutionary dynamic sets in during the late twentieth century.²⁸

Table 4-1: Evolutionary Global System Process Model
930 C.E. - 2080 C.E.

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.

System Complexity

Another important aspect of global system development is the connection between system complexity as a result of the “weaving of the global web” and the development of the global system as a process. Change in complex systems,

²⁸ 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).

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.²⁹ As a consequence, complex systems 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.³⁰ The way the interrelationships 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 4-1 graphs the relationship between the rate of change rising system complexity and prevalent system network structure or “mode of web-weaving.”³¹ *C* represents the rate of complexity that rises over time (x-axis, labeled from 930-2300 C.E.). *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 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.

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.

29 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 other, in the same way.

30 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 them and enact them (Dark 1998).

31 See Rennstich (2003) for a more thorough discussion of this argument.

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.³² 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 the fittest organizational and institutional variance, as the possibility space for change begins to close and the system becomes hypercoherent.

The global system process reaches hypercoherence during the nineteenth century and experiences a “punctuation” (or “catastrophic change” in the language of complex systems theory) resulting in the end of the experimental phase in the global community process and starting with the democratic phase as its selected fittest global social system (see Figure 4-1).

Surrounding the time of this punctuation (starting around the middle of the eighteenth century, with its center roughly in the 1850s), 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 4-1), bringing back the main focus on the organizational control of the connections between existing webs or networks.

Point *B* in Figure 4-1 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

32 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 necessary decisions. Rather, these organizations develop mechanism of delegating decision-making, connecting several agents over a number of hierarchies in a joint decision-making network. The world as 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.

of hypercoherence, the network structure becomes internally oriented, leading to point, *B*, of “catastrophic change” or punctuation (i.e., selection of macro organizational and institutional model in the global community process).³³

New innovations and technologies and their accompanying institutional arrangements or paradigms³⁴ 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 others 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 again 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.

The Establishment and Transition Process of Hegemony

Having described the environment, we can now move on to talk about the agents exercising control within and partially over it. The process of establishing systemic

33 It is important to note, that „catastrophic change” here refers not to a breakdown of the global system process, but rather refers 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 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.

34 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.

leadership – or hegemony over the global web – as been laid out in great detail by the authors cited at the beginning and need no further special elaboration here (see footnote 19). The model here is guided especially by the analysis of Modelski and Thompson (1996), further developed in Rennstich (2003) and graphically summarized in Figure 4-1. The regular clustering of innovations (both technological and institutional) in space and time, leading to the emergence of new leading sectors, mark the “pulse” of the global web and determine 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 codevelopment of economic and political advancement and subsequent dominance of particular units of the global web and summarized in Table 4-1.

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 different types of capabilities, different meanings of control, and as a result different concepts of what establishes hegemony over the global web.³⁵ Therefore, we have 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.”

35 We agree with Arrighi (1994), 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.”

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 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 4-1).³⁶

It also 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 extraordinary 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 4-1) 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).

36 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.

Great powers – the main “web-weavers” in this system – try to establish internal rather than external networks, in order to, as Rosecrance puts it, “excel in all economic functions, from mining and agriculture to production and distribution” (Rosecrance 1999). 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 the 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 4-1).

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.³⁷

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

37 It is important to note the emphasis on *production* networks. Trade flows remained their 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.

around individual firms in the center of a less externally-oriented, but more vertically integrated world-economy with its center in Britain.³⁸

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 Coromandel, and, by then 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.³⁹ 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, Silver, and Ahmad 1999).

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. Under this new system, each of the company's factories integrated ("insourced") production in specialized centers, so-called *arangs* (Raychaudhuri 1982).

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). The concentration of production and major reorganization of labor and other factors of production characterized this new

38 As early as 1922, Unwin (1927), for example, has argued that „one of the largest and most obvious aspects of the Industrial Revolution is the change involved in the direction of world trade in textiles. The flow of piece-goods, which had for a century been westwards from Asia to Europe, turned eastwards from Europe to Asia ... The 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.”

39 These factories were in turn evolutions of the earlier organizations of the Portuguese *Estado da India* (see e.g., Sinha 1953; also 1956; Chaudhuri 1978; Raychaudhuri 1982; Barr 1991).

regime, in new spatial arrangements, and with an increasing emphasis on mechanization of production.⁴⁰

