

Hierarchy in International Relations: Authority, Sovereignty, and the New Structure of World Politics¹

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***Abstract:** Rooted in a formal-legal tradition, international relationists have been thinking about anarchy and sovereignty wrong for over a century. Building on an alternative view of relational authority and recent research on the practice of sovereignty, a new conception of security hierarchy is developed that varies along a continuum from alliances at one end to protectorates at the other. This construct is operationalized and validated, and then tested in a large-n quasi-experiment examining the effects of international hierarchy on the defense effort of countries. The principal finding is that states in hierarchical security relationships spend significantly less on defense relative to GDP than states not in such relationships. In short, hierarchy matters and subordination pays; states appear to trade some portion of their sovereignty for protection from external security threats.*

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The promise of American hegemony after the Cold War, the pressing problems of ethnic conflict and failed states, the war on terror, and the internationally divisive war in Iraq have focused new attention on hierarchy in international relations. Recent events have resurrected a vocabulary of spheres-of-influence, protectorates, and even empires long forgotten in diplomatic discourse and now poorly understood by both policy makers and academic analysts.

The international system is assumed to be a realm of anarchy. As a consequence, we lack the analytic tools necessary to understand international hierarchy and its consequences for politics and policy. This is especially true for the informal and indirect forms of hierarchy now found in world affairs. To understand international hierarchy both past and present requires that we rebuild the very core of international relations theory.

This paper develops four major themes in four sections, with each building on the previous. First, international relationists have been thinking about anarchy and the nature of the international system wrong for over a century. From Max Weber, via Juristic theories of the state that held sway around the turn of the 19th century, the discipline imported a formal-legal conception of authority that precludes, by definition, the possibility of hierarchy between political units.² An alternative, relational conception of authority allows us to see hierarchical relationships between political units now hidden by the formal-legal approach.

Second, international relationists have been thinking about sovereignty wrong for even longer. As first articulated in the late 16th century, the principle of sovereignty assumes that the hierarchy of authority within states possesses a single apex terminating in the “sovereign.” Yet, in practice, there can

² Although never successfully resolving the tension between the concept and the assumption of anarchy, both Power Transition Theory and Hegemonic Stability Theory have developed notions of hierarchy in international relations. These alternatives are reviewed below after developing my own conception.

be multiple apexes of authority within any society, some of which culminate outside a given territorial realm. A relational approach to authority opens the possibility of international hierarchies that do not take the form of traditional, “Westphalian” states.

Third, hierarchy is a central feature of international politics, even today. Hierarchy varies with the authority exerted by a dominant actor over a subordinate party. Operationalization of this concept is difficult and remains tentative, but we can map authority relationships in security affairs in a way that appears conceptually valid. Since the end of the Cold War, the United States has dominated an extensive security hierarchy which has both brought order to troubled regions of the globe and stimulated a backlash against what is popularly referred to as American imperialism.

Fourth, understanding the role and pattern of hierarchy in international politics is essential for explaining, interpreting, and ultimately making foreign policy. The importance of hierarchy is demonstrated here through a large-n quasi-experimental test. A relational conception of authority expects dominant states to provide a stable social order – and more specifically, security – for their subordinates. This implies that countries in authority relationships with dominant powers should exert less defense effort (military spending as a proportion of GDP) than countries not in authority relationships, all else held constant. As predicted, hierarchy is found to exert a statistically and substantively significant effect on military spending.

Together, these four themes point towards a new foundation for international relations theory. Although the fact of international anarchy remains a truism for the system as a whole, it is a fallacy of division – albeit one commonly made – to infer that all relationships within that system are anarchic. Hierarchy does not stop at a nation’s borders or, in that famous phrase of foreign policy, “at the water’s edge.” This new foundation further erodes the distinction between domestic and international politics, expands the scope of institutionalist theory in international relations, and suggests innovative avenues for research. It also sheds important light on both the history of international politics and the role of the United States in the world today.

Authority

Anarchy is a political relationship in which the units possess no authority over one another and are not bound under any common authority (Waltz 1979). Hierarchy exists when one unit possesses authority over a second, or both are bound by some third party. To understand this distinction, and the role it has assumed in international relations theory, requires that we revisit the concept of authority and how a particular conception became enshrined into the discipline.

In what is regarded as the paradigmatic definition, political authority is commonly understood as a relationship in which “A...wills B to follow A and B voluntarily complies” (Scheppelle and Soltan 1987). Two implications of this brief definition are noteworthy and deserve elaboration. First, for A to be authoritative, the several Bs who live within its jurisdiction must recognize an obligation to comply if possible with the laws or commands issued by A. In an authority relationship, the Bs recognize both that A has the right to issue certain commands and that they should, within the limits of their abilities, follow those commands. In short, the Bs accept A’s commands as *legitimate*.

Second, authority is a form of power. Following Robert Dahl’s (1957, 202) famous definition, power is the ability of A to get B to do something he or she would otherwise not do. In the case of authority, B’s behavior is driven by obligation, not force, but the operative condition is the same: B does something he or she would otherwise not do because of A’s will. The commonly asserted opposition between power and authority is, thus, ill-founded. Authority is a member of the larger class of power relationships. Many analysts, especially in international relations, equate power with the ability to coerce, a second form of power. Purely coercive relationships – as when a mugger demands “your money or your life” – are characterized by power, but are not authoritative. Although it may be wise to comply in the face of superior force, there is no *obligation* to do so. It is the obligation to comply with A’s commands – or, alternatively, the *legitimacy* of those commands – that renders authority and coercion analytically distinct.³

³ This distinction between authority and coercion is nicely captured in Waltz’s (1979) first and third dimensions of political structure. The first dimension is the ordering principle, or the way in which the units stand in relationship to

Modern conceptions of authority, including those in international relations, are given fullest expression in the work of Max Weber who, in characterizing the modern bureaucratic state, developed an ideal type of formal-legal authority.⁴ For Weber, and nearly everyone else since, A's ability to command the Bs, and the willingness of the Bs to comply, follows from the lawful position or office that A holds. In this conception, A possesses the right to issue laws and rules due to the office that A occupies, and not to any personal qualities that A may possess (Flathman 1980, 17). Authority does not inhere in A as a person, but in A as an officer.⁵

Building on juristic theories of the state, popular at the turn of the last century, international relationists imported this formal-legal conception of authority into their theoretical foundations (Schmidt 1998). It immediately follows from this conception that international politics lack authority. Since there is no lawful position or institution above the state, there can be no authority above the state. International relations, therefore, are a realm of anarchy, and all relations between duly constituted states are also anarchic. This particular line of reasoning was most fully developed in Waltz's now classic *Theory of International Politics* (1979).

one another. The third dimension is the distribution of capabilities, often mistaken for the distribution of power. Capabilities matter for Waltz (1979, 118) because they create opportunities for coercion: more capable states can impose their will on others, up to and including eliminating states as independent entities. Waltz remains true to his realism in emphasizing power; but in a way that is not widely appreciated, his dimensions of political structure are defined by different forms of power. Nonetheless, coercion is the political concept most closely related to authority, and any measures of hierarchy (see section three, below) must clearly discriminate between these constructs.

⁴ Weber referred to this as rational or legal authority (1978, 215-26).

⁵ This is the primary difference between formal-legal authority that Weber took to be the defining characteristic of the modern state, and "charismatic" authority (also called substantive-purposive authority), in which authority is understood to derive from the knowledge, charisma, or other personal attributes of the individual. Flathman (1980) distinguishes between these schools as, respectively, being "in authority" and being "an authority."

Although useful for analyzing established domestic hierarchies, perhaps, a formal-legal conception of authority is of dubious utility for the study of international relations. Despite its debt to Thomas Hobbes, formal-legal theory founders on how authority emerges from the state-of-nature, which it obviously did at some distant point in time to create the states that now comprise the international system. If political authority derives from lawful office, law must precede authority. But if political authority creates law, then authority must precede lawful office. In building the preconditions necessary to transcend the state-of-nature, we cannot conceive of law without authority or authority without law. Like the joke about which came first the chicken or the egg, we are left with a classic conundrum the only correct answer to which is “neither” or “both emerged simultaneously.”⁶ The important conclusion is that the origins of authority must rest on something other than a formal-legal order. It cannot follow, therefore, that absent a formal-legal structure there can be no authority. It must be possible for authority to exist independently from any formal-legal structure. This has important repercussions for the prevailing view of anarchy in international relations.

Rather than conceiving of authority as a product of formal-legal structures, the literatures on emergent social structures (see below) and contractual theories of the state contain within them an alternative, relational conception of authority.⁷ In this approach, authority rests on a contract between A and the Bs premised on the former’s provision of a social order of value to the latter sufficient to offset the loss of freedom incurred in their subordination. Authority then becomes a contract in which A provides the order demanded by the Bs, and the Bs consent to the authority of A to impose taxes or other extractions and to exert the restraints on their behavior necessary to provide that social order.

⁶ For Weber, of course, formal-legal authority typically grew out of charismatic authority. Since charisma is one possible source of relational authority, this is not inconsistent with the argument developed below.

⁷ There is a long philosophical tradition underpinning contractual theories of the state, but several of the most important contemporary works include North (1981); Levi (1988); and Olson (2000).

Relational authority is inherently strategic. Both ruler and ruled are integral to the contract; A must produce an acceptable social order, the Bs must consent to A's authority. Indeed, in a relational approach, the focus of analysis subtly shifts from ruler to ruled: obligation flows not from the commands of the ruler, but from the consent of the ruled; A does not possess authority unless the Bs acknowledge an obligation to comply with A's will. Importantly, A's authority and its ability to use coercion legitimately follows from the Bs satisfaction with the social order so produced. Obedience springs not from authority or coercion. Rather, authority and the capacity to coerce legitimately derive from the interest the ruled have in the social order (Gourevitch 1999, 142).

