

Understanding International Hegemony: A Complex Systems Approach

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In this paper, I suggest a new theoretical framework for understanding international hegemony, based on theoretical problems in existing literature. Two versions of the hegemonic stability theory—benevolent and coercive—are discussed in detail, particularly the assumption of rationality embedded in the theories. Then I relax this assumption by referring to promising works from psychology and other social sciences, including the concept of “bounded rationality.” Also, I discuss the role and behavioral patterns of middle powers, which have been ignored in existing literature on hegemony. These considerations lead to my proposition of a new concept of hegemony as the facilitator of interstate cooperation in a broad landscape of state interests. A larger theoretical framework, the complex systems theory, is introduced to this new approach by focusing on significant features of international hegemony, such as local optima, the bottom-up processes, and synergistic cooperation within the system.

Keywords: *Hegemony, Bounded Rationality, Rugged Landscape, Facilitator, Cooperation, Complex Adaptive Systems*

1. INTRODUCTION

The theory of hegemonic stability has been one of the leading theories in explaining the dynamics of state interactions and systemic patterns such as war, trade, and international stability. According to this theory, the stability of the international system is maintained by a single leadership, hegemon, who provides collective goods for the whole system. However, since the decline of the American hegemony during the last decades, this theory seems to have lost much of its persuasion in accounting for world politics; the rise of liberal theories in international relations, such as neoliberal institutionalism, has continuously criticized the limits of this theory. This paper starts from the question about the destiny of the hegemonic stability theory. Why has the theory become less persuasive in explaining international relations? I answer this question by discussing the concept of rationality that is assumed in this theory, and suggest a new framework for international hegemony that is more appropriate in the context of “after-hegemonic” world politics.¹

Upon survey of existing literature, I discuss the assumption of “perfect rationality” that has been the core of the hegemonic stability theory. Although there have been a lot of derivatives of the hegemonic stability theory, I focus on two mainstream versions—“benevolent” and “coercive”—as the starting point of my discussion. A new framework for international hegemony presented in this paper begins with a criticism of the assumption of rationality in the two mainstream versions of the theory. The new framework proposes that individual actors in hegemonic systems organize collective actions and behave cooperatively in order to overcome the “tragedy of the commons” or the “Prisoner’s Dilemma.” Also, emphasis is placed on the “emerging” nature of hegemony as a

¹ This expression is borrowed from Robert Keohane’s book *After Hegemony* (1984) in order to symbolize the situation of world politics after the demise of the American hegemony.

“facilitating mechanism” for collective actions within diverse configurations of state interests. Thus, all participants are regarded as seeking “win-win” strategies who assure their collective interests in the system.

In this paper, hegemony is regarded as a searching mechanism for local optima (as opposed to global) through collective actions in a dynamic landscape where every possible combination of power and resources exists. Historical cases of international hegemony are considered as the efforts for collective action initiated by a hegemon, given the power and resource distributions among participating actors. Accordingly, I argue that the British and the American hegemonic systems have not covered the entire world, either in geographic scope or in the scale of collective action. No country is considered able to plan or design a perfect hegemonic system encompassing the entire world. Instead, each state actor is regarded as retaining its own strategy at the micro-level, which yields greater collective benefits at the macro-level. The bottom-up process of this hegemonic structure is conceptualized and explained in this paper, while the unilateral, top-down notions of hegemony are discarded.

In a hegemonic system, the hegemony and its followers help each other, even though they might be involved in the struggle for leadership. Once a hegemonic system is established, all members within the system tend to cooperate with each other as they become more and more familiar with the collective benefit-seeking mechanism. At this stage, the nature of hegemony is considered “synergistic.” I introduce the paradigm of the complex systems theory here, since it provides the best theoretical framework for understanding hegemony in modern international relations. In the next section, I will briefly survey existing literature on this topic, followed by the discussion on the definition of hegemony. Finally, a new conceptual framework for hegemonic stability, based on the complex systems theory, will be presented.

2. HEGEMONY IN EXISTING LITERATURE

In the tradition of the hegemonic stability theory, there exist two classifications of hegemony classified into two: first, hegemony as a “benevolent” system and second, hegemony as a “coercive” system. The concept of hegemony as a benevolent system has its roots in liberal and functional theories, with the exception of Charles Kindleberger (1986a) who assumes the willingness and responsibility of leading states in providing public goods in order to maintain the stability of international order from a realist perspective. On the other hand, the concept of coercive hegemony reflects the realist tradition that emphasizes the brutal and selfish nature of hegemony in anarchical systems and the struggle for power. Debate has been copious on this topic with little consensus on the essential nature of hegemony. These two major wings of the hegemonic stability theory have stood at the center of international relations theories for decades and deserve a brief summation.

2.1. Hegemony as a Benevolent System

The first image of hegemony proposed by Charles Kindleberger is of a “benevolent” leadership who takes the responsibility of maintaining the stability of the international system. According to Kindleberger, the international economic system is stable when the following five requirements are met: open markets, long-term lending, stable exchange-rate system, coordination of macroeconomic policies, and the existence of last resort. He argues

that a single leadership fulfills these functions by undertaking the responsibility of maintaining system stability (Kindleberger 1986a: 289). In his opinion, the Great Depression in 1929 was caused by the unwillingness of the US to assume leadership under declining British hegemony; a prime example that reveals the need of a single leadership for a stable international economic system.

The fundamental nature of the international economic system, in the eyes of Kindleberger, is asymmetric, which implies the role of strong leadership is required to coordinate other countries within the system into a better configuration of benefits for the whole—like the stability of international system. The hegemon may consciously or unconsciously accept this responsibility that pushes it to pay the cost of international public goods. However, due to the very nature of public goods, the hegemon cannot prevent free-riding of other countries.² Kindleberger argues that many small countries who are the “passengers in the back seat,” do not have enough power or willingness to share the responsibility for providing international public goods.³ These small “free riders” are in themselves “privileged” in seeking their own interest more than public good provisions, in the Olsonian term (Kindleberger 1986a: 300). If a hegemon exists and assumes this responsibility, the international system will become stable; on the other hand, the system becomes unstable and may collapse without any hegemonic role. The Great Depression was a case of the latter situation, according to Kindleberger. Great Britain was no longer able to manage the world economy, while America was unwilling to assume the responsibility at that time.