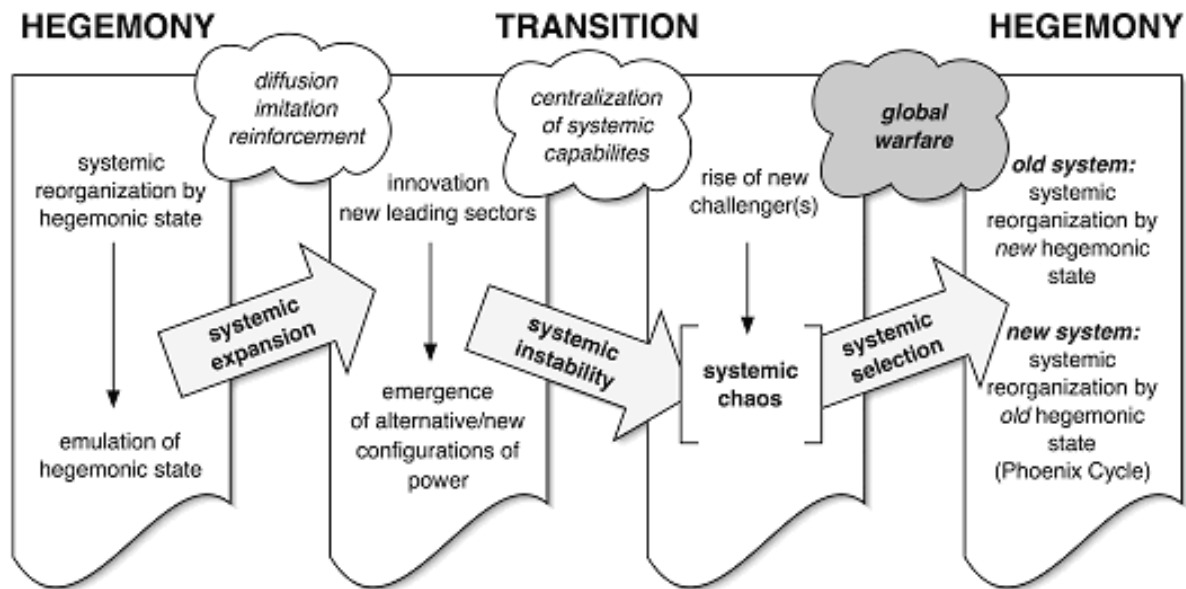
The use of the example of Britain's ability to maintain its central position in the global system is not accidental. As argued earlier this period was one of transition from the external network structure of the maritime commercial system to that of internal networks marking the punctuation of the global 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 4-1).

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 2004 for a full discussion of the model presented here) 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 4-2 graphically summarizes this model of hegemonic transition.

40 On the effect of organizational change on labor, see Hammond and Hammond (1968), Pollard (1963); also Thompson (1968); on the history of factories in England, see Mantoux (1983); Daniels and Crompton (1920); and Wadsworth and Mann (1968). For a general overview of the literature on the cotton industry Britain, see Chapman (1987).

Figure 4-2: Dynamics of Systemic Leadership Transitions



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, who's 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 arrangement.⁴¹ 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.⁴² 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 4-2 as "systemic change" – falls together with the rise of 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) enables the existing leader to develop dual and alternative (but to some degree complimentary) centers of

41 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 Thompson (1989). Similar to Arrighi, Thompson views 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 his challenger model of global leadership he thus emphasizes the factors of maritime-commercial orientation, proximity, similarity, and innovativeness of the challenger in comparison with the challenged leader.

42 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 (2004).

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 4-2 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.⁴³

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.⁴⁴ In instances where the systemic chaos is not only driven by the “normal” process of hegemonic crisis and breakdown (see Figure 4-2), but also coincides with a systemic crisis (emerging out of the rising complexity of the

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

44 For a discussion on the effect of these types on rivalries between great powers, see Rennstich (2002). For a similar account, see Cantwell (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).

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 “weab-weaving”). Only if the parallel development of a new cluster of innovations and the rise of new leading sectors can occur within its domain, the existing leader is able to extend its leadership position (see Figure 4-2).

As shown by a number of authors⁴⁵ 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 dire needed however to maintain its leadership. [Gilpin \(1996\)](#) 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

45 See e.g., Christensen (1996); Gilpin (2001); Freeman and Louçã (1997); Freeman and Soete (1988); Freeman and Perez (1990); Porter (1982); Nelson and Winter 1982 .

endogenous process) that causes – over time – the change of the systemic structure and thus a change of the meaning of “fitness” in the evolutionary selection process. The shift from one socio-economic interaction mode to another, then, is also both an endogenous but to some degree also 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 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 *problematiques* 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 for example Nef (1934) has shown. For Nef (1934)

the 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.”

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 earlier discussion on the difference between internal and network systems above).

Thus, in the same manner as the commercial supremacy of Britain helped her to build up her industrial strength, the U.S. informational technologies and digital networking capabilities are based upon the strength of her 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 hegemonic 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 of hegemonic transitions presented here hopes to achieve to 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 ones observations of relatively current developments into the frame of references of the more longterm 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 a part of a larger system allows us to use the insights we have gained from more abstract models about system-development and -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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