This relational conception provides a more complete and consistent account of the origins of authority. Although the formation of authority from within the state-of-nature is, of course, shrouded in the mists of time, a relational conception appears consistent with what we know about the process. In the anthropological literature on contact era Melanesia, which provides one of the few windows into "living" societies creating their first authority structures, one prominent form is the local "big man," an individual who uses his comparative advantage in material accumulation to generate wealth and, in turn, to earn authority over those who become his followers (Sahlins 2000). In a related conception drawn from the same region and period, Maurice Godelier posits a "great man" model in which individuals use their comparative advantage in hunting and violence, gardening, or ritual knowledge to attain authority (see Godelier and Strathern 1991). Productive abilities, knowledge, and fighting skill all appear to be resources that potential leaders can draw upon to produce a local social order and, in turn, authority (see Roscoe 2000). Similarly, based largely on archeological evidence from the Upper Mantaro Valley in Peru (500-1534), Thy, Denmark (2300-1300 BC), and Kaua'i, Hawaii (800-1824), Timothy Earle (1997) posits a nexus of economic, military, and ideological resources as necessary to the emergence of early chiefdoms. Central to all three cases, Earle argues, was the ability of the chief to provide the public goods of defense (in Peru and Denmark) and irrigation (in Hawaii) which were necessary to the agricultural surpluses that secured the compliance of the ruled. Finally, in discussing the rise of the ancient Mesopotamian empires, the first large scale political units with a well documented archeological record,

Michael Mann points to the important role of “compulsory cooperation,” a concept first developed by Herbert Spencer (1969). Synthesizing the large literature on this period, Mann (1986, esp. 146-55) argues that the ancient empires appear to have grown by providing social orders that facilitated investment and trade, and thereby led to deeper divisions of labor, higher incomes, institutionalized loyalty and greater authority for the imperial centers. In all of these cases, the formal-legal institutions follow rather than drive the process. In the end, authority rests on the ruler’s ability to deliver the “goods” demanded by the ruled, and the latter’s willingness to recognize as legitimate the status of the former.

If authority can emerge as part of an equilibrium between ruler and ruled from the state-of-nature, then it cannot be excluded *by definition* in relations between units within the global system. A relational conception of authority, focusing on the exchange of social order for consent, opens the possibility that authority can exist at the international level, at least for certain dyads. The long history of European imperialism is a case-in-point, but so is the Soviet Union’s informal empire in Eastern Europe, the United States’ protectorate over Japan, the Philippines, and Micronesia after World War II, and the weak protectorate formed by the United States and Saudi Arabia during the first Iraq war – none of which had prior “legal” standing (Lake 1999). Reframed in this way, the nature and degree of authority in international relations becomes a variable for empirical investigation.

Sovereignty

The possibility of varying authority in international relations might be of only academic interest if, indeed, states in practice were characterized by classic, “Westphalian” sovereignty. Recent research, however, has strongly called this characterization into question (Krasner 1999, Osiander 2001). Particularly important is the new challenge to the assumption that sovereignty implies an internal hierarchy of authority that culminates in a single apex. Relaxing this assumption creates the possibility of international hierarchies.

Wherever ultimate authority is vested -- be it in a king or the people -- it is commonly assumed there can be only a single sovereign or ultimate authority within any political community. The idea of unitary or indivisible sovereignty originates with Jean Bodin who, in his classic *Six Books of the Commonwealth*

(1576), concluded that if sovereignty was absolute it could not be divided between branches or levels of government or between different actors. Sovereignty by its very nature, he claimed, could be vested only in a single person or institution within a political community (Keene 2002, 43). This view was echoed by other theorists, including Hugo Grotius--author of *De Jure Belli ac Pacis* (1625), the first major work of international law--who agreed that “sovereignty is a unity, in itself indivisible” (quoted in Keene 2002, 44).

The assumption of indivisibility necessarily implies that sovereignty creates a hierarchy of authority with a single apex at the level of the state. Indivisibility is one of the foundation stones of the juristic theory of the state – indeed, in this approach, it is what makes a state a state. John Austin, in particular, was committed to this view, and derided the idea that sovereignty could be divided as “absurd,” “nominal” and “illusive” (quoted in Keene 2002, 107). Incorporated into juristic theory, the assertion that sovereignty is indivisible was smuggled into international relations theory and provided the foundation for the assumption of international anarchy (Schmidt 1998).

Despite its centrality to conceptions of sovereignty and, in turn, anarchy, the principle of indivisibility has been violated throughout history, an outcome that Krasner (1999) has termed “organized hypocrisy.” Even Grotius, after agreeing with Bodin on its indivisible nature, immediately acknowledges that when discussing sovereignty “a division is sometimes made into parts designated as potential and subjective.” He then enumerates several examples where the conferral of sovereignty was not absolute but in fact divided (Keene 2002, 44-5). Grotius recognizes that unequal treaties can, in practice, lead to a division of sovereignty that favors the superior party. “He who has the vantage in a treaty, if he is greatly superior in respect to power, gradually usurps the sovereignty properly so called,” he observes, and unless the weaker party resists over time “the part of the weaker passes over into the right of ruling on the part of the stronger...then either those who had been allies become subjects, or there is at any rate a division of sovereignty” (quoted in Keene 2002, 49). Thus, from its inception, as implied in Grotius’s own writings, the principle of indivisibility was inconsistent with observed reality. Recent research, especially by Krasner (1999) and Osiander (2001), demonstrates clearly that practice has continued to be at

considerable variance with principle (for a review of this literature, see Lake 2003). From practice, therefore, we have no basis for accepting the indivisibility of authority. States vary in the authorities they possess.

Although these long-standing deviations from the principle of sovereignty present significant anomalies for formal-legal approaches to authority, they are consistent with and, in fact, predicted by a relational approach. Understood in these terms, there is nothing inherent in the concept of sovereignty that implies a single apex of authority or that ultimate authority cannot be shared between branches and levels of government. We can accept the traditional view that there is an ultimate and exclusive authority in each issue area even while recognizing that there can be multiple authorities defined by policy area operating in and over any given society. *Ultimate* authority does not imply a *singular* authority.

A relational approach expects authority to be shared between public and private spheres, with the latter sometimes governed by “private authorities.”⁸ In a way that is quite inconsistent with a formal-legal approach, in all societies, even the most totalitarian, there are areas where the ruled restrict the reach of the state. Limiting “public” authority, people carve out a sphere of private action – in the market, for instance – or private rights, as in abortion in the United States today. What gets constituted as private or public, of course, is part of the contract between ruled and ruler, and is continually contested and renegotiated. Attempts by the ruler to extend his authority to previously private spheres can be rebuffed by the concerted actions of the ruled. And as technology, norms, and interests change, what is private can expand or shrink. Within these private realms, in turn, there can be authority structures that govern collectivities, such as firms, unions, families, clans, and various other forms of association. The private sphere need not be entirely libertarian. In a relational conception, however, these private authorities do not exist at the sufferance of the ruler, as would be the case if sovereignty were indivisible, but are constituted as part of the larger contract between ruler and ruled.

⁸ On private authority in international relations, see Kahler and Lake (2003) and Hall and Biersteker (2002).

Just as private authorities exist, creating multiple apexes of authority within a state, external actors exist who exercise more or less authority over otherwise sovereign states. In one prominent set of examples, the United States intervened militarily in Caribbean states more than 30 times between 1898 and 1934 to regulate their internal affairs (Smith 1996, 52-3). In the case of the Dominican Republic in 1904, for instance, looming debt and fear of European collectors led President Theodore Roosevelt to proclaim his so-called corollary to the Monroe Doctrine, through which he asserted that the United States possessed broad authority over the domestic and international affairs of states within the hemisphere.⁹ As Roosevelt declared, “Chronic wrongdoing, or an impotence which results in a general loosening of the ties of civilized society, may in America, as elsewhere, ultimately require intervention by some civilized nation, and in the Western hemisphere the adherence of the United States to the Monroe Doctrine may force the United States, however reluctantly, in flagrant cases of such wrongdoing or impotence, to the exercise of an international police power....” (quoted in LaFeber 1994, 247). Remarkably, the United States did not eliminate the Dominican Republic’s sovereignty, but it did claim and exercise authority over the finances of the state, the lifeblood of a government, and then later over broader areas, including basic constitutional issues. Short of declaring the states of Central American and the Caribbean to be “not sovereign” by consequence of the United States’ authority over dimensions of their internal and external affairs – a purely definitional exercise, since there is little doubt that these countries retained their international legal “personality” despite the extensive authority exerted over their affairs by their North American neighbor– these are better classified as cases of shared or divided sovereignty. The states of Eastern Europe during the Cold War (Lake 1996, 2001), and many of the post-Soviet states today (Hancock 2001), are also examples of restricted sovereignty.

A relational approach to authority expects sovereignty to be variegated. Although general principles may serve as guidelines or focal points for negotiations, there is no particular reason to expect the

⁹ The changing rationale for intervention can help shed light on evolving structures of authority. Although she does not develop her argument in these terms, see Finnemore (2003) for a complementary approach.

authority relationship arrived at between a polity and another state or even the international community to be exactly the same as any other. The bargain reached between the actors is likely to reflect a host of internal considerations as well as external conditions. What it means to be “sovereign” in any particular case is likely to vary substantially. A relational approach to authority predicts, therefore, that polities within the international system will possess varying degrees of sovereignty. Some states will have few external constraints on their own authority. Others will yield authority over some issues or for some purposes to some external actor. Still others will forfeit their authority entirely, either being subsumed into another state or empire. In short, there will be a variety of international relationships, few of which conform fully with the principles of sovereignty as traditionally understood. These relationships of varying authority constitute international hierarchies.

Hierarchy

Having opened up the traditional conceptions of authority and sovereignty upon which international relations theory has been premised, I now sketch an alternative foundation that allows for variations in hierarchy within the world system. Hierarchy exists when one actor, the ruler or A, possesses authority over one or more second actors, the ruled or the Bs. Authority is never total, of course, but varies in extent. A may possess authority over the Bs and issue commands regulating possible actions 1-5 but not on actions 6-n, which remain beyond A’s ability to expect compliance. In other words, the Bs may recognize the legitimacy of A’s commands regulating actions 1-5, but not that of any commands A may or may not issue on other possible actions. In this case, a partial hierarchy exists; A possesses some but not complete authority over the Bs. In turn, hierarchy increases with the number of the Bs actions A can legitimately regulate. If A previously possessed authority over actions 1-5 and now exerts authority over issues 1-8, for instance, A’s hierarchy over B has increased; A and B now stand in a relationship of greater hierarchy.