Kindleberger does not use the term “hegemony,” but focuses on the concepts of “responsibility” and “leadership” in world economy. Through these terms, he regards the existence of a “single” leadership as the necessary and sufficient condition for the provision of international public goods. He does not accept the possibility of a multiple leadership for world economy (Kindleberger 1976: 35-37).⁴ As such, his notion of hegemonic stability is based on the theory of public goods proposed by Mancur Olson (1965). Olson argues that the responsibility for providing public goods tends to be captured by the largest actor due to the free-riding tendency of small actors.⁵ Although small actors sometimes contribute to the provision of public goods, the overall efficiency of the whole group tends to be sub-optimal due to their free-riding. He regards this free-riding tendency as the “exploitation of the great by the small” (Olson 1965: 169). Kindleberger’s theory is an extension of Olson’s theory—

² Olson defines public goods as any good “such that, if any person X_i in a group $X_1, \dots, X_i, \dots, X_n$ consumes it, it cannot feasibly be withheld from the others in that group (Olson 1965: 14). Here, I follow the conventional definition of collective goods by focusing on its two aspects—“non-excludability” meaning that the provision is not able to prevent non-contributors from consuming the goods, and “joint supply” referring the existence of non-rivalry in consumption (Conybeare 1984: 6).

³ He takes Belgium, the Netherlands, Switzerland, and Scandinavia as the examples of these “free riders” (Kindleberger 1986a: 300).

⁴ Kindleberger does not accept the effectiveness of a multiple leadership; for example, a “tripartite leadership,” composed of Germany, Japan and the United States, could not give him any hopes for the declining US hegemony (Kindleberger 1976: 36).

⁵ Olson and Zeckhauser’s work (1966) on burden sharing in NATO shows that the United States took disproportionate shares in supporting NATO. They show that it would be rational for large countries to take disproportionate burdens up to the point where marginal rate of substitution equals marginal cost. Thus the only solution for this unfair situation, they recommend, is a system for sharing marginal cost, rather than any moral persuasion for small countries (Olson and Zeckhauser 1966: 278).

adding the notion of “benevolence”—to international relations. As follows, a single leadership tends to take the responsibility for providing international public goods, such as financial support, international aid, nuclear umbrella, and so on.⁶

Kindleberger’s notion of “benevolent” leadership does not assume any “white man’s burden” which has been used to express altruism or arrogance by the Western countries in a cynical manner. Nevertheless, he argues that the two famous examples of hegemonic systems—Britain and America—show the “positive” role of a single leadership in providing public goods beyond the “exploitation of followers or the private good of prestige” (Kindleberger 1986a: 302-304). He does, however, admit the dual nature of a single leadership—benevolence and domination, but focuses on the former aspect more than the latter. In this sense, he calls the responsible single leadership “benevolent despotism” in that it is the best mechanism to reduce the system-maintenance costs. As he mentions, “order cannot be produced spontaneously” but “it must be imposed” by a benevolent leadership (Kindleberger 1976: 38).

Robert Keohane (1984) also accepts the concept of benevolent hegemony and incorporates it as the starting point of his regime theory. He conceptualizes the hegemon as a leader who reinforces cooperation among countries to produce symbiotic effects in collective actions. While Keohane maintains the liberal tradition by proposing the possibility of non-hegemonic cooperation, he shares the concept of benevolent hegemony with realists by accepting its role for maintaining the stability of the international system. A big difference between Keohane and other realists is that, for Keohane, hegemony is not a sufficient condition for international cooperation. His “refined” version of hegemonic stability theory focuses on state decisions rather than on power capabilities; he argues that the legitimate nature of hegemony that is founded upon the consent of non-hegemonic states (Keohane 1984: 34-35). This idea of hegemony reflects Kindleberger’s original concept of leadership by emphasizing the cooperative mission in an international system and attempts to overcome the shortcomings of the realist hegemonic stability theory.⁷ Kindleberger and Keohane, therefore, stand for the same notion of hegemony despite representing realist and liberal traditions, respectively. Although Kindleberger and Keohane do not clearly reveal why hegemons undertake unfair burden, they accept the role of a benevolent single leadership in maintaining international stability.⁸ In this tradition, hegemony is an asymmetric, benevolent system where a single leadership provides international public goods and accepts unfair burden.

⁶ Kindleberger, at first, argues that free trade is a public good. But other scholars argue that free trade is not a public good at all, because it is excludable even though it is non-rival. See Conybeare (1984) and Gowa (1989) for details.

⁷ Keohane’s theory of international regime is based on the game theoretic analysis of Robert Axelrod (1984), which shows the prevalence of tit-for-tat strategy against others, based on the principle of reciprocity. He interprets this prevalence as the indicator of the possibility of international cooperation without hegemonic leadership. However, Kindleberger criticizes that this kind of liberal structure tends to be vulnerable to crises, which necessitates the emergence of a single leadership (Kindleberger 1986: 11).

⁸ Of course, Keohane goes further than Kindleberger by arguing for the emergence of international institutions, or regimes, for cooperating in international system.

2.2. Hegemony as a Coercive System

Where the benevolent version of the hegemonic stability theory focuses on the capability and responsibility of a single hegemon, the coercive version puts more emphasis on the brutal nature of the hegemonic power against its subordinate states. According to the coercive version, a hegemon discards altruism and responsibility to other countries if it imposes net costs to itself. The hegemon behaves in the same way as other countries in order to maximize its own interest. However, since it has stronger capabilities, it coerces other, smaller states to follow its own will whenever there are any conflicts of interests. Also, a hegemon, here, provides public goods only when it increases its own net benefits.

Thus Robert Gilpin, in his book on the dynamics of international system, argues: “As was the case with pre-modern empires, the hegemonic powers may be said to supply public goods (security and protection of property rights) in exchange for revenue” (Gilpin 1981: 144-145). There is no “free lunch” for small states in Gilpin’s idea; he interprets historical cases of hegemonies, such as *Pax Romana*, *Pax Britannica* and *Pax Americana*, as profitable international structures for hegemons, rather than as benevolent messiahs. For him, the provisions of free trade, free movement of capital, and the consequent stability of the international economic system are primarily for the hegemons themselves; the benefits of these hegemonic contributions to other countries are just side effects of their leading roles. In addition, these hegemons prevent divergence from their fundamental plan of the international economic system. If necessary, the hegemon threatens or even punishes other countries in promoting the stability of the system favorable to it. Gilpin argues hegemons are more coercive than benevolent in this sense.

In Gilpin’s theory, two historical hegemons—Great Britain and the United States—utilized political, territorial, and economic capabilities in order to attain maximum security and economic benefits. Specifically, they had “imposed” their will on non-hegemonic states and “succeeded” in the hegemonic role because their leadership had been accepted by those small countries (Gilpin 1981: 144). Therefore, unlike the argument of Kindleberger and Keohane, the hegemon in Gilpin’s theory assumes systemic responsibility only when “it is profitable to do so” in terms of status quo, free trade, foreign investment, and the well-functioning international monetary system (Gilpin 1981: 145). Public goods are provided by the hegemon in exchange for revenue, only if the hegemon’s intention to use public goods for that purpose was there in the first place.

