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# *Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances\**

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This paper proposes an alternative logic of alliances to the capability aggregation model where both allies receive security from an alliance. In this alternative logic, one partner receives autonomy benefits, and the other, security benefits from the alliance. The former type of alliances are called symmetric and the latter asymmetric. The paper develops both logics from a model of alliance choices in the face of trade-offs between autonomy and security and provides a precise definition of those two concepts. It then derives a series of critical tests that show the trade-off model is superior to the capability aggregation model. First, asymmetric alliances will be easier to form and last longer than symmetric alliances. Second, regardless of the type of alliance, the greater the change in its members' individual capabilities, the more likely it will be broken. Third, second-rank major powers will be more likely to form asymmetric alliances as their capabilities increase. All the hypotheses are supported by a statistical examination of military alliances formed between 1815 and 1965. The implications of the argument for several topics in international relations theory are drawn out.

Alliances are a critical tool in international politics, but we understand little about them. As Ward (1982, 26) describes our knowledge, "little work has probed the black boxes of decision making within either nations or alliances. . . . Nor has there been very much work which has sought to examine, understand, or predict which alliance groupings were likely to form." Much of the literature emphasizes alliance formation and dissolution at the systemic level (e.g., Li and Thompson 1978; McGowan and Rood 1975; Midlarsky 1981, 1983). However, this body of work gives us few clues about why individual nations form specific alliances. Historical studies (e.g., Liska 1962; Rothstein 1968) discuss some cases in depth but provide little insight into what general tendencies hold. The surveys of work on alliances (Bueno de Mesquita and Singer 1973; Holsti, Hopmann, and Sullivan 1973; Ward 1982) leave the impression that much work has been done with few results.

The dominant view sees alliances as tools for aggregating capabilities against a threat; nations form alliances to increase their security by massing their capabilities against a common enemy. The need for the alliance ends when the threat passes. This view will be called the capability aggregation model of alliances. Although its origins lie in balance of power theory (Morgenthau 1973;

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Waltz 1979), capability aggregation is the central theme of most work on alliances. This view emphasizes how alliances advance the common interests of their members. Because the common interest is generally assumed to be the deterrence or defeat of a mutual threat, alliances are seen as tools of capability aggregation in the face of an expansionist power.

This paper contends that the typical view of alliances as tools of capability aggregation and threat deterrence alone is incomplete, but it can be subsumed in a more general model. Nations, particularly great powers, can use alliances to further their pursuit of changes in the foreign policy status quo. Weaker parties can offer concessions, such as military bases or the coordination of foreign and domestic policies, that can increase a stronger ally's freedom of action while increasing their protection from external threats. Alliances can advance diverse, but compatible, interests.<sup>1</sup> In this view a nation will judge the attractiveness of an alliance by comparing the benefits of the ally's ability to advance its interests to the costs of advancing the ally's interests. When the former exceeds the latter for both nations, they will want to form an alliance. The capability aggregation model is the special case of this broader view where the allies possess a mutual interest in repelling a common threat.

To understand the logic of alliances, we need a theory that explains national choices to form and to break them. Altfeld (1984) presents a rational choice theory of military alliances that emphasizes the trade-off between increased security and decreased autonomy. Morrow (1987) broadens Altfeld's concept of autonomy to create the possibility of autonomy gains from alliances. This paper extends the Altfeld model by linking it to a spatial representation of issues and interests (Morrow 1986; also see Morgan 1984). This extension provides clear definitions of autonomy and security from interests and shows how alliances can advance either autonomy or security. The autonomy-security trade-off model explains both symmetric (where both allies receive security or autonomy benefits) and asymmetric (where one ally gains security and the other autonomy) alliances and the conditions under which each type occurs.

This more general model subsumes the capability aggregation model and shows the differences between the two types of alliances. It leads to novel hypotheses about alliance patterns and durations that cannot be derived from the capability aggregation model. The critical test of the model is whether asymmetric alliances are more common and last longer than symmetric alliances. Because the two sides in asymmetric alliances derive their benefits from different interests, they strike a more stable bargain of interests than those in symmetric alliances. As each side's capabilities and interests change over time, asymmetric alliances are more likely than symmetric alliances to continue to provide net

<sup>1</sup>For example, the Warsaw Pact provides the Soviet Union with control over the internal and foreign policies of its allies and internal and external security for the Eastern European nations.

benefits to their members. Further, the model shows why alliances are more likely to break when the allies' capabilities change (Berkowitz 1983) and why increases in capabilities by second-rank major powers further the formation of asymmetric alliances.