So defined, hierarchy is a continuous variable. At one extreme, A possesses no authority over any action the Bs might perform. This is the ideal of “Westphalian sovereignty” or a state-of-nature, with no unit having authority over any other. At the other extreme, A possesses the authority to regulate all

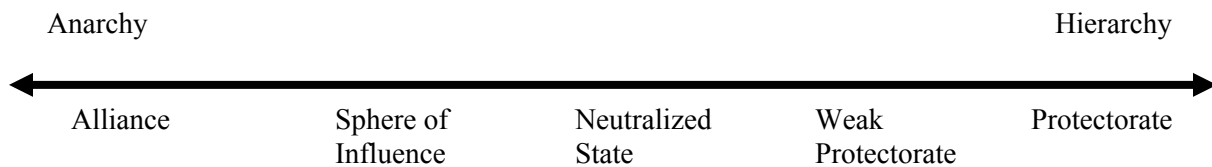
possible actions by the Bs. In this extreme of complete or pure hierarchy, the Bs possess no independent rights or autonomous ability to decide anything and are subservient to A in all aspects of social life. Found perhaps only in cults and the most totalitarian states, this extreme is seldom approximated. Even within modern states, normally regarded as hierarchies (Waltz 1979), substantial ranges of “private” action remain beyond the authority of the state. In common language, therefore, in even relatively hierarchical relationships, A possesses authority over many but not all actions by the Bs. The important point, however, is that in this behavioral and *de facto* rather than *de jure* conception, hierarchy is continuous and varies by the number of actions over which A can legitimately issue commands and expect compliance.

Security relationships (Figure 1) vary along a continuum of increasing hierarchy, ranging from alliances at the anarchic end to protectorates at the hierarchic end (Lake 1999, 24-41). The term empire is reserved for relationships that combine high levels of both economic and security hierarchy.¹⁰ In an alliance, polities pool resources in pursuit of some common security objective while retaining complete authority over their own actions—including the authority to interpret the terms of any agreement into which they may enter. This is the ideal of Westphalian sovereignty, again, but limited to the area of security policy. In a protectorate, one polity, B, cedes authority to another, A, over its foreign and defense policy. In other words, A possesses complete authority over all actions that might possibly be undertaken by B in interacting with third parties or seeking to lower its risk of external violence. As above, such extreme authority relationships are seldom observed, and I use the term protectorate for security hierarchies in which A exercises authority over many (but not all) of B’s possible security actions. In

¹⁰ A similar continuum of economic hierarchy is presented in Lake (2003). In earlier versions of this security continuum, I extended the range beyond protectorates to informal empires and empires. Defining protectorates as here, as the full control by A over B’s security policy, informal empires and empires were defined by A’s authority over increasing areas of “domestic” policy in B. The true endpoint of the security continuum is actually a protectorate. Working appropriately in a two-dimensional relational space, I now define informal and formal empires by high levels of both security and economic hierarchy.

addition to numerous examples in the 19th century, including Britain’s relationships with monarchies in the Persian Gulf and South Asia, the Federated States of Micronesia and Republic of the Marshall Islands today are close to full protectorates of the United States; as a condition for independence in 1986, the United States negotiated “free association” agreements under which it assumed complete responsibility for the defense and foreign relations of the island states, and the states, in turn, maintain no independent military forces.

Figure 1. Anarchic to Hierarchic Security Relationships



Between these extremes of alliance or protectorate lie a range of security relationships of increasing hierarchy. One particularly salient historical relationship is a sphere of influence, in which A possesses the authority to limit B’s cooperation with third parties. In such spheres, B need not be commanded to cooperate actively with A, but is prohibited from entering into alliances or other relationships with other states. The United States and Latin America under the Monroe Doctrine and the United States and Western Europe during the Cold War are prominent examples of spheres-of-influence. A second prominent intermediate type is the “neutralized” state that is prohibited from conducting offensive war or entering into agreements that might require its participation in a war or deprive it of any part of its territory; examples include Switzerland (1815-present), Belgium (1839-1945), and Luxemburg (1867-present).

The gap between the negative injunctions of a sphere-of-influence or neutralized state and the positive and complete commands of a protectorate is large. In many cases, it is useful to distinguish a “weak” protectorate of substantial but not full control by A over B’s foreign and defense policies.

Relations between the United States and Germany and the United States and Japan throughout the post-1945 period have typically taken this form.

In this way, relations between units vary in the authority possessed by A over B's security policies, ranging from anarchy, as found in most alliances, to complete hierarchy, where B cedes control over its foreign and defense policies to A. This continuum of security relationships makes sense, if you will, of the historic forms commonly accepted in the 19th century and now reappearing in the current political debate.

Alternative Conceptions of Hierarchy

Conceived in this manner, hierarchy differs from alternative conceptualizations occasionally found in the international relations literature. As noted above, anarchy is typically assumed to be a primordial characteristic of international relations. While sharing this assumption and, indeed, resting their "realism" on this condition, at least two schools have employed the construct of hierarchy in different ways. Power Transition Theory (PTT) posits global and regional hierarchies of power that produce struggles for system leadership and periods of intense warfare (see Tammen et al. 2000). Hegemonic Stability Theory (HST) predicts that a single, dominant lead country will produce higher levels of international public goods and economic openness (Gilpin 1975, Kindleberger 1973, Krasner 1976). Although focused on hegemony, a trait never formally or consensually defined, HST is at least implicitly about hierarchy (see Gilpin 1981, especially pp. 27-34). Both theories treat hierarchy as a structural characteristic, with either a global or regional system organized into a single pyramid for all relevant states. Both also define hierarchy as a function of power and, in turn, material capabilities for coercion.¹¹ Although both approaches are "systemic," in Waltz's use of that term, their key structures vary only in the distribution of capabilities.

The concept of hierarchy developed here differs on both counts. First, hierarchy is a dyadic relationship between two polities that varies across pairs within any system from complete anarchy to full

¹¹ Gilpin (1981) defines hierarchy as prestige, but argues that this is simply the credibility or reputation for using force effectively. Prestige, for Gilpin, is just lagged coercive capability.

dominance. A single state may possess varying degrees of hierarchy across many dyads, as does the United States today (see below), but this is not a necessary condition for hierarchy (or hegemony) to exist. Non-hegemonic states have certainly exercised more or less authority over other neighboring states and even over distant colonies. Second, as I define and use the construct, hierarchy rests on authority, not coercive capabilities. Although a form of power, authority is distinct from coercion and the material capabilities that give rise to forcible influence.

PTT also focuses on the preference heterogeneity of defenders and challengers to the status quo. Conflict arises, according to the theory, when the prevailing rules of the international order set by the former are not accepted by the latter. In the conception of hierarchy developed here, the social order on which the contract between ruler and ruled rests must be advantageous for both the dominant and subordinate parties, at least relative to the status of parties outside any hierarchy. Since authority is not directly related to coercive capacity, dominant states gain legitimacy and compliance by providing valuable public goods to their subordinates rather than by over-awing their competitors. This is more similar to the expectations of HST. But where that theory posits that hegemons act as privileged groups that provide public goods because they reap a large enough absolute benefit themselves, my conception of hierarchy as authority posits that dominant states provide social order not just or even because they benefit directly but rather in exchange for legitimacy and compliance by subordinates. In my view, hierarchy is an “attractor” that benefits both leaders and followers relative to the anarchic, states-of-nature that would otherwise exist.

Operationalizing Hierarchy

Identifying and, even more so, measuring patterns of authority are extremely difficult. The core problem is that legitimacy, central to the difference between authority and other forms of power, is inherently unobservable. In domestic political systems, long regarded as realms of hierarchy, variations in authority are seldom measured systematically. Although scholars may use ordinal indicators of democracy, the rule of law, and other institutional characteristics, even these do not capture well variations in the extent of state authority and, especially, legitimacy. Such measures not only emphasize

formal-legal structures at the expense of relational authority, but they focus more on the centralization of decision-making power within the government rather than state authority per se.¹² In international relations, where hierarchy has long been neglected, problems of identifying and measuring authority loom particularly large.¹³

Equally difficult is developing measures that discriminate between hierarchy, defined as variations in authority, and coercive capabilities. In order to differentiate between hierarchy as used here and coercion, both as closely related forms of power and as used in the literature, it is important that indicators capture the unobservable construct of authority while not simultaneously being correlated with material capabilities normally associated with coercive potential. Indicators should converge on the construct of hierarchy and discriminate between authority and coercion.

Security hierarchy can be captured indirectly by two sets of observable indicators. These indicators are not themselves attributes or dimensions of authority, of course, but they are manifestations of and likely vary with the underlying but unobservable construct. First, hierarchy is suggested by the presence of military bases and forces from the dominant state, A, in the territory of the subordinate state, B.¹⁴ Military bases and troops enable A to exercise considerable influence over the security policies of B. A can embroil B in foreign conflicts if it chooses; by launching attacks from B's territory, for instance, A automatically implicates B in the conflict and makes it a target for retaliation by A's antagonist. Once Saudi Arabia invited the United States to send over 250,000 troops in August 1991 to defend it against possible encroachments by Saddam Hussein's military, for example, it forfeited its ability to conduct an

¹² For a promising if now neglected attempt to describe domestic political systems in terms of authority relations, see Katzenstein 1978.

¹³ I am enormously indebted to Kathleen Hancock for suggestive operationalizations of security hierarchy. For her innovative study of hierarchy between the states of the former Soviet Union, see Hancock (2001).