Stephen Krasner (1976) explains the structure of international economy by the distribution of power: a hegemonic structure leads to an open trade system measured by tariff levels, trade proportions, and the concentration of trade. In his analysis, Krasner admits the role of hegemonic leadership in maintaining order out of chaos but he emphasizes the configuration of power and interest more than the role of hegemony (Krasner 1976: 343). In other words, the macro-level system is structured by state preferences and capabilities determined at the micro-level. According to Krasner, a hegemon prefers an open trading structure because such a structure contributes to the increase of its national income. This effect maximizes the hegemon’s ascendancy by accelerating technological advantages and increasing returns. An open structure also increases the hegemon’s political power because the opportunity costs of system closure are least for a large country (Krasner 1976: 322). While preferring an open structure, the hegemon uses all resources, including military power, to coerce other countries; however, most frequently used tools for the hegemonic coercion are economic, such as domestic market access and foreign aid.

In this sense, Krasner's theory puts more emphasis on the coercive nature of hegemony than its benevolence—a hegemon seeks its own interest based upon its preference and coerces other states to follow it. Interestingly, he argues that both the hegemonic state and small states prefer an open trading structure in world economy. He argues that large states prefer an open structure because it helps to increase national income, economic growth, and political power; on the other hand, small states prefer it, too, for the identical reasons. The only difference between the hegemon and small states is in power, so the macro-level situation—an open trading structure—is determined regardless of what small states do (Krasner 1976: 322). Thus, the coercive version of the hegemonic stability theory, proposed by Gilpin and Krasner, underscores the interests and influential power of the hegemon, rather than its responsibility to maintain the stability of international system.

2.3. Hegemony and Rationality

The assumption of rationality, that actors make decisions in order to maximize their utilities upon given interests and goals, has been embedded in many political science studies. The two mainstream versions of the hegemonic stability theory discussed above are also based on this assumption. In case of Kindleberger, however, this assumption in describing the behavior of a hegemon is unclear; he defines it as “responsible” rather than “rational.” Moreover, he does not explain in detail “why” a hegemon takes that responsibility. Nevertheless, we can easily guess that hegemony in his theory is implied as being rational under the Olsonian theoretical framework.⁹ In this sense, even though he does not clearly explain why a hegemon provides international public goods, he does explicitly state that it can give up the responsibility if it cannot afford the “cost” (Kindleberger 1976: 36). Also, Kindleberger distinguishes “self-interest” and “general interest” in arguing for the necessity of international leadership. Leadership, for Kindleberger, may be motivated by self-interest, but its recognition of systemic responsibility concerns general interest. Furthermore, Kindleberger explains that the small states' exploitation of the hegemon's contributions reveals their rational behavioral patterns that maximize their interests (Kindleberger 1986a: 300).¹⁰ As such, Kindleberger's theory stands for the assumption of rationality like many other theories in political science literature on developing the notion of benevolent leadership.

Keohane's regime theory is less ambiguous in revealing its underlying assumption of rationality when it explains the dynamics of hegemony. According to Keohane, hegemony is not just responsible but it is distinguished by its “willingness to sacrifice tangible short-term benefits for intangible long-term gains” (Keohane 1984: 45). In other words, a hegemon is assumed to calculate its own short-term and long-term interests when it takes the system-sustaining responsibility. Keohane's analysis goes further than the original version of Kindleberger's hegemonic stability theory by arguing for the emergence of regimes, but his argument is still based on the rational choice paradigm. In his formal explanation of international regimes, Keohane applies the logic of the iterated Prisoner's Dilemma game in

⁹ Kindleberger's theory is founded on Olson's theory of collective action, which assumes every player in the game as rational (Kindleberger 1986: 8).

¹⁰ Kindleberger borrows the term “privileged” in describing the behavioral pattern of these small states (Kindleberger 1986a: 300). He uses the expression “the Kantian Categorical Imperative” for small states to follow the rule of utility maximization in this kind of game (Kindleberger 1986b: 2). These examples indicate that his theory is based on the assumption of rationality as that of Mancur Olson and other rational choice theorists support.

order to support the argument for “coordination through bargaining” (Keohane 1984: 76). That is, Keohane’s theory depends on the assumption of rationality in explaining both the hegemonic stability and the international regime mechanism.¹¹

In the coercive version of the hegemonic stability theory, the assumption of rationality is more explicit than the benevolent one. In this literature, a hegemon is understood as a utility-maximizer who coerces or extracts subordinate countries as much as possible. Of course, we do not need to regard the coercive hegemony as brutal imperialism or dominance, which does not assume the role of providing public goods. A characteristic feature of the coercive hegemony is its forceful actions toward other countries in the system. A “rational” hegemon, in this theory, extracts available resources from other states, in addition to providing international public goods for systemic purposes. As far as this exploitative nature of hegemon is concerned, the assumption of rationality will make more senses in zero-sum-games such as territory- or security-related issues

Krasner, like his partners in the benevolent version, takes the assumption of rationality in arguing for the positive relationship between open trade system and power configuration. His theory starts from the “preference” of state actors, such as power, income, growth and social stability, and finds the patterns of international trading structures upon this assumption (Krasner 1976: 319). In this context, a hegemon is regarded as preferring an open structure because it leads to more benefits for itself (Krasner 1976: 322). Among the proponents of the coercive version of the hegemonic stability theory, the rational choice perspective is most apparent in Gilpin’s works. In Gilpin’s theory, states are the actors “seeking optimum combinations” of power and welfare and delineates this proposition using mathematics and indifference curves (Gilpin 1981: 19-21). Systemic behaviors of a hegemon or other states in Gilpin’s theory are explained by the expected utility calculated by these actors. For example, Gilpin argues that international systems are changed by states who receive positive expected benefits exceeding expected costs from the change. In terms of the systemic dynamics, he explains the outbreak of war by this “certainty of gains” (Gilpin 1981: 92). In addition, based on the neoclassical economic theory, Gilpin describes that the systemic change will persist until “marginal costs of further change are equal to or greater than marginal benefits” (Gilpin 1981: 106-107).¹²

While most scholars incorporate the assumption of rationality in developing their theories, as discussed above, there exists a big difference between the two mainstream versions—the benevolent and the coercive. In the benevolent version, the assumption of rationality implies the maximization of all the participants’ collective interests—including the hegemon and its subordinate countries—represented by the stability of the system. Of course, the hegemon refuses to provide public goods if its marginal cost begins to exceed its marginal benefit. On the other hand, the coercive version assumes that every state actor

¹¹ Interestingly, Keohane touches the theory of bounded rationality as an auxiliary tool for his argument. According to him, the emergence of international regimes is more probable if we assume bounded rationality (Kindleberger 1984: Chapter 7). However, his introduction of bounded rationality is not consistent with his earlier discussion of the rational choice paradigm; it seems that he wants to prove his regime theory to be robust even with a different explanatory framework. Ironically, even though he does not discuss bounded rationality in depth, I would use this in criticizing the assumption of rationality embedded in existing literature on the hegemonic stability theory.