Existing research provides some results supporting these hypotheses. Midlarsky (1988, 158–68) finds that alliances with great differences in capabilities last longer than those with small differences. Altfeld (1984) found that symmetric alliances among major powers were formed to gain security for all parties. Along a similar line, Lalman and Newman (1991) found that 88% of all European nations forming alliances since 1815 increased their security as a consequence of the alliance. At the same time, a substantial number of nations, 31, (12% of all the national decisions to form alliances in the period 1816–1965) lost security when they formed an alliance. Their results suggest that both security and nonsecurity motivations exist for alliances.

The paper begins with the capability aggregation model and then discusses the concepts of autonomy and security. A model of alliance decisions focusing on the autonomy-security trade-off is presented. The differences between symmetric and asymmetric alliances are drawn, and the implications of those differences for the formation and duration of alliances derived. Those implications are tested on the set of international military alliances formed between 1815 and 1965. The paper concludes with a discussion of the wide-ranging implications of the results for a number of topics in international relations.

### **The Capability Aggregation Model of Alliances**

Alliances and alignments occur when two or more nations agree to coordinate their actions. We distinguish formal alliances from alignments by the greater length of commitment present in an alliance; alignments reflect similarity in interest without the formal mutual commitment present in an alliance (Dingman 1979; Ward 1982). Alignments occur when nations concert their actions to pursue common interests at the present without the implication of coordination of their actions in the future.<sup>2</sup> Alliances entail a pledge of future coordination between the allies. Because those pledges are not binding, alliances do not merge the allies' capabilities by forging an everlasting coordination of action. Instead, alliances signal to other nations that the allies share certain interests and so are likely to coordinate their actions in the future.

Prospective allies must share both harmonious and divergent interests. Without the latter, an alliance would be unnecessary because each party would come to the other's aid simply in order to pursue its own (identical) interests. For instance, the United States and Israel have never signed a military alliance because there has never been a question that the United States would provide mili-

<sup>2</sup>Alignments correspond to the coalitions in Morrow (1986). Coalitions there require coordination on an agreed coalitional position and last only for the duration of the crisis.

tary assistance to Israel in a crisis. Their military interests have been sufficiently similar that an alliance has been unnecessary.

The capability aggregation model of alliances assumes that allies value each other for the military assistance they can provide one another. Although this view is not stated purely in any one source, it is quite common in the literature (e.g., Kaplan 1957; Morgenthau 1973; Walt 1987; Waltz 1979). The presentation here synthesizes the common elements of these different analyses. In this view alliances serve as a substitute for internal sources of power by increasing the likelihood that the allies will send their military forces to defend one another. The increased credibility of military intervention advances the allies' mutual interest in the deterrence of a common threat, and the massing of their military forces increases their ability to defeat such a threat should it materialize. The greater a nation's relative capabilities, the more attractive it will be as an ally (given a shared perception of the threat). (Note: the term "capabilities" always refers to relative rather than absolute capabilities in this paper.) All else equal, major powers are the most attractive alliance partners in this view.

In the capability aggregation model, alliances last as long as they are useful against the threat they counter. Alliances will be terminated when the threat passes. They could be short-lived or long-lived depending upon the nature of the threat. But nations should also break alliances when their allies can no longer provide the necessary capabilities or when those additional capabilities are no longer needed. Increases or decreases in either ally's relative capabilities increase the probability that it no longer needs its ally's capabilities or that it can no longer provide its ally with the necessary capabilities, and so should increase the probability of an alliance breaking up (all else equal). As a nation's relative capabilities increase, its ability to deter or defeat the threat on its own increases, lowering its valuation of an alliance. As a nation's relative capabilities decrease, its value as an ally declines, encouraging its ally to terminate the alliance. In either case, one of the two allies will value the alliance less. Having detailed the capability aggregation model and its implications for alliance durations, we turn to the alternative, the autonomy-security trade-off model.