¹⁴ The primary exception is troops or bases deployed as peace-keepers, which is a special category designed to exercise authority not over B's security policy but over its domestic political system. I do not include peace-keeping forces in any of the measures below.

independent policy toward Iraq and Kuwait (Lake 1999). In turn, military bases and personnel enable A to restrain possible foreign policy initiatives of B. In South Korea, the American troops stationed near the northern border not only serve as a tripwire to immediately draw the United States into any possible conflict started by the North, but they also insulate North Korea from any potentially provocative actions by the South, especially important in the early years of the Cold War. American forces in both Japan and Germany also served in the early postwar years to reassure their neighbors against any revival of militarism. Thus, military personnel and bases can give A substantial positive and negative control over B's security policy. The larger the number of A's bases or forces in B, the more control A can exert. To the extent that B accepts A's personnel and bases, and indeed integrates these forces into its own defense planning, this control may be regarded as legitimate and, therefore, authoritative.¹⁵

Second, security hierarchy is also manifested by the number of *independent* alliances possessed by B. Two states may share many alliances, indicating only that they are both embedded in a common security network. Such shared alliances may contain within them a security hierarchy, but this cannot be discerned simply by observing the pattern of relationships. If A and B possess an alliance but also enter into alliances with other states that are not shared – what I refer to here as independent alliances – this is prima facie evidence of foreign policy autonomy by both. Neither is then obviously dependent on the aid of the other, and most importantly B, the potentially subordinate member, has an “outside” option that reduces A's ability to exercise control. However, if all of B's alliances are shared with A, but A possesses independent alliances, this may indicate a security hierarchy. B is then dependent on A or A's other allies

¹⁵ That a relationship is authoritative does not imply that it is permanent or necessarily fixed. Dominant states may choose to withdraw in whole or part from the relationship, and subordinate states can reject or redefine the relationship. Saudi Arabia's request that the United States withdraw its troops to Qatar is an interesting case-in-point, demonstrating that the Saudis were concerned about living under American authority and that they accepted this dominance only for limited purposes. During the time the troops were deployed in Saudi Arabia, however, the kingdom's foreign policy was nonetheless dominated by the United States.

for assistance and has no established claims on others not allied with A. The larger the number of such independent alliances, the less hierarchical the security relationship is likely to be. To the extent that B's lack of alternative alliance support makes it dependent on A and therefore subject, at least in part, to A's influence over its security policy, and B does not undertake actions to diversify its sources of support or break its own alliance and dependence on A, then B is likely to regard A's influence as necessary and legitimate and, like military bases and personnel, authoritative.

In a preliminary attempt to assess and validate these indicators, I have compiled data for 1995, a single cross section reflecting the nascent post-Cold War order.¹⁶ All data and sources used in this paper are discussed in the Appendix. I present indicators of hierarchy for each state in the system based on the highest value obtained with any of the permanent members of the United Nations Security Council (P-5), the states most likely to dominate others in the modern world.¹⁷ Limiting analysis to the P-5 may mask additional hierarchies by smaller states over other states. The patterns discussed here, as a result, are not exhaustive of the possible hierarchies in the system.

As measures of security hierarchy, I compile indicators of both military bases and troop deployments as well as independent alliances possessed by each P-5 state, or "great power," for every country in the system. Military bases and troops deployed are simple count variables drawn from the annual *Military Balance* for the appropriate year of the number of bases or troops from A in B. I also calculate a measure of independent alliances, defined as $1/\text{number of alliance partners of B that are not also alliance partners of A}$. Higher values represent fewer independent alliances and, by implication, greater hierarchy. In cases where A and B are not themselves allied, the number of independent alliances is treated as zero (no

¹⁶ Surprisingly, data on foreign military deployments and bases has not yet been collected in standardized form. Analysis is restricted here to a single year because of the need to "hand code" the data from several sources.

¹⁷ With only a few exceptions, the indices confirm that hierarchy is exclusive, as theory expects. In those few cases in which a country has a positive hierarchy score with more than one great power, I use the highest single value in calculating the aggregate index. The primary exceptions are within NATO, Britain and Saudi Arabia, and Russia and Cuba, which are all trumped by the greater hierarchy exercised by the United States.

security hierarchy). A striking fact is that for nearly all the great powers, their allies possess no independent alliances (variable = 1). In the modern world, alliance patterns are strictly exclusive; if a state is allied with one great power, it possesses no other alliances outside the web of alliances held by that great power.¹⁸

All three measures are normalized to one, with one constituting the greatest level of hierarchy obtained by that variable for *any* great power in 1995.¹⁹ The indices are, therefore, comparable across dimensions. I also create an aggregate index that sums all three indices and, again, normalizes the result to one. For 1995, according to the aggregate index, Germany is the most subordinate state in the system (to the United States), and is coded as one, with all others taking lower values (Japan-US follows at 0.81).²⁰

¹⁸ The exception is NATO, which though an exclusive network has three great power members, and Canada, which hosts British troops and is connected to Britain through NATO but is also connected through the United States to a distinct set of alliances.

¹⁹ The indices for each state are available on my website at [◇](#). For purposes of review, they are attached as a separate document.

²⁰ There are multiple ways of aggregating the variables into a composite index. Simple addition is the most straightforward and, in the regressions below, has the greatest predictive validity. As suggested by the correlations between the variables and the aggregate index, however, an additive scale over-weights the number of independent allies relative to the other factors. As discussed, the number of independent alliances takes the value of either zero or one not by construction (which should vary continuously between zero and one) but by the actual state of the world. The number of bases and troops, however, is scaled with the dyad with the highest value as one, and all others with intermediate or zero values. This creates a minimum value of .33 for states allied with a great power but with no independent alliances and no bases or troops (much of Latin America-US), but lower values for states with bases and/or troops but that are not allied with that great power (Saudi-Arabia-US), given the rather dramatic skew in the stationing of troops overseas. The regressions in the following section are robust with respect to a range of different weighting schemes for the aggregate index.

The *Military Balance* appears to contain substantial measurement errors. The listing of foreign bases and troops is most likely incomplete. More accurate data is available for the United States only. Evinger (1995) provides a survey of overseas bases maintained by the United States; although there is near complete overlap in the countries reported as possessing bases, the *Military Balance* significantly underreports the absolute number of bases in all countries. For instance, the *Military Balance* reports a total of ten bases by the United States in Germany in 1995, whereas Evinger reports 46. Nonetheless, the correlation between the *Military Balance* and Evinger is quite high and significant ($r = .93, p < 0.001$), suggesting that differences in the data sources will affect the substantive estimates but not the direction of the results reported below. Similarly, the Department of Defense provides a detailed reporting of overseas troops deployments. In this case, however, the direction of bias is less clear as the *Military Balance* typically but not always reports a higher figure. For instance, the Department of Defense reports 73,280 troops in Germany in 1995, and the *Military Balance* reports 103,200. Nonetheless, the correlation is very high ($r = .99; p < 0.001$), indicating again that the overall pattern in the data is essentially the same. The regressions reported in the next section are performed with both the *Military Balance* data for all P-5 members and the Evinger and DoD data for the United States alone.

These indices of security hierarchy possess some face validity, a subjective but nonetheless crucial criterion for assessing operationalizations of theoretical constructs.²¹ Using the combined hierarchy index for all P-5 states, Figure 2 presents illustrative examples (21 of 79 positive values on the Great Power Hierarchy Scale; total $n=157$) along the continuum defined in Figure 1 above (flipped vertically for ease of representation). States subordinate to Russia are predictably the constituent republics of the former Soviet Union or foreign clients of the former Soviet Union (Cuba, Syria, Vietnam), those subordinate to France are mostly former colonies in Francophone Africa, those subordinate to Britain are more diverse but nonetheless possess close historical or political ties with the United Kingdom. The United States stands in a relationship of hierarchy with more states than the other P-5 members, as intuition suggests it

²¹ On validity and its various forms, see Trochim (2001, 66-74).

should. States subordinate to the United States are disproportionately found in areas of traditional American dominance or assertiveness, including the Caribbean and Latin America, Europe, and the Persian Gulf. These indicators generate very few anomalies that conflict with intuition or that need to be explained away. If anything, they tend to undercount the degree of hierarchy. Not every state that is subordinate to one of the great powers has troops or bases on its territory or possesses an alliance. For instance, the Federated States of Micronesia, cited above as the quintessential protectorate, does not itself possess bases or troops on its territory nor is it allied with the United States, but is protected and dominated by American forces located on nearby Guam. Similarly, the single base and small number of troops, but no alliance, probably underestimates the extent of the US hierarchy over Saudi Arabia in 1995.