¹² Thus Gilpin sees that the hegemonic responsibility comes out of the “profitability” of doing so (Gilpin 1981: 145). In his idea, hegemons do not bear the public burden without any positive benefits.

calculates its marginal cost and marginal benefit and compares to determine whether to expand its power or not. So a state seeks to change the international system “through territorial, political, and economic expansion” in so far as the marginal costs of the change is larger than the marginal benefits (Gilpin 1981: 106). This type of state policy, actually, applies to zero-sum situations in which one’s benefit is captured from another’s loss, so that the concept of rationality seems more limited in its scope in the coercive version. The coercive version does not take into account any long-term possibility of cooperation and the subsequent increases of mutual benefits in the system.

Considering these differences between the two concepts, I expand the conventional notion of rationality in explaining international hegemony. The concept of rationality, in the conventional utility theory and game theory, assumes rational actors as having specified goals and a set of alternative actions they can choose. The actors choose strategies that make it possible to attain those goals, so that they get more desired outcomes rather than the less desired ones (Morrow 1994: 17). Therefore, if a hegemon decides to maximize its benefits in a zero-sum situation, it becomes coercive; on the other hand, if it tries to maximize its benefits in a non-zero-sum situation, it may become benevolent. In this sense, I argue that the “rationality” of each hegemonic system (including subordinate countries) depends upon contexts and, thus, requires modifications in international situations. The assumption of rationality cannot be fixed to every context without appropriate modification.

3. CONCEPT OF HEGEMONY

3.1. Bounded Rationality

Upon the discussion of existing literature on the hegemonic stability in international relations, I introduce a new framework—the complex systems theory. This new paradigm, as will be shown in the next section, matches most of the international phenomena better than other traditional theories including utility maximization theory and game theory. Here, I focus on the concept of rationality that has caused problems in applying the conventional formal theories to international hegemony. Although the paradigm of rational choice has facilitated the theory-development of political science and international relations with its strong deductive power, many factors are cut off for the beauty of theories. One of the missing factors is “uncertainty” that blocks the rational calculation of actors. While the “subjective expected utility theory” has been developed in order to consider this factor, utility theory and game theory requires development of many auxiliary assumptions in order to include theoretically significant factors in their models.¹³

Herbert Simon, who introduced the notion of “bounded rationality” to social sciences decades ago, also points to this problem. According to him, the assumption that every actor has a consistent utility function and chooses the alternative with the highest utility, causes the formal theory to rely on the application of auxiliary assumptions to many real situations, including uncertainties. This is the limit of the so-called “substantive, objective rationality” used in economics (Simon 1985:295-297). Simon also shows that this notion of substantive rationality does not match the experiments with human subjects who tend to show inconsistent utility functions in many cases. Instead, he proposes “bounded rationality” as

¹³ Many scholars, including Herbert Simon, criticize the subjective expected utility theory, too, because it still has defects in the lab test or in the real world test (Simon 1978: 9).

the alternative that is more appropriate in the area of politics. I use this notion as the basis upon which the hegemonic stability theory is to be modified.

Simon's alternative concept is founded on his arguments against existing convention in assuming rationality: (1) the concept of rationality should be expanded, (2) a weaker version of rationality is needed, and (3) we have to consider the process of choice rather than its results (Simon 1978: 2). In particular, he relies on cognitive psychology in developing his idea of bounded rationality. Kahneman and Tversky, in this context, have contributed to the expansion of Simon's idea to every corner of the social sciences. Their psychological theory of decision-making, called the "prospect theory," has been based on real experiments and has demonstrated that human beings are not as rational as the utility maximization theory assumes. This finding has been stumbling block for the conventional formal theories. These psychologists found that people tend to underweigh outcomes that are probable in comparison with tangible outcomes and that they discard components that are shared by all prospects under consideration. These two effects, called the certainty effect and the isolation effect, respectively, cause people to become "risk-averse" in choices involving sure gains and "risk-seeking" in choices involving sure losses.¹⁴ Also, in their experiments, people displayed many cases of "inconsistent or incoherent preferences" despite the assumption of substantive rationality (Kahneman and Tversky 1979: 263-273).¹⁵

If we apply this cognitive-psychological concept of "bounded rationality" to the theory of hegemonic stability, we need not accept both versions of the benevolent and the coercive hegemonies. Whereas they contain the element of the Occam's Razor in terms of theoretical brevity, the assumption of rationality for which they represent cannot be sustained in many international situations. If a hegemon or other state actors are "boundedly rational," then how can we understand the mechanism of hegemony? Why does the hegemon supply international public goods and why do small states free-ride? Are they rational or irrational, or something else altogether? I extend this idea to the physical limits of the rationality of hegemony in terms of geographical scope: historically, no hegemony has controlled the entire world; only a few major continents. In this sense, hegemony is boundedly rational, not only in its calculation of costs-benefits but also in its sphere of influence.¹⁶ To argue that the scope of hegemonic influence is limited implies that there may be other "spheres of influence" that challenge the existing hegemonic system. Rationality is a matter of "degree," rather than the "choice" between two discrete values.

I suggest that the conventional assumption of rationality be modified to reflect this bounded nature if it is to be adequately explain international hegemony. In the traditional social sciences, only the distinction between "rational" and "non-rational" has been important. This paper assumes that actors are different in their "level" of rationality, and none of them are regarded as perfectly rational or perfectly non-rational. A "rational" actor is regarded as "limited" to a degree in capability or in any other dimension. Under the assumption of bounded rationality, I discuss how the notion of hegemony can be

¹⁴ Thus, utility function tends to be concave above the reference point while convex below it. See Quattrone and Tversky (1988) for details.

¹⁵ A semi-technical version of their argument can be found in Tversky and Kahneman (1986).