### **Possible Benefits of Alliances: Autonomy and Security**

I start with the assumption that nations pursue values—some realized, some unrealized in the current state of affairs—in their foreign policies and that international issues are the manifestation of disagreements on those values across nations. These values run the gamut from the ideological through the pragmatic to the material. Specific international issues are policies of one or more nations that are the focus of a conflict.<sup>3</sup>

<sup>3</sup>Mansbach and Vasquez (1981) present a general theory of international relations based on issues (although their concept of stake corresponds to my notion of issue). Morrow (1986) presents a formal model that analyzes international conflict for set of issues where the positions of the actors

National preferences, strategies, and the outcome of issues are defined by three concepts: (1) ideal points that reflect national preferences over the issues; (2) positions that specify national strategies to achieve those preferences; and (3) the status quo that is the outcome determined by all nations' positions. A nation's ideal point gives its preferred resolution of the issues. A nation's position specifies the issue outcomes that it is trying to realize through its actions. Because nations may choose not to pursue their preferred outcome on all issues, a nation's position can differ from its ideal point. The current resolution of international issues defines the status quo. The status quo is determined by combining all nations' positions and their military, political, and economic capabilities to affect outcomes. Nations evaluate the status quo by comparing it to their ideal point; the closer the status quo is to their ideal point (controlling for the salience of separate issues), the more favorably they view the status quo (Morrow 1986).

The second assumption is that winning coalitions—a coalition that can determine the status quo regardless of the actions of other actors—do not exist. Because the outcomes of wars are unpredictable, increasing a coalition's capabilities increases the chance it will win and decreases the chance it will lose, increasing the settlement it can extract short of war (Morrow 1985). All nations influence the status quo, and so winning coalitions (except for a coalition possessing all the capabilities in the system) cannot exist.<sup>4</sup>

Nations can alter their position by taking actions that either support or oppose the status quo across a range of issues (perhaps just one issue or many issues at once). Most actions adjust a nation's position slightly. Alliances often lead to large shifts in the allies' positions because they adopt new actions and abandon previous actions to further the goals of the alliance.

What interests can nations pursue through alliances? Except for the rare case where the status quo is some nation's ideal point, all nations will be dissatisfied with the status quo over some issues. If actions either support or oppose the status quo on some issue, every nation will partition the issues into those it acts to preserve and those it tries to change. *A nation's security is its ability to maintain the current resolution of the issues that it wishes to preserve.* A nation's security varies with the issues it defines as security concerns, its capabilities to defend those concerns, the support it expects to garner from other nations to defend its security interests, and the magnitude of threat that other nations pose to those interests.

Nations wish to change the status quo for some issues. These issues give rise to *a nation's autonomy, the degree to which it pursues desired changes in*

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for the issues are explicitly defined. For the present discussion, we shall assume that issues exist, that actors have differences in their preferred resolution of those issues, and that no actor is perfectly satisfied with the status quo.

<sup>4</sup>Because I assume winning coalitions do not exist, the literature on alliances based on the size principle (Riker 1962) is irrelevant to this paper.

*the status quo*. The concept of autonomy here captures one facet: that of external self-assertion, of the general notion of autonomy as a state's ability to determine its own policies. A nation's autonomy will vary with the actions it adopts; the more aggressively it challenges the status quo, the greater its autonomy. We can judge a nation's autonomy by the difference between its ideal point and its position over the issues in the status quo that it would like to change. If a nation adopts its ideal point as its position, it has made no compromises in its attempts to achieve desired changes. Each time it abandons actions aimed to move the status quo closer to its ideal point in order to gain support for its security interests, its position moves away from its ideal point. As the difference between the two grows, its autonomy decreases.<sup>5</sup>

Because winning coalitions do not exist, nations can never be absolutely secure. If winning coalitions did exist, then their members would possess absolute security (at least from all nations outside the alliance). Instead, the positions and capabilities of all nations determine the status quo. Then a nation's security can always be increased by adding capabilities through an alliance provided that the shift in its position provoked by the alliance does not lead to additional threats to the status quo that overmatch the gain from the additional capabilities. The important observation here is that although all nations possess some degree of security, there is no state of perfect security. All nations are both secure and insecure; a motivation to gain security is always present.