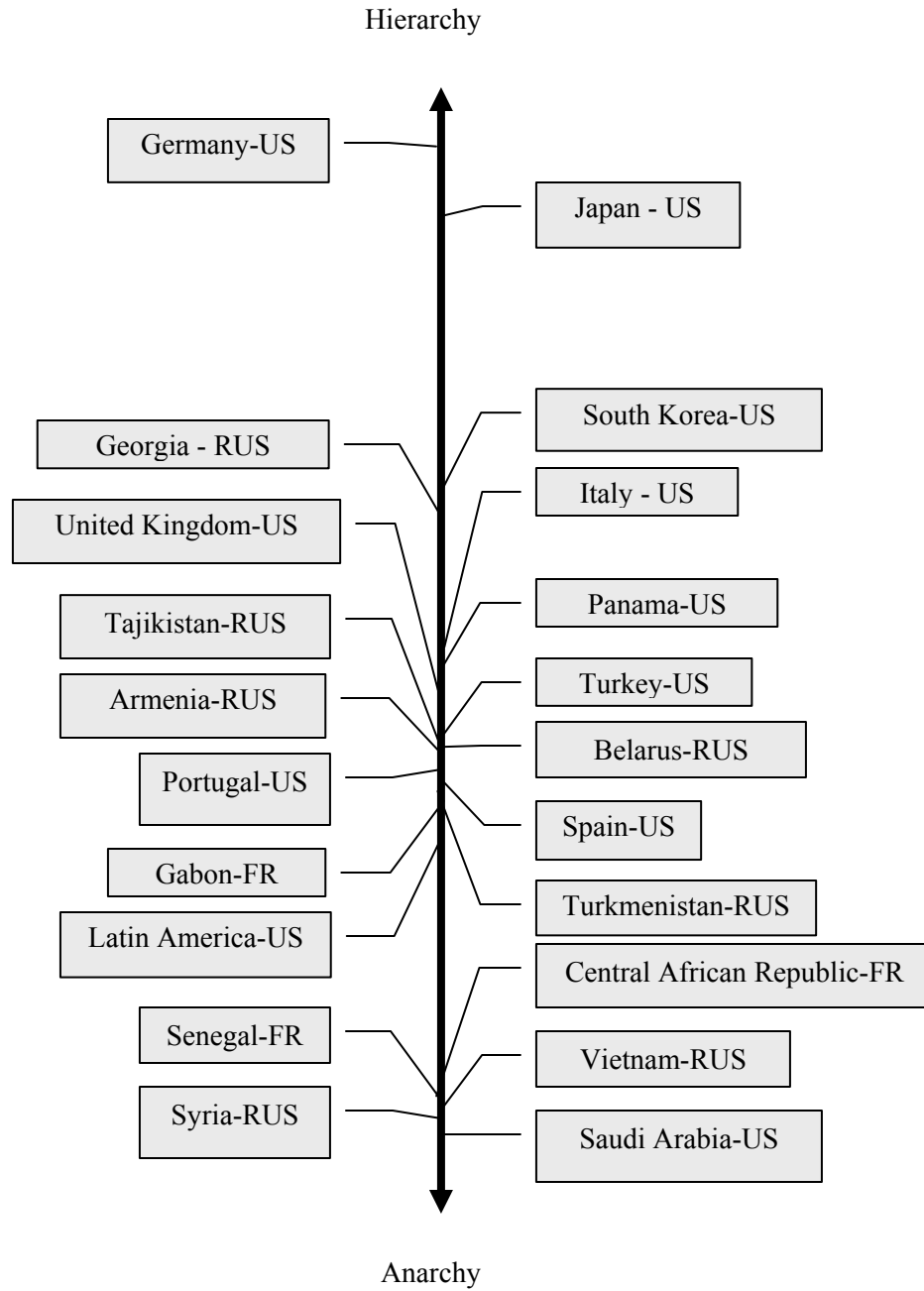


Figure 2. Illustrative examples of dyads along the continuum of Anarchic to Hierarchic Security Relationships.

The measures also possess convergent validity. The three measures as well as the aggregate index all correlate reasonably well, especially between numbers of bases and troops deployed in the subordinate

country (bold results, Table 1; average $r = 0.59$).²² The measures also possess discriminant validity. Table 1 presents the correlations between the hierarchy indicators and traditional indicators of “power” or coercive capability. Like the hierarchy indicators, the measures of coercive capability are highly correlated with one another (regular font, Table 1; average $r = 0.71$). Yet, the average correlation between the indicators of hierarchy and coercive capability is only 0.12 (italics). Clearly, each set of indicators is more closely related to itself than to the other construct. Thus, the indicators do discriminate between these different theoretical notions. On reflection, this is intuitive. The United States has the largest and most extensive set of security hierarchies, of course, and many hierarchies are found between great powers and smaller states. But not all small countries are embedded in hierarchical relationships. Hierarchies also exist between great powers and large and important countries. Particularly noteworthy are the hierarchies built and preserved by the United States over Germany, Japan, and South Korea. Even if these relationships are less hierarchical than in the past (a conclusion that requires more historical data), they remain among the most hierarchical dyads in the international system. Hierarchy is not found only between giants and pigmies – nor it is just a function of power differentials between great and small. Analytically, hierarchy is a distinct construct, and the measures outlined here are able to discriminate between this phenomenon and others.

Table 1 About Here

In sum, the indicators advanced here appear to be capturing the construct of security hierarchy – although in a paradox common to *all* operational indicators we cannot know for sure because the construct itself is unobservable. If valid, the pattern of hierarchy in 1995 captured by these indicators challenges the assumption that relations between states are wholly anarchic. In total, 79 countries – nearly half the global total -- are identified as being subordinate in some degree to one of the P-5 states. The security relationships, in turn, vary from spheres-of-influence, reflected in the exclusive alliance networks

²² As explained in footnote 20 above, the aggregate index is over-weighted by the number of independent alliances, and thus is correlated more closely with this variable than with the number of troops and bases.

created by the great powers, to at least weak protectorates, in which the great power's troops vastly outnumber the country's own forces. Looking across the great powers in 1995, in turn, the United States clearly possesses the largest and most extensive set of hierarchies. This is not particularly surprising, but no less important. At the end of the Cold War, France and the United Kingdom dominated only vestiges of their colonial empires, and Russia only the remnants of the Soviet empire and its few remaining client regimes. A rising power, China exerts a measure of hierarchy only over the hermit kingdom of North Korea. Of the great powers, only the United States reaches beyond its former empire and neighborhood to dominate a wide range of states across the globe. The focus in current political debates on the new American "empire" may be more insightful than our traditional theories of international relations admit.

Hierarchy Matters

In contrast to extant theories of international relations, which expect all states to respond to a similar logic of anarchy, the arguments developed above imply that a variety of security relationships exist and, furthermore, that these relationships will have policy consequences. To test these arguments, further validate the indicators of hierarchy, and assess the importance of hierarchy for international relations, this section probes the effect of hierarchy on the "defense effort" of states (military expenditures as a percentage of GDP).²³ Hierarchy appears to have a statistically and substantively significant impact on patterns of defense spending.

In a relational approach, authority is understood to rest on an exchange relationship between ruler (dominant state) and ruled (subordinate state), in which the former provides public services in return for compliance and other benefits from the latter. In security hierarchies, we can expect dominant countries to

²³ Surprisingly, defense effort has attracted relatively little attention. For work by economists using this same definition, see Aufrant (1999), Smith (1995), and Hartley and Sandler (1999). Related literatures focus on burden-sharing in alliances; see Oneal and Whatley (1996). In an extension of the democracy and victory literature, political scientists have begun to look at defense effort and regime type. See Fordham and Walker (forthcoming) and Goldsmith (2003, 2004). There is no "canonical" model of defense effort against which we can test the effect of hierarchy.

supply protection to their subordinate partners and to receive compliance in return -- and that this exchange is made credible by repeated interactions. It follows, therefore, that countries in hierarchical security relationships should, all else held constant, spend fewer of their own resources on security and rely more on the efforts of their dominant patron. This relationship, moreover, will be continuous; the greater the hierarchy, the less effort the subordinate country will expend to provide for its own defense.

To test this hypothesis, I employ a non-equivalent group design (NEGD) in which countries outside any hierarchic relationship serve as a control group and countries in hierarchic relationships as the experimental group; the latter, in turn, are considered to be “treated” with different levels of hierarchy, as measured by the indicators discussed in the previous section.²⁴ The key problem in any NEGD is the non-equivalence of the groups. We cannot assume that members are randomly assigned. Especially in this case, we know that states will intentionally select themselves into one or the other category. To properly identify the effect of hierarchy on defense effort, therefore, we need to examine the possible covariates associated with this selection decision. This paper does not present a fully developed theory of the formation of hierarchy (see Lake 1999). Prior theory, and an eclectic set of auxiliary arguments, suggest the following covariates. Data and sources are, again, discussed in the appendix.

Countries that are more threatened by their neighbors are more likely to subordinate themselves to the will of a dominant state in exchange for the protection offered by that power and, thus, are more likely to enter hierarchical relationships. The countries that are most threatened, in other words, are most likely to be willing to pay the high price that subordination entails. In the absence of a hierarchical relationship, we would expect states in the experimental group to carry a higher than normal defense burden. To identify the effect of hierarchy, therefore, we must control for foreign threats. These threats are measured in two ways: a) the *highest defense effort of any contiguous state* and b) whether the country was involved in a militarized interstate dispute (MID), as defined by the Correlates of War MID dataset (*MID involvement*). For most countries most of the time, their most pressing threats come from their immediate neighbors.

²⁴ On NEGD, see (Trochim 2001, Chapter 8).

Involvement in a MID indicates the presence of issues with a strong potential to escalate to violence and threaten the state. To offset problems of simultaneity, and the possibility that defense spending in some countries might be responding to spending in their neighbors, the two threat variables are lagged two and one years, respectively.²⁵ In an alternative specification, I conduct a two-stage least squares (2SLS) regression using as instruments for *highest defense effort of any contiguous state* (1995): number of allies, presence of a civil war, Polity2, rate of growth in GDP, GDP per capita, and population in the relevant state, all lagged one year. *MID involvement* often (but not always) affects both states simultaneously and appears to lack appropriate instruments, so this variable is again lagged one year.

States able to wield greater coercive power on their own will be less willing to enter hierarchical relationships and may be more willing to spend valued resources on defense. We expect these states in the control group, therefore, to exert a higher level of defense effort, all else considered. I measure coercive capability through a dummy variable indicating whether or not the state is a *Major Power*. Later, I test alternative indicators of coercive capability.

Larger countries may enjoy greater economies of scale in producing security, may be less willing to enter hierarchical relationships, and may also spend less on defense as a share of GDP than smaller states. Like major powers, we predict that large countries will select themselves into the control group and, all else considered, carry a higher defense effort. A measure of total population is included as a proxy for state size.

Richer countries possess smaller opportunity costs in defense spending, may be less willing to enter hierarchical relationships, and as a consequence may be more willing to expend resources on defense. Once again, we would expect richer countries to select themselves into the control group and carry a higher defense burden. Thus, GDP per capita is included as a control.

²⁵ These lags were fit empirically rather than theoretically. The lag on highest defense effort is somewhat arbitrary; there is very little difference between alternative years. MID involvement is more sensitive, with a one year lag fitting the data far better than either no lag or a two year lag.

As was clear above, the United States possesses the largest and most extensive set of hierarchies of any of the great powers and, as we shall see below, it is largely the United States that drives the empirical patterns discussed in this section. To the extent that democracies are more likely to “flock together” (Siverson and Emmons 1991), they may also be more willing to enter into hierarchical relationships with one another. If democracies are also more efficacious in their use of military force, they may bear a smaller defense burden, on average (Lake 1992, Reiter and Stam 2002). Together, this suggests that democracies will be more likely to join hierarchical relationships with other democracies – and because of who the dominant powers are in 1995, to select into the experimental group – and to exert less defense effort. To separate the effects of hierarchy on defense effort from that of democracy, I include as another control the level of *Democracy*, measured by the Polity2 scale (ranging from -10, least democratic, to 10, most democratic) from the Polity IV dataset.