¹⁶ In addition to the geographical aspect, the assumption of rationality may be considered in terms of time dimension, too. Stephen Krasner's empirical analysis shows that the hegemonic stability theory applies only to three time periods (1820-1879, 1880-1900, and 1945-1960), while not in other three time sections (1900-1913, 1919-1939, and 1960-the present). The big discrepancy in these series means that the two historical cases of hegemony do not fit the perfect rationality assumption quite well (Krasner 1976: 335-341).

reinterpreted within the framework of the complex systems theory. However, prior to this discussion, I briefly mention some more points about extending the concept of hegemony beyond the conventional usage.

3.2. Extending the Concept of Hegemony

What do we mean by hegemony? The Merriam-Webster Dictionary defines hegemony as the “preponderant influence or authority over others.” This definition focuses only on the difference in power and the consequent controlling relationship among asymmetric actors. With this definition, it is difficult to distinguish hegemony from pure “domination” based on differences in power. On the other hand, the Oxford English Dictionary defines hegemony as the “leadership, predominance, preponderance; especially the leadership or predominant authority of one state of a confederacy or union over the others.” This definition implies a more sophisticated feature of hegemony; it reveals the one-to-many relationship among asymmetric countries. I introduce a new perspective on hegemony by extending these two definitions, since they represent its conventional usage of hegemony.

One point that must be emphasized here is that hegemony should not be understood exclusively as dominance. Dominance is based upon the exercise of power in a unilateral way, like imperialism. The scope of a hegemonic relationship, however, is broader than that of dominance, even though it shares some fundamental features such as power predominance. Thus, Giovanni Arrighi, following the Gramscian notion of hegemony, distinguishes hegemony from the pure and simple meaning of dominance. He asserts that hegemony is the power associated with dominance, expanded by the exercise of “intellectual and moral leadership.” Hegemony is regarded as the “additional power that accrues to a dominant group in virtue of its capacity to pose on a universal plane all the issues around which conflict rages” (Arrighi, 1990, 366-367). He interprets the historical cases of hegemony—the United Provinces, United Kingdom, and United States—not as the revelation of “military might or superior command over scarce resources, but rather as their predisposition and capabilities to use either, or both, to solve the problems over which system-wide conflict raged” (Arrighi, 1990, 404).¹⁷ This argument implies that we need to put more emphasis on the dimension of “role” rather than that of “capabilities” in defining hegemony. With this point in mind, I discuss some structural aspects of the hegemonic system.

When discussing the hegemonic system, what type of hegemon is assumed to have existed in history? Perhaps Kindleberger would not hesitate in responding to this question with the answer of a “single leadership” which is unilaterally related to many small countries. In Olson’s term, these small countries free-ride on the hegemon’s responsibility for maintaining the systemic stability. They do not contribute to the burden of keeping the system stable, and “they are sometimes blamed... for having acted irresponsibly” as in the case of converting sterling into gold or raising tariffs in the early 1930’s. This tendency may be expected as natural because there had been no standard set of rules for small countries (Kindleberger 1986a: 300). According to Kindleberger, no system has yet emerged that can induce all free-riders to contribute equally to the provision of public goods without coercion.

¹⁷ Although I do not take the overall position of the left-wing scholars in discussing the concept of hegemony, the elements of the “role” and “consent” in the hegemonic system is well acknowledged in this paper. This point has been emphasized by Immanuel Wallerstein as well as Arrighi, without mentioning Antonio Gramsci.

The free-riding tendency of small countries is natural in any system since interest-seeking occurs without coercion.

While acknowledging the natural tendency of free-riding, what can we say about middle-sized powers between the hegemon and small countries? Should they be classified small powers in as far as they are not hegemons, or as another group other than small powers? Is there any difference in behavioral patterns between small free-riders and middle powers? Robert Cox defines “middle powers” as “states that are not suspected of harboring intentions of domination and that have resources sufficient to enable them to be functionally effective” (Cox 1989: 823). The latter notion of functionality implies the limitation in their capability to maintain the entire system alone, although they have enough power to destabilize it. For example, France in the early 1930’s has been regarded as a case of middle power who acted as a destabilizing force, but who had insufficient power to stabilize the system unilaterally (Kindleberger 1973: 301-302). I call this capability a “veto power” in the sense that a state needs more power to establish an order than to destroy it. Most middle powers in the history of world politics have shown this type of feature in their relationships with the hegemon—the prevalence of “balance of power” in the 19th century of Europe was a good example of the role of middle powers in maintaining international stability. One middle power can potentially disturb the system stability, but it must get together with other middle powers if it wants to establish a new order.

The role of middle powers must be considered when explaining the characteristics of the international hegemonic system especially those middle powers have played important roles in supporting hegemons, in addition to the hegemonic role and the free-riding tendency of small states. This point was ignored in the original hegemonic stability theory, but it has captured the attention of later scholars. The most important point regarding the role of middle powers is their “limited” capability to build a new stable international order among themselves without hegemony. Robert Keohane and many regime theorists argue that these strong and reliable middle powers can establish international institutions for maintaining order and cooperation (Keohane 1984). In this perspective of the neoliberal institutionalism, the role of middle powers is understood as a “bottom-up” process for order; these middle powers can initiate a new order without any leadership or hegemony—that is, they can do it through voluntary cooperation among themselves.¹⁸ The neoliberal theorists argue that order is possible even after the demise of international hegemony, if the middle powers find a way to maintain the stability of the system for their own interests.

The role of middle powers, therefore, requires certain elements: “An ability to stand a certain distance from direct involvement in major conflict, a sufficient degree of autonomy in relation to major powers, a commitment to orderliness and security in interstate relations, and a commitment to the facilitation of orderly change in the world system” (Cox 1989: 827). As such, middle powers can support an existing hegemon or destabilize the system. Their contribution to the stability of the system ceases when they face high net costs. The fact that they can be either supporters to a hegemonic leader or spoilers of the system makes their position significant in the system (Lake 1984: 150). The *k*-group theory by Duncan Snidal, a modified version of the hegemonic stability theory, also shows the role of middle powers as an important factor in supporting the declining hegemon and maintaining international stability. It is rational for those middle powers to support the faltering

¹⁸ John W. Holmes calls this bottom-up process “lapidary,” because it is like building a “structure, stone upon stone, that grows out of the landscape, not imposing from above some architecture grand design” (Quote from Cox 1989: 827).

hegemon unless net costs exceed net benefits. The conflict between individual and collective interests is still assumed to exist in this theory, but the possibility of collective cooperation is not totally eliminated. Snidal tries to incorporate the notion of different size of states into the Schelling's model of k -group, in which the number " k " refers to the minimum number of states that can benefit from cooperation, regardless of small countries' free-riding (Snidal 1985: 598-603).¹⁹

Through an elaboration of the previous discussion, it is possible to infer that the conventional notion of hegemony does not regard the cooperative dimension as an important aspect of hegemony, but rather focuses on the rationality of the hegemon and the power configuration among member states. The discussion of "bounded rationality" and the role middle-powers points to the need for understanding hegemony under a different framework. The hegemon does not need to be assumed as perfectly rational, and it cannot cover the entire world. In many cases, there have been middle powers which received benefits by supporting the declining hegemon. These points push us to explain hegemony in a wholly different way from the conventional perspectives, such as the benevolent or the coercive versions. The following section introduces a new framework of complex adaptive systems (CAS) that is an alternative mode of comprehension to the points discussed above.