Autonomy and security are judged at an instant in time and give a nation's ability to change and protect the status quo at that time. Over time, a nation's autonomy and security rises and falls with its capabilities and the support it receives from its allies. When autonomy goals are realized, those issues change into security concerns. Autonomy and security are plastic over time; I define them to be the instantaneous values rather than to measure the trade-off over time.<sup>6</sup>

<sup>5</sup>Morrow (1987) provides a more thorough discussion of the concepts of autonomy and security employed here. One of the referees suggested dividing the concept of autonomy in two—aggressive autonomy being freedom to remake the status quo, and defensive autonomy freedom from entangling alliances. I reject this distinction because the concept of defensive autonomy is problematic. An alliance entangles one of its members when the alliance leads it to adopt policies it would not have adopted otherwise. If the alliance commits it to protect interests it would not defend otherwise, then the alliance has reduced its security by decreasing its ability to defend its other interests. If the alliance leads it to advance interests of its allies that it would not otherwise, then the alliance reduces its autonomy by decreasing its ability to advance its own desired changes in the status quo. In either case the pursuit of defensive autonomy is just the pursuit of either autonomy and security as I define those terms.

<sup>6</sup>Some actions to change the status quo appear to be taken in the name of future security—preventive war, for instance. If we consider autonomy and security as dynamic, rather than instantaneous, concepts, we must define the actors' discount factors. Autonomy and security would then become discounted streams over time. We would have to estimate discount factors in order to calculate (dynamic) security and autonomy. I reject this approach in favor of an instantaneous defi-



### **The Autonomy-Security Trade-off Model of Alliance Behavior**

Alliances can be considered in terms of their effects on the allies' autonomy and security. Because autonomy and security dichotomize a nation's interests, the political effects of an alliance are separable into autonomy and security effects. Holding either autonomy or security constant, increases in the other are always preferred. Faced with an increase in one and a decrease in the other, I assume states have convex preferences over autonomy and security. A moderate combination of both is generally preferable to high levels of one and low levels of the other. Given convex preferences across issues, a nation prefers small differences between the status quo and its ideal point on many issues to complete satisfaction on a few issues and vast differences on the remaining issues (once we account for the relative salience of different issues). Autonomy and security are aggregations of these issues, and so preferences between autonomy and security must reflect the convex preferences across issues. Of course, the exact evaluation of the trade-off between autonomy and security for a particular nation depends on how it separates the issues into autonomy and security interests, the relative salience of different issues, and its levels of security and autonomy. A trade that produces a less even mix may be preferred if it produces a very large increase in one for only a small loss in the other.<sup>7</sup>

Alliances lead nations to change their actions, producing a shift in their positions. By altering demands to change the status quo on some issues while supporting the status quo on others, these new positions produce changes in the allies' autonomy and security. The actual changes in position are negotiable and depend upon the agreement between the allies. A nation can reduce its autonomy by changing its position on the issues that it would like to change. Any alliance that reduces a nation's autonomy will have to garner additional security from the support of the new ally (otherwise, why would a nation form an alliance if it lost both security and autonomy?). Many international agreements, including some military alliances, are struck on the grounds of both parties sacrificing autonomy for security. Other agreements increase a nation's autonomy by providing it with assistance from the ally that allows the first nation to adopt actions that pursue desired changes. At the same time, its security decreases both because its new position may provoke new challenges from other nations and because the nation will take actions to defend its ally's security interests that it would not defend

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nition of autonomy and security for reasons of simplicity. Although a dynamic model would be preferable to the static model, the treatment presented here is generally in accord with existing theory and empirical work.

<sup>7</sup>The assumption of convex preferences includes the idea of diminishing marginal returns. Pushing an already high level of security higher may be less preferred than raising a low level of autonomy. Still, the evaluation of a particular trade depends upon the exact trade-off; if a large amount of security could be obtained for a small loss in autonomy, this trade might be preferred even when security was already high and autonomy low.



without the alliance.<sup>8</sup> Then a nation's autonomy and security in military alliances are generally constrained to move in opposite directions.<sup>9</sup> This constraint operates like a budget line in consumer theory in economics (except that there is no reason to assume the constraint is necessarily linear).