The results are presented in Table 2. Model one presents an OLS regression, model two a 2SLS regression, instrumenting for *highest defense effort of any contiguous state*. As predicted, the hierarchy index is negatively related to defense effort ($p < 0.001$). A third specification tests an index of United States hierarchy on defense effort. Given the problems of measurement error discussed above, this aggregate index, constructed identically to the great power index for the United States alone, may yield more accurate results.²⁶ The coefficients for hierarchy across all three specifications are remarkably similar. The results support the hypothesis that states in hierarchic relationships will expend less defense effort than states in strictly non-hierarchic relationships, and that this effect is increasing in the level of hierarchy.

Table 2 About Here

The substantive effect of hierarchy is large and meaningful (estimates based on model one in Table 2). Holding all other variables at their means, increasing hierarchy from the 25th percentile, still

²⁶ Note that by including all states, including those known to be in hierarchical relationships with other great powers, this third specification is biased against finding a significant effect of United States hierarchy on defense effort.

representing states outside any hierarchical relationship, to the 75th percentile, decreases defense effort by over nine-tenths of one percent of GDP, or more than half the mean level for the sample (at 1.6 percent of GDP).²⁷ Moving from the minimum value of hierarchy (zero) to the maximum value (one), decreases defense spending by 2.8 percent of GDP – over one and a half times the magnitude of defense spending in the average state. In the case of Brazil, to use a concrete example, reducing the level of hierarchy from its actual level at the 75th percentile to the 25th percentile -- again holding all other variables at their means -- would increase defense spending by approximately 0.78 percent of GDP. Converted into dollars, the American hierarchy is estimated to save Brazil roughly \$8.4 billion per year in military spending – or nearly as much as Brazil’s actual military expenditure of \$9.8 billion in 1995. For Japan, a similar shift from its position near the top of the hierarchy scale to the 25th percentile would increase military spending by over 1.9 percent of GDP – more than Japan’s actual defense effort in 1995. The American security hierarchy is estimated to reduce defense spending in Japan by more than \$54.4 billion dollars per year. Observers may well argue over whether the subordination entailed is “worth it,” but there is little doubt that the defense savings produced by hierarchy are very large indeed.

Many of the covariates carry the expected sign and are also significant. Interestingly, the bivariate relationships between both hierarchy indices and defense effort are weak and insignificant (not reported). Failing to control for the cross-cutting effects of the several covariates obscures the true causal relationship between hierarchy and defense effort. It is worth noting that hierarchy has among the largest substantive effects of any significant variable in the model, surpassed only by GDP per capita and democracy.

The effect of threat on defense spending is ambiguous. The OLS models (one and three) find that both *highest defense effort of any contiguous state* and *MID involvement* are positive and significantly related to defense effort, as expected. The 2SLS model, which aims to capture the feedback effects of

²⁷ All estimates of the substantive effect of hierarchy and other variables are calculated via CLARIFY (Tomz, Wittenberg, and King 1999).

defense effort between states, finds that defense effort by the most threatening neighbor has no independent effect beyond a country's own defense efforts. This may indicate that threats are almost entirely endogenous, with high defense effort in one state begetting high defense effort in the second with no exogenous determinants. Intuitively, this suggests a self-contained "arms race." Even though *highest defense effort of any contiguous state* and *MID involvement* are not themselves highly correlated, a second possibility is that instrumenting for the former simply shifts part of the explanatory burden onto the latter, whose coefficients become larger and more significant in the 2SLS than in the OLS analysis. Finally, this result may also indicate only that we lack good instruments for defense effort. Although the instruments are individually significant predictors of *highest defense effort of any contiguous state*, together they account for only about 26 percent of the variation in this variable (not shown). The value of any 2SLS depends on the quality of the instruments, especially so in small samples (as here). We should be cautious before drawing any firm conclusions on the independent effect of possible threats on defense effort. But the important point for my purposes is, again, that the effect of hierarchy on defense spending does not change significantly across these different modeling approaches. The results in Table 3 clearly indicate that hierarchy exerts a larger substantive effect on defense effort than either threat variable. Hierarchy appears to be independent of threat, robust, and substantively more important.

Unpacking the aggregate indices reveals even more information about the relationship between hierarchy and defense effort. Table 3 reports five additional specifications of the hierarchy variable (each equation includes all covariates reported in Table 2, Model 1). First, column three reports the separate effect of each component of the aggregate hierarchy index on defense effort. Although their substantive magnitudes are different, all are correctly signed and significant. Each is contributing to the overall effect of hierarchy on defense effort. Second, columns four-seven report on the national level indices both individually (rows three, five, and seven) and aggregated (row eight), controlling for the hierarchies of others. It is clear that the hierarchies dominated by the United States largely drive the aggregate results. The indices for the United States are negative and significant in every specification. For Russia, independent alliances and the aggregate index are negative and significant. Curiously, hierarchies

dominated by the United Kingdom sometimes produce higher rather than lower defense efforts. This may indicate either that the United Kingdom is not an effective partner, leading subordinate countries to step up efforts on their own, or that, controlling for the hierarchies of other great powers, those countries that are subordinate to Britain may be especially threatened by their neighbors.

Table 3 About Here

A final set of tests examines the relationships between hierarchy, defense effort and alternative indicators of coercive capabilities. As noted above, coercive capabilities are closely related but distinct from the construct of hierarchy. Coercive capabilities are traditionally measured by material capabilities, operationalized here by the military personnel, major power status, population, total GDP, and CINC score of the subordinate state.²⁸ Of these alternative measures, only population is significantly related to coercive capabilities. More or less “powerful” states do not appear to spend greater or smaller amounts of GDP on defense. Equally important, the coefficient on hierarchy is negative, significant, and quite stable across the alternative models. Defense effort is clearly related to hierarchy and not to coercive capabilities. Despite the attention on “power” in the security literatures, coercive capabilities are not significant predictors of defense effort. Hierarchy, not strength or weakness, allows countries to spend less on defense as a proportion of national income.

The substantive results demonstrate clearly that hierarchy matters. Equally important, at least for the analytic purposes of this paper, the results also validate the indicators of hierarchy developed in the previous section. As required of any valid indicator, the pattern of relationships predicted by the theory is largely matched by the pattern of relationships observed in the 1995 data (Trochim 2001, 84-88). Further refinements in both theory and measurement are no doubt possible, but these preliminary results are quite promising.

Conclusion

²⁸ In the tests above, population and major power status were treated as covariates; here, they are alternative measures of coercive capabilities.

We have all seen “Gestalt shift” pictures. In one, we naturally focus on the white outline and observe a goblet, but when we focus on the black outline we see, often with some initial difficulty, two faces in profile. These “trick” pictures are designed to remind us that perception is more than it might at first appear and that we need to “look differently” at the world around us. Hierarchy in international relations is like such a picture. We are drawn by our dominant theories to see the international system as an anarchy, a state-of-nature, a world of self-help. Refocusing on hierarchy, however, alters that perception. States possess and exert authority over other states, they command and receive compliance, they create a social order with differing roles and responsibilities. “Seeing” hierarchy does not erase the prior vision, just as seeing the faces does not mean that the goblet has literally disappeared. To accept that hierarchy can and does exist within the international system does not negate everything we once knew about world politics. As the empirical analysis in this paper suggest, states may still respond to and adjust their defense efforts to the threats they confront. Great powers may still engage in “realpolitik” in the more anarchic relations with each other. But refocusing on hierarchy shows us an alternate, more complex, and less unique political world that, as the empirical results demonstrate, affects national behavior whether we choose to see it or not.

A new focus on hierarchy forces significant changes in our collective research agenda. Anarchy has long been understood as the distinguishing feature of international relations. Even though the separation of domestic and international politics has been challenged in recent years (Lake and Powell 1999, Milner 1991), anarchy has remained central to the latter. Hierarchy in international relations further erodes the supposed differences between the domestic and international politics. Just as we now accept that anarchic, self-governing institutions like the United States Congress exist in the domestic arena, so may hierarchic, authoritative relationships like that between the United States and Germany or the United States and Japan exist in the international realm. Rather than separating analysis into autonomous spheres, we would be better served by arraying different sets of political institutions, issue areas, and historical periods along a single continuum of more or less political hierarchy -- regardless as to whether these features are found primarily within or between countries.

Institutional theory in international relations has been limited to self-enforcing agreements between wholly “Westphalian” states. International regimes facilitate cooperation, but they do not command (Keohane 1984, Krasner 1983). New work on legalization in world politics has begun to incorporate the concept of obligation into international relations (see Goldstein et al. 2001), but a focus on hierarchy, and the authority that underpins it, greatly expands the range of relationships in which subordinates can be expected to comply with commands because they recognize them as legitimate. By encouraging us to study a broader range of institutions, a focus on hierarchy also avoids problems of selection bias and promises more accurate and efficient estimates of the effects of institutions in international relations (Lake 2001, 2003).

A focus on hierarchy also raises a host of new questions for international relations research. If it does not arise from formal-legal institutions, where does authority “come from”? What makes a state’s command authoritative in one context, but purely coercive in another? Both the ruler’s ability to provide a beneficial social order to the ruled and the prevailing ideas and norms on appropriate action are likely to matter, but in different times, places, and ways. This paper has sought to open up a role for authority in international relations theory without prejudging its ultimate explanation.

Finally, and with a note of some urgency, a focus on hierarchy promises new insights into current international politics and, especially, the role of the United States in the world today. That the United States dominates the global system like none before is often repeated, but little understood. Analysts talk of various forms of soft power (Nye 2002) or sticky power (Mead 2004) believed to enhance the ability of the United States to accomplish its aims. Some even speak of the international legitimacy enjoyed (or not) by the United States, even though this trait can have but small import in a world of anarchy. Few recognize or acknowledge the authority self-consciously constructed and exercised by the United States, first, over Latin America in the early twentieth century, then over its Western allies during the Cold War, and now over broad areas of the globe.²⁹

²⁹ An important exception is Ikenberry (2001).