4. HEGEMONY INTO A NEW FRAMEWORK

4.1. Rugged Landscape of Interests

Hegemony contributes to the provision of international public goods for maintaining system stability, but it may not be enough for us to understand it as rational behavior, benevolent or coercive. Why do we need public goods for the international system anyway? What are the characteristics of international public goods? We may have to think about these points before we discuss the nature of the hegemonic system. The distinction between public goods from private goods is based on the configuration of interests, which Morten Ougaard argues is a necessary condition in defining hegemony. He states that the difference between shared interests and private interests is assumed to influence the behavioral characteristics of hegemonic relationships. If a country tries to maximize only its own private interests relying on dominant power, then its behavior will be defined as "dominance." However, if it contributes to the increase of the "total" systemic outcomes without losing its own share—*i.e.*, by keeping or increasing its own interests—then it will be called a "hegemon" (Ougaard 1988: 201-203).

So Ougaard defines hegemon as "a member of the system who, within the framework of the common interests, is able to provide for its own special interests in conflicts of a secondary nature" (Ougaard 1988: 204). This is a more reasonable and reliable concept of

¹⁹ This corresponds to Russell Hardin's idea that collective action is possible regardless of the number of states in a group, as far as k is small—if some effective k -group members cooperate each other (Hardin 1982). According to Schelling, the game within the k -group is like a "multi-person prisoner's dilemma" among n persons, in which k is greater than 1 and less than n such that if "individuals numbering k or more choose their unpreferred alternative and the rest do not, those who do are better off than if they had all chosen their preferred alternatives, but if they number less than k this is not true" (Schelling 1978: 218). In other words, according to Schelling, there tends to be a small group of members (mostly middle-sized powers in international politics) who would get more benefits if they share the burden of responsibility, regardless of the others' free-riding.

hegemony than the previous mainstream concepts, as it emphasizes the mixed-sum nature of world politics in which the combination of strategies would change the payoffs of interacting parties. Likewise, in real-world situations, one actor's benefits do not exactly match the other's costs. Sometimes both actors know that they can get more if they cooperate with each other. That's the bottom line in explaining the emergence of international trade and other kinds of cooperative behavior, which are important topics in international relations. Furthermore, the strategy of one side always affects the choice of the strategies of the other, so an actor's interest is always interconnected to the other's. Perhaps the Prisoner's Dilemma game is the best analogy for this kind of situation, where cooperation between two actors allows them to acquire a better outcome compared to the case of non-cooperation or defection.

Since its inception, the analogy of Prisoner's Dilemma has been very popular in social sciences. The core theme of the Prisoner's Dilemma game is that the natural equilibrium in the game tends to be Pareto-suboptimal. Even though everybody knows that there is a better payoff available for all participants, the rational players in the game choose a less-optimal strategy whenever they try to maximize their own interests individually. Individual strategy is rational, but its consequences are always less rational than expected by themselves. The "dilemma" in this game is that the whole system—the sum of all the benefits to participants—tends to be less than the potential maximum in the payoff matrix in a normal situation when all players are rational. Individual rationality does not match the collective rationality. In response, this counter-intuitive result of the dilemma has been extended to multiple-player games (*n*-person game) in explaining many social interactions.²⁰ Another analogy for the dilemma in the interest configuration is the "Tragedy of Commons" by Garrett Hardin (1968). In this metaphor, the natural equilibrium in a community tends to become a depletion of common resources because no one wants to take the responsibility for regulation of these resources. While this metaphor focuses on the cost side—the waste of resources—compared to the Prisoner's Dilemma game which focuses on the benefit side, both analogies have the same logical structure as that of Olson's collective action problem.

Here, considering the point discussed, I introduce the notion of the "rugged landscape" of interests, which acknowledges the discrepancy between equilibrium and optimization in a system and the notion of bounded rationality discussed above. The "rugged landscape," theorized by Stuart Kauffman (1995), assumes that every possible combination of total interests is spread all over space. The overall distribution of combinations is "rugged," meaning that it is very hard to find a global optimum, since nobody knows where it exists. An actor measures the level of optimum only at the local level. In this situation, the best way to search for a "better optimum" is a bottom-up, not a top-down, approach. I propose that the organization of a hegemonic system finds "a" local solution in the rugged landscape of interest combinations. If we understand hegemony in this way, then it is easier to explain the dynamics—*i.e.*, the rise and collapse—of hegemonic systems, because the whole process of a hegemonic system's life cycle is regarded as "going up and down" over the hills of local optima within the rugged landscape. Thus a hegemonic structure naturally occurs as a cooperative mechanism among actors within the system whenever strict conditions are met. Otherwise, the system collapses, as the hegemonic stability theory predicts. A hegemon can provide international public goods if it is able to, but it will

²⁰ This logic is shown by Russell Hardin (1981). His basic idea is that the problem of a collective action among *n* people has the same logical structure with the Prisoner's Dilemma game, where one player plays the game with multiple others, numbering *n* - 1.

coordinate middle powers at the same time whenever necessary because there tends to be some who still have positive interests in supporting the faltering hegemon in the system of rugged landscape.

4.2. Hegemony as a Facilitator in Collective Action

The previous discussion implies that hegemonic systems are neither planned nor imposed, in that they are not unilateral, dominant systems controlled by the hegemonic power. Instead, they are regarded as a natural way of exploiting the fundamental opportunities for better interest configurations between the hegemon and other subordinate states. The bottom line for this “emergence” of a hegemonic system is that there is a possibility for a better optimum if member states, including the hegemon, cooperate with each other, though not at a global level. At this point some questions arise: “Why do systems take the form of a ‘hegemony’ rather than an even parallel system?” “Why do they take a ‘single’ leadership for the provision of international public goods, rather than a multiple one?” and “What would be the characteristics of hegemony as a leadership for collective action in an international arena?”

My argument here is that a single-hegemonic system has been historically the best method to search for an optimum at the local level. Although the hegemonic system may not be a “global” searching tool for optimal solutions, it has developed and evolved as a facilitating mechanism of cooperation among sovereign countries in anarchic world politics. In a world where no universal government exists, a hegemon assumes the role of a “facilitator” which organizes collective actions; without it, the system may collapse. If others cooperate with the hegemon, then everyone will benefit from the organization of hegemonic order. Otherwise, an imperialistic order or hegemonic wars will form.²¹ The hegemonic system, therefore, can be regarded as a local solution for the Prisoner’s Dilemma, like games among multiple state actors. No one in this game is deemed to be perfectly rational, but most know that they can get more if they cooperate, which is the case for the hegemon or middle powers. According to the basic configuration of interests, many combinations of interests and cooperative patterns generate the rugged landscape for the players.

The solutions for the Prisoner’s Dilemma have been suggested by many scholars in the following two ways: voluntary cooperation and coercion. The first solution was proposed by the liberals such as Robert Keohane and Robert Axelrod; the second by many realists such as Garrett Hardin and Mancur Olson. Axelrod (1984) suggests the solution of the Dilemma lies in iterating the games infinitely, so every player in the game learns that cooperation will bring them better payoffs and that defection is a rational strategy only in a one-shot game.²² The neoliberal-institutionalists have, thus, argued for the positive role of international regimes for cooperation among selfish states. However, despite his beautiful combination of deductive logic and an inductive approach, real-world cases of international cooperation cannot be regarded as being initiated in that manner. Instead, like the realist proposition, a

²¹ The theory of hegemonic war is presented by Robert Gilpin, who argues that the system will deviate from the equilibrium upon the changing configuration of power among the declining hegemon and the revisionist states (Gilpin 1981: Chapter 5).

²² Axelrod shows that the strategy of tit-for-tat, based on the principle of reciprocity, wins the best scores against other strategies. He implements his experiments again in a broader scale and confirms the advantages of this cooperative strategy both in generations and in geographic scales (Axelrod 1984: Chapter 8).

strong leadership tends to initiate international cooperation in many cases, and then it is easily maintained by cooperation among countries through international regimes. It is difficult to expect the emergence of cooperation with the leadership of a hegemon. In this sense, the role of hegemony should be reevaluated as a “facilitator” of international cooperation, which again works “synergistically” for better solutions for all member countries within the system.

According to William Bianco and Robert Bates, the benefits of having a “leader” must lie in its ability to help followers to initiate cooperation and punish defectors. The follower’s response to a leader’s reputation of rewarding cooperation and punishing defection depends on the leader’s capabilities. If the leader possesses “enhanced” capabilities, the followers are best off if they cooperate in the first iteration and thereafter. If the leader has “limited” capabilities, the followers are willing to cooperate initially only if everyone else does.²³ Whatever kind of leadership a hegemon is, it tends to facilitate the initiation of cooperative movements with its reputation in terms of capabilities. As such, reputations and effective threats of hegemonic leadership contribute more to the initiation of cooperation, rather than to the maintenance of it (Bianco and Bates 1990: 142-144).

On the other hand, the hegemonic reputation may be a major cause of systemic instability, which explains why hegemons sometimes decline. In a rugged landscape of the hegemonic system, the hegemon has relative advantages in information and capabilities against other subordinate countries, so that it can exploit them. James Alt and his associates argue that hegemonic reputation can be utilized by the hegemon in order to maximize its own benefits. Hegemons do not always reward loyal followers, and they do not always punish defectors. Instead, they reward and punish randomly, trying to improve the cost-effectiveness of their reputation. However, the hegemon’s followers may learn the random nature of hegemonic threatening (of punishment) through repeated interactions; thus they may challenge the hegemons more frequently over time. In a situation of equilibrium, they tend to use “mixed strategies” of challenge and acquiescence, causing systemic instability. Thus Alt and his associates argue: “A hegemonic regime founded on reputation contains its own source of instability, since reputation requires some uncertainty about future costs of coercion. Repeated interaction may allow allies to learn more about the hegemony’s nature, eroding the reputation of an existing regime. Of course, costs in turn may also change with unanticipated changes in a wider world” (Alt *et al.* 1988: 448). Thus, with the help of the formal logic by Bianco and Bates and Alt and his associates, we know that the cooperative dynamics of hegemonic stability depends on the role of hegemonic reputation; the hegemon plays the function of the facilitator with its resources (such as reputation, information, and so on) but it declines with repeated challenges to those resources.²⁴

While accepting the points regarding the hegemonic role with its reputation for systemic stability and instability, I argue that the deductive logic introduced here—by Bianco and Bates (1990) and Alt *et al.* (1988)—applies only at the local level, not at the global level.

²³ According to them, the hegemonic leaders’ strategies vary according to their capabilities and incentives: (1) “*e*-trigger” by enhanced leaders who can observe each follower’s strategic choice and reward or punish each separately, (2) “*l*-trigger” by limited leaders who can reward or punish only as a group. In general, they argue, adding a leader makes cooperation harder to sustain, even though it facilitates its initiation (Bianco and Bates 1990: 137-138).

²⁴ I introduce these formal studies to show the possibility of integration of diverse theories and perspectives on hegemonic stability. The theory of hegemonic reputation may be just a part of this comprehensive, experimental project focusing on consistency and coherence in terms of theoretical applicability.

Although we admit that a hegemonic structure appears as an optimizing mechanism, it makes sense only in the local context. Like the concept of rationality, the capabilities and resources of hegemony are not perfect or global. The few cases of historical hegemonies—such as the Roman Empire, Great Britain, and the United States—have not been global in their geographical scopes. Also these hegemonic spheres have fluctuated in their sizes and capabilities. So we see a hegemonic system as “local” in their geographic scope, which changes its size and range according to the level of optima it searches in a given context. As a hegemonic leadership provides systemic public goods that are needed to facilitate further cooperation, it acquires a reputation for responsibility and capability. The hegemon also increases its attempts at finding a local optimum in a rugged landscape. Here, the synergistic momentum at the systemic level appears between the hegemon and other subordinate members; without it, the system may not develop a hegemonic structure of mutual cooperation.

4.3. Hegemony as a Complex Adaptive System

I suggest a new framework in studying the emerging dynamics and the working mechanism of international hegemony. Major points are summarized as: (1) a hegemon and other member countries have only bounded rationality, (2) hegemonic systems tend to emerge in order to improve the payoff configurations in a rugged landscape of interests, which would otherwise always be less optimized, (3) other kinds of actors—middle powers—must be considered in analyzing hegemonic systems, especially in their capability and intentions to support the hegemonic responsibility, (4) the hegemonic role of facilitator should be emphasized in initiating other actors’ cooperation. These points lead us to define the hegemonic system as a “complex adaptive system (CAS)” in which the fundamental landscape of interaction is so “complex” that no actors are regarded as unbounded in their rationality and no optimal solutions are available at the global level. In this CAS, actors try to maximize their own interests but end up with suboptimal solutions. Nevertheless, they repeat interactions and “adaptively” learn the strategies to increase their collective interests by escaping the trap of the Prisoner’s Dilemma.