Our failure to see and analyze hierarchy in international politics has left us blind as the United States struggles to navigate increasingly perilous waters. Today, we are witnessing a backlash against American authority. In demanding the right to change the regime in Baghdad, the United States overstepped the bounds of the international consensus and was forced to fight the war in Iraq without the legitimacy provided by broad international support. In the Islamic world, growing numbers resent, challenge, and possibly deny the legitimacy of American actions in the Middle East. Central to a relational conception of authority is the insight that rule rests on the consent of the ruled. If current resentments reach a critical mass, American's international authority might evaporate overnight – much as the authority of the East European governments simply dissolved in the face of mass dissent in 1989. At the same time, the current administration, seeing the world through Hobbesian lenses, has shifted American foreign policy away from a reliance on authority to one increasingly dependent on coercion, with potentially momentous consequences. We are sailing with an inadequate map. We fail to recognize the nature and role of authority in the international system at our peril.

Data Appendix

Hierarchy Indices

Number of Bases: Coded from reports of foreign military deployments in *The Military Balance 1995-96* (IISS 1995). All command centers, bases and other military outposts that are territorial in nature and can be broadly considered bases were included. For consistency, for all great power indices I use *The Military Balance* reports for the United States. In model 3, Table 2, military bases for the United States only are compiled from Evinger (1995).

Number of Troops Deployed: Coded from reports of foreign military deployments in *The Military Balance 1995-96* (IISS 1995). For consistency, for all great power indices I use *The Military Balance* reports for the United States. In model 3, Table 2, troop deployments for the United States only are compiled from (Department of Defense 1995).

Independent Alliances: The number of allies for country *i* not shared with each great power. The EUGene data generating software (Bennett and Stam 2000) reproduces each square of the matrix used to compute the S or “similarity” of alliance portfolios (Signorino and Ritter 1999). The independent alliances scores were computed using gportu41, which ranges from zero to 50 and calculates the number of countries that are allied with country *i* but not the great power. The variable *independent alliances* was then calculated as 1/number of independent alliances if country *i* was allied with the Great Power. Variable naturally ranges from zero to one.

National Hierarchy Index /Great Power Hierarchy Index: Sum of indices for number of bases, number of troops deployed, and independent alliances, normalized to one by the highest level attained by any great power in 1995. National index calculated for each great power. Great Power index uses highest value for each country obtained with any P-5 country.

Additional Variables in Regressions Reported in Table Two

Defense Effort: Military expenditures/GDP. Military Expenditures, from the COW National Material Capabilities Dataset (Singer 1988), via EUGene (Bennett and Stam 2000). GDP from Gleditsch (2002).

Highest Defense Effort of Any Contiguous State: Defense effort was computed for each contiguous state using the data described above. Contiguity (level 3, less than 24 miles of water) from Singer and Small (1982), via EUGene (Bennett and Stam 2000). Defense effort of country with the highest level coded in variable (Country *j*).

MID Involvement: Dichotomous variable coded as one if country experienced a Militarized Interstate Dispute during the year 1995, as defined and reported in the Militarized Interstate Dispute Dataset (Jones, Bremer, and Singer 1996), via EUGene (Bennett and Stam 2000).

Total Population: From Gleditsch (2002).

GDP per capita: From Gleditsch (2002).

Major Power: Dichotomous variable from COW membership list (Singer and Small 1982, updated 1997), via EUGene (Bennett and Stam 2000).

Number of Other Allies: The total number of defense alliances of country. The EUGene data generating software (Bennett and Stam 2000) reproduces each square of the matrix used to compute the S or “similarity” of alliance portfolios (Signorino and Ritter 1999). The number of other allies variable is the sum of *gprortu11*, *gprortu12*, *gprortu13*, *gprortu14* minus one (each state is assumed to be allied with itself).

Democracy: Polity2 variable in the PolityIV Dataset (Marshall and Jaggers 2002).

Instruments for Highest Defense Effort of Any Contiguous State (Country *j*)

Number of Other Allies: Same as above, but calculated for Country *j* rather than Country *i*.

Democracy: Same as above, but calculated for Country *j* rather than Country *i*.

GDP per capita: Same as above, but calculated for Country *j* rather than Country *i*.

Population: Same as above, but calculated for Country *j* rather than Country *i*.

Presence of Civil War: From Correlates of War Intra-State War Database, see Sarkees (2000).

Growth Rate of GDP (in percent): calculated from Gleditsch (2002).

**Table 1. Convergent and Discriminant Validity:
Hierarchy Indicators v. Indicators of Coercive Capability**

	1	2	3	4	5	6	7	8	9
Foreign Bases (1)	1.0								
Foreign Troops (2)	0.89	1.0							
Independent Alliances (3)	0.30	0.26	1.0						
Hierarchy Index (4)	0.60	0.56	0.94	1.0					
Military Personnel (5)	<i>0.08</i>	<i>0.10</i>	<i>-0.04</i>	<i>0.003</i>	1.0				
Major Power (6)	<i>0.45</i>	<i>0.47</i>	<i>0.04</i>	<i>0.20</i>	0.58	1.0			
Population (7)	<i>0.03</i>	<i>0.04</i>	<i>-0.07</i>	<i>-0.04</i>	0.81	0.43	1.0		
GDP (8)	<i>0.28</i>	<i>0.28</i>	<i>0.04</i>	<i>0.14</i>	0.69	0.73	0.58	1.0	
CINC (9)	<i>0.21</i>	<i>0.21</i>	<i>0.0005</i>	<i>0.08</i>	0.88	0.74	0.76	0.94	1.0

Average correlation, Hierarchy indicators (in bold) = 0.59

Average correlation, Coercive capability indicators (in regular font) = 0.71

Average correlation, Hierarchy and coercive capability indicators (in italics) = 0.12

Table 2. Hierarchy and Defense Effort
Robust Standard Errors in Parentheses; Excluding North Korea

<i>Dependent Variable: Defense Effort (Military Expenditures/GDP)</i>	Great Power Hierarchy Index (OLS)	Great Power Hierarchy Index (2SLS)	US Hierarchy Index (OLS)
Great Power Hierarchy Index	-0.0283*** (0.0068)	-0.0307*** (0.0074)	-0.0340** (0.0108)
Highest Defense Effort of Any Contiguous State (defense spending/GDP). OLS uses two year lag; 2SLS uses number of allies population, GDP per capita, number of allies, present of civil war, Polity2, and rate of economic growth, all lagged one year, as instruments.	0.1178*** (0.0349)	0.0320 (0.0535)	0.1277*** (0.0313)
MID Involvement (0,1), one year lag	0.0073*** (0.0022)	0.0093*** (0.0025)	0.0079*** (0.0023)
Total Population	-3.33e-08** (1.26e-08)	-2.11e-08 (1.28e-08)	-3.38e-08*** (1.24e-08)
GDP per capita	14.3e-07*** (2.39e-07)	15.2e-07*** (2.65e-07)	14.6e-07*** (2.47e-07)
Major Power (0,1)	0.0101 (0.0062)	0.0137 (0.0092)	0.0107 (0.0061)
Number of Other Allies	0.0002* (0.0001)	0.0002 (0.0001)	0.0003* (0.0001)
Democracy (-10, 10)	-0.0008*** (0.0002)	-0.0009*** (0.0002)	-0.0007** (0.0002)
Constant	0.0027 (0.0023)	0.0046* (0.0023)	0.0007 (0.0027)
N	157	154	157
R-squared	0.5336	0.4880	0.5280
* ≤ .05; ** ≤ .01; *** ≤ .001			

Table 3. Alternative Measures of Security Hierarchy, By Great Power
Based on Table 2 Model1, replacing Great Power Hierarchy Index (OLS) with sub-index
Index

		Aggregate Index	United States	United Kingdom	France	Russia
Bases	n = 157; R2 = 0.4978	-0.0207* (0.0093)				
	n = 157; R2 = 0.5043		-0.0314* (0.0137)	0.0580 (0.0333)	0.0034 (0.0322)	-0.0193 (0.0109)
Troops Deployed.	n = 157; R2 = 0.5065	-0.0328* (0.0149)				
	n = 157; R2 = 0.5222		-0.0674*** (0.0191)	0.1834*** (0.0529)	-0.0729 (0.0452)	-0.0216 (0.0143)
Independent Alliances.	n = 157; R2 = 0.5317	-0.0121*** (0.0030)				
	n = 153; R2 = 0.5097		-0.0136* (0.0056)	0.0037 (0.0058)	-0.0054 (0.0028)	-0.0093*** (0.0021)
National Aggregate Index (bases + troops + independent alliances).	n = 154, R2 = 0.5032		-0.0305* (0.0143)	0.0250 (0.0183)	-0.0276 (0.0154)	-0.0218*** (0.0057)

Table 4. Defense Effort, with Alternative Measures of Coercive Capability

OLS, Robust Standard Errors in Parentheses; Excluding North Korea

Dependent Variable: Defense Effort (Military Expenditures/GDP)

Great Power Hierarchy Index	-0.0251*** (0.0070)	-0.0270*** (0.0067)	-0.0255*** (0.0073)	-0.0208** (0.0076)	-0.0234** (0.0074)
Highest Defense Effort of Any Contiguous State (defense spending/GDP), two year lag.	0.1256** (0.0451)	0.0889** (0.0355)	0.1245** (0.0411)	0.1163** (0.0418)	0.1236** (0.0439)
MID Involvement (0,1), one year lag	0.0078*** (0.0023)	0.0071** (0.0022)	0.0076*** (0.0021)	0.0080*** (0.0022)	0.0078*** (0.0022)
GDP per capita	15.1e-07*** (2.29e-07)	15.4e-07*** (2.53e-07)	14.7e-07*** (2.32e-07)	15.8e-07*** (2.50e-07)	15.3e-07*** (2.36e-07)
Number of Other Allies	0.0002* (0.0001)	0.0002* (0.0001)	0.0002* (0.0001)	0.0002 (0.0001)	0.0002 (0.0001)
Democracy (-10, 10)	-0.0008*** (0.0002)	-0.0009*** (0.0002)	-0.0008*** (0.0002)	-0.0008*** (0.0002)	-0.0008*** (0.0002)
Military Personnel	-8.33e-06 (6.48e-06)				
Major Power (0,1)		0.0031 (0.0086)			
Total Population			-2.82e-08** (0.0023)		
Gross Domestic Product				-6.69e-012 (3.69e-12)	
CINC score					-0.1926 (0.0024)
Constant	0.0018 (0.0024)	0.0022 (0.0024)	0.0021 (0.0023)	0.0045 (0.0051)	0.0043 (0.0050)
N	157	157	157	157	157
R-squared	0.5089	0.4994	0.5260	0.5154	0.5107