For purposes of clarification, I add more characteristics to the hegemonic system than when I define it as a CAS. The first point to emphasize is that hegemony emerges from the interaction among different-sized countries. Conventional theories of hegemony consider only the behavioral pattern of a single leadership; I argue that we have to take into account the roles and behaviors of small and middle powers, too. Actors in different scales diversify patterns of hegemony revise the old, simple picture of a one-to-many relationship in the theory of a single leadership. One important reason for the cooperative interaction among countries is that it is an efficient tool in searching for better payoffs, given the rugged landscape of interests. Countries in a hegemonic system try to find a local optimum, so that they tend to achieve a temporary equilibrium where the hegemon provides initial public goods; others follow and support the hegemon whenever necessary. In this way they self-organize themselves into a synergistic, cooperative system, even though the equilibrium may collapse if the hegemon gives up its responsibility and other countries do not support it.

Considering that every actor in the system should be accounted for, a hegemonic system is regarded as “agent-based”—meaning that the functions of the whole system are based not on systemic parameters but on individuals’ behavioral rules. An agent-based system tends to

evolve into a more sophisticated, more cooperative one.²⁵ Although unconsciously planned, its members develop it through the interactions among themselves. In this agent-based system, “fundamental social structures and group behaviors emerge from the interaction of individual agents . . . under rules that place only bounded demands on each agent’s information and computational capacity” (Epstein and Axtell 1996: 6). A great advantage of this agent-based framework is that the model includes each agent’s adaptive behavior and that it can be easily applied to the dynamics of international hegemonic system.

Given this characteristic, the whole system of agents represents ever-changing patterns. With the tool of the complex systems theory, we can now describe the phenomena such as aggregation, non-linearity, flows, diversity, and evolution, which are difficult to formalize with conventional mathematical approaches (Holland, 1995: 10-37; Holland and Miller 1991: 366). The internal dynamics can be more clearly described with the agent-based model at the micro-level, in explaining the evolution of a system at the macro-level.²⁶ These advantages may be applied to the explanation of the dynamics—*i.e.*, the rise and decline—of hegemonic systems, which has not been well explained with conventional theories. In addition, we can understand the evolution of hegemonic systems with this framework, particularly its characteristic as a searching mechanism for better local optima in a rugged landscape.

As such, the hegemonic system is to be regarded as a CAS in the following senses: the whole process is determined by individual members’ complex interactions; no global optimum is assumed in advance; cooperation among countries is a bottom-up process, with the hegemon functioning as a facilitator; the phenomenon of cooperation “emerges” bottom-up from the interactions among agents, rather than from a grand design of a single leadership; and the whole process has synergistic aspects for all participants to increase the system’s potential (benefits and stability). We know that historical cases of hegemony—such as the Roman Empire, Britain, and America—have covered not the whole world but only geographically local areas in a given time.²⁷ Nevertheless, each case of hegemonic cooperation has been initiated as an institutional mechanism that searches for better interest configurations, in keeping with the characteristics of CAS discussed above.

5. CONCLUSION

World politics has been characterized as anarchic with each agent holding sovereignty. Because of this characteristic, the dynamics between equilibrium and optimization has been prevalent in the rugged landscape of world politics throughout history. Interactions among

²⁵ The best analogy for this mechanism is the “order out of chaos” (Prigogine and Stengers 1984). The “order” implies the emergence of a systemic pattern—the hegemonic stability—while the “chaos” indicates the intrinsic nature of an anarchic world.

²⁶ In this sense, Epstein and Axtell’s “Sugarscape” model (1996) is a pioneering simulation work to apply the agent-based modeling method to social science topics. The model experiments with artificial societies where individual interactions bring macro-level phenomena such as networks, civilizations, culture, conflict, trade, and disease diffusion.

²⁷ In addition, I think that we have to understand the case of the Soviet hegemony in the Eastern Europe as another example of a “local” hegemonic system, even though its coverage was narrower than those of Britain and America. Despite some limitations, I also argue that the Non-Alignment movement in the 1960s may also be treated as a small-sized hegemonic system, with India as a facilitating hegemon.

states have been modeled as games; some as zero-sum, like territorial disputes and security problems, others as non-zero-sum. However, real-world situations have forced us to consider other factors such as the limitations of human rationality, intrinsic uncertainties in the games, and the complexity out of the bottom-up processes within the system. International hegemonic systems have also revealed these characteristics, so that we could not trace all these dynamic mechanisms with conventional mathematical approaches. World politics is a rugged and dynamic landscape composed of complex forms of interest configurations among diverse actors. In this landscape, an individual actor cannot increase its own benefits unless it cooperates with others due to the imperfect nature of searching mechanisms and the interactions among actors. With more experience, individual actors learn that better optima are possible if they cooperate with each other, even though those optima are local in their scopes. Hegemony is a form of synergistic cooperation and evolution to find such local optima.

The existence of a hegemon has been articulated as a necessary condition for the initiation of cooperation among selfish states. By taking the burden of public goods, hegemons lead the system, playing the role of a facilitator in a cooperative processes. Sometimes hegemony is a structural pattern that solves international dilemmas; at other times, balance of power among countries is preferred to hegemony as a solution for international problems. Whenever there is a great gap in the capabilities of participants (with potential for cooperation), hegemony has emerged. In this sense, hegemony is a “synergistic” structure of interactions among countries within the same rugged landscape of interests, emerging in order to solve the collective action problems facing “sovereign” states which cannot be easily mobilized to cooperate without the facilitation of hegemonic leadership.

In an ideal anarchy, every state is completely isolated from each other and the landscape of interests would be flat; on the other extreme, a “world government” is the best solution for international dilemma of collective action with a single-peak landscape. Between these extremes, I argue, the hegemonic system is a preferable arrangement to search for better solutions of inter-connected state actors in diverse configurations, as in the system of balance of power. In this synergistic mechanism, no one needs to be losers, since “win-win” strategies are attainable given the rugged landscape of interest configuration. Also the hegemonic system starts, evolves, and continues with the role of hegemony and the cooperation of middle powers, so that we understand the dynamics of hegemony as the rise and demise of the system in the new framework of the complex systems theory. In this context, the pattern of hegemonic system in international relations is regarded as an “edge of chaos” where the possibility of evolution is maximized between chaos (anarchy) and order (world government).

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