* ≤ .05; ** ≤ .01; *** ≤ .001

References

- Aufrant, M. 1999. France and Its Allies: A Comparative Study of Defense Spending Trends since 1985. *Defence and Peace Economics* 10 (1):79-102.
- Bennett, D. Scott, and Allan C. Stam. 2000. EUGene: A Conceptual Manual. *International Interactions* 26:179-204.
- Dahl, Robert A. 1957. The Concept of Power. *Behavioral Science* 2.
- Department of Defense, Directorate for Information Operations and Reports. 1995. Active Duty Military Strengths by Regional Area and by Country (309A); Military Personnel Historical Reports.
- Earle, Timothy. 1997. *How Chiefs Come to Power: The Political Economy in Prehistory*. Stanford, CA: Stanford University Press.
- Evinger, William R. 1995. *Directory of U.S. Military Bases Worldwide*. Phoenix, AZ: Oryx Press.
- Finnemore, Martha. 2003. *The Purpose of Intervention: Changing Beliefs about the Use of Force*. Ithaca, NY: Cornell University Press.
- Flathman, Richard E. 1980. *The Practice of Political Authority: Authority and the Authoritative*. Chicago: University of Chicago Press.
- Fordham, Benjamin O., and Thomas C. Walker. forthcoming. Kantian Liberalism, Regime Type, and Military Resource Allocation: Do Democracies Spend Less? *International Studies Quarterly*.
- Gilpin, Robert. 1975. *U.S. Power and the Multinational Corporation: The Political Economy of Foreign Direct Investment*. New York: Basic Books.
- Gilpin, Robert. 1981. *War and Change in World Politics*. New York: Cambridge University Press.
- Gleditsch, Kristian S. 2002. Expanded Trade and GDP Data. *Journal of Conflict Resolution* 46:712-724.

- Godelier, Maurice, and Marilyn Strathern, eds. 1991. *Big Men and Great Men: Personifications of Power in Melanesia*. New York: Cambridge University Press.
- Goldsmith, Benjamin E. 2003. Bearing the Defense Burden, 1886-1989: Why Spend More? *Journal of Conflict Resolution* 47 (5):551-573.
- Goldsmith, Benjamin E. 2004. Defense Effort and Institutional Theories of Democratic Peace and Victory: Why Try Harder? National University of Singapore, Singapore.
- Goldstein, Judith, Miles Kahler, Robert O. Keohane, and Anne-Marie Slaughter, eds. 2001. *Legalization and World Politics*. Cambridge, MA: MIT Press.
- Gourevitch, Peter Alexis. 1999. The Governance Problem in International Relations. In *Strategic Choice and International Relations*, edited by D. A. Lake and R. Powell. Princeton, NJ: Princeton University Press.
- Hall, Rodney Bruce, and Thomas J. Biersteker. 2002. The Emergence of Private Authority in the International System. In *The Emergence of Private Authority in Global Governance*, edited by R. B. Hall and T. J. Biersteker. New York: Cambridge University Press.
- Hancock, Kathleen J. 2001. Surrendering Sovereignty: Hierarchy in the International System and the former Soviet Union. Ph.D. dissertation, Political Science, University of California, San Diego.
- Hartley, Keith, and Todd Sandler. 1999. NATO Burden-sharing: Past and Future. *Journal of Peace Research* 36 (6):665-680.
- IISS. 1995. *The Military Balance, 1995/96*. London: Oxford University Press, for International Institute for Strategic Studies.
- Ikenberry, G. John. 2001. *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars*. Princeton, NJ: Princeton University Press.
- Jones, Daniel M., Stuart A. Bremer, and J. David Singer. 1996. Militarized Interstate Disputes, 1816-1992: Rationale, Coding Rules, and Empirical Patterns. *Conflict Management and Peace Science* 15 (2):163-213.

- Kahler, Miles, and David A. Lake, eds. 2003. *Governance in a Global Economy: Political Authority in Transition*. Princeton, NJ: Princeton University Press.
- Keene, Edward. 2002. *Beyond the Anarchical Society: Grotius, Colonialism and Order in World Politics*. New York: Cambridge University Press.
- Keohane, Robert O. 1984. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton, NJ: Princeton University Press.
- Kindleberger, Charles P. 1973. *The World in Depression, 1929-1939*. Berkeley, CA: University of California Press.
- Krasner, Stephen D. 1976. State Power and the Structure of International Trade. *World Politics* 28 (3):317-347.
- Krasner, Stephen D., ed. 1983. *International Regimes*. Ithaca, NY: Cornell University Press.
- Krasner, Stephen D. 1999. *Sovereignty: Organized Hypocrisy*. Princeton, NJ: Princeton University Press.
- LaFeber, Walter. 1994. *The American Age: U.S. Foreign Policy at Home and Abroad, 1750 to the Present*. Second ed. New York: W. W. Norton.
- Lake, David A. 1992. Power Pacifists: Democratic States and War. *American Political Science Review* 86 (1):24-37.
- Lake, David A. 1996. Anarchy, Hierarchy, and the Variety of International Relations. *International Organization* 50 (1):1-33.
- Lake, David A. 1999. *Entangling Relations: American Foreign Policy in its Century*. Princeton, NJ: Princeton University Press.
- Lake, David A. 2001. Beyond Anarchy: The Importance of Security Institutions. *International Security* 26 (1):129-60.
- Lake, David A. 2003. The New Sovereignty in International Relations. *International Studies Review* 5 (3):303-323.

- Lake, David A., and Robert Powell, eds. 1999. *Strategy Choice and International Relations*. Princeton, NJ: Princeton University Press.
- Levi, Margaret. 1988. *Of Rule and Revenue*. Berkeley, CA: University of California Press.
- Mann, Michael. 1986. *The Sources of Social Power, Volume 1: A History of Power from the Beginning to A.D. 1760*. New York: Cambridge University Press.
- Marshall, Monty G., and Keith Jagers. 2002. Polity IV Project: Data Users' Manual. In *Polity IV Dataset Version 2002*. University of Maryland, College Park: Integrated Network for Societal Conflict Research, Center for International Development and Conflict Management.
- Mead, Walter Russell. 2004. America's Sticky Power. *Foreign Policy* (141):46-53.
- Milner, Helen V. 1991. The Assumption of Anarchy in International Relations: A Critique. *Review of International Studies* 17:67-85.
- North, Douglass C. 1981. *Structure and Change in Economic History*. New York: W. W. Norton.
- Nye, Joseph S. Jr. 2002. *The Paradox of American Power: Why the World's Only Superpower Can't Go It Alone*. New York: Oxford University Press.
- Olson, Mancur. 2000. *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. New York: Basic Books.
- ONeal, John R., and Hugh Carter Whatley. 1996. The Effect of Alliance Membership on National Defense Burdens, 1953-88: A Test of Mancur Olson's Theory of Collective Action. *International Interactions* 22 (2):105-122.
- Osiander, Andreas. 2001. Sovereignty, International Relations, and the Westphalian Myth. *International Organization* 55 (2):251-87.
- Reiter, Dan, and Allan C. Stam. 2002. *Democracies at War*. Princeton, NJ: Princeton University Press.
- Roscoe, Paul. 2000. New Guinea Leadership as Ethnographic Analogy: A Critical Review. *Journal of Archaeological Method and Theory* 7 (2):79-126.

- Sahlins, Marshall. 2000. *Culture in Practice: Selected Essays*. New York: Zone Books.
- Sarkees, Meredith Reid. 2000. The Correlates of War Data on War: An Update to 1997. *Conflict Management and Peace Science* 18 (1):123-144.
- Scheppele, Kim Lane, and Karol Edward Soltan. 1987. The Authority of Alternatives. In *Authority Revisited: NOMOS XXIX*, edited by J. R. Pennock and J. W. Chapman. New York: New York University Press.
- Schmidt, Brian C. 1998. *The Political Discourse of Anarchy: A Disciplinary History of International Relations*. Albany, NY: State University of New York Press.
- Signorino, Curtis S. , and Jeffrey M. Ritter. 1999. Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions. *International Studies Quarterly* 43:115-144.
- Singer, J. David. 1988. Reconstructing the Correlates of War Data Set on Material Capabilities of States, 1816-1985. *International Interactions* 14:115-132.
- Singer, J. David, and Melvin Small. 1982. *Resort to Arms: International and Civil Wars, 1816-1980*. Beverly Hills, CA: Sage Publications.
- Siverson, Randolph M. , and Juliann Emmons. 1991. Birds of a Feather: Democratic Political Systems and Alliance Choices in the Twentieth Century. *Journal of Conflict Resolution* 35:285-306.
- Smith, Peter H. 1996. *Talons of the Eagle: Dynamics of U.S.-Latin American Relations*. New York: Oxford University Press.
- Smith, Ron. 1995. The Demand for Military Expenditure. In *Handbook of Defense Economics*, edited by K. Hartley and T. Sandler. New York: Elsevier.
- Spencer, Herbert. 1969. *Principles of Sociology*. 1-volume abridged ed. London: Macmillan.
- Tammen, Ronald L. , Jacek Kugler, Douglas Lemke, and Allan C. Stam. 2000. *Power Transitions Strategies for the 21st Century*. New York: Chatham House Publishers.
- CLARIFY: Software for Interpreting and Presenting Statistical Results 1.2.1. Harvard University, Cambridge, MA.

Trochim, William M. K. 2001. *The Research Methods Knowledge Base*. Second ed. Cincinnati, OH: atomicdogpublishing.com.

Waltz, Kenneth N. 1979. *Theory of International Politics*. Reading, MA: Addison-Wesley.

Weber, Max. 1978. *Economy and Society*. 2 vols. Berkeley, CA: University of California Press.