Because a rough trade-off between autonomy and security exists in the logic of military alliances, a model of alliance decisions should focus on that trade-off. Altfeld (1984) adopts the conventions of consumer choice theory to explain how governments (which he treats as unitary, rational actors) employ arms and alliances as tools to gain the combination of autonomy, security, and wealth they desire. Purchasing arms raises a nation's security at the cost of some wealth; forming alliances can raise a nation's security at the cost of some autonomy. Different nations will acquire different combinations of arms and alliances based on their utility for each of these three "goods."

Formally, this approach leads to a constrained optimization problem which Altfeld (1984) solves to determine equilibrium conditions for a nation's armament and alliance decisions. My approach is different; I examine the benefits and costs of possible alliances to determine the attractiveness of different types of alliances. Because the set of available alliance partners is small, nations are generally unable to form their optimal alliance profile. Instead, they use a weaker criterion, forming that alliance which most increases their utility. Individual alliances cannot be predicted because there are no existing indicators of national utilities for other nation's policies and the status quo other than Bueno de Mesquita's (1981) alliance similarity indicator. But there are patterns in the benefits of alliances that suggest certain regularities that can be observed across a large number of alliances. To explain those regularities, we now turn to the security and autonomy benefits (and costs) that different alliance partners can provide.

### Benefits and Costs of Alliances

Security benefits arise primarily from the military capabilities of an ally. The stronger the ally, the greater the security provided by an alliance (all else

<sup>8</sup>The threat of entrapment, being dragged into a war only to support an ally, is the main source of a loss of security from an alliance (Snyder 1984). Entrapment threatens a nation's security because defeat in war may lead to issue concessions beyond the loss of the ally's interests.

<sup>9</sup>Some alliances might produce gains in both autonomy and security for one of the allies if it valued the continued existence of its ally as one of its security interests. Because such alliances would be costless for that nation, it would always be willing to ally. But then we should wonder why would its ally grant autonomy concessions to form the alliance; the first nation should be willing to defend the second even without the alliance.

Although autonomy and security can be traded through alliances, there is not an inverse relationship across nations between the two. Assume that all nations start with equal autonomy, but some nations start with more security. Those states with high security would trade some to states with less for additional autonomy. (Strictly speaking, nations cannot trade autonomy and security, but they would form alliances that provide security to the weaker party and autonomy to the stronger.) Then

equal). The precise amount of security an ally provides depends on the location of the ally, the issues the agreement covers, and the threat other nations pose to the status quo (which can be determined from their capabilities and positions). In some cases an alliance will increase a nation's security by reducing the threat its ally poses (cf. Walt 1987 on bandwagoning and Mares 1988 on regional hegemonies). An alliance can reduce a nation's security by revealing issue positions that other nations object to or by committing it to defend an ally it would not defend in the absence of an alliance (Snyder 1984). The latter danger—often called “entrapment”—is particularly problematic when the ally is weak and embroiled in a long-term policy dispute with another nation. Generally, the security an ally provides rises with the ally's power but can be negative for weak, exposed allies or if the ally advances a controversial position.

The autonomy benefits (or costs) of an alliance are negotiable. For an alliance to retain credibility over time, the allies must adjust their actions to demonstrate their continued commitment to the alliance. Consequently, Altfeld (1984) assumes that alliances must reduce both allies' autonomy. But the definition of autonomy here (i.e., the freedom to pursue desired changes in the status quo) allows for different patterns of alliance benefits. Offensive alliances (cf. Levy 1981 on offensive alliances in history) increase both allies' autonomy. The Axis brought together three nations (Nazi Germany, Fascist Italy, and Imperial Japan) that shared common interests in changing the status quo. Alliances formed to change the status quo require either shared or complementary goals. The Axis pursued complementary territorial goals: Germany's goals being in Central and Eastern Europe, Italy's in the Mediterranean, and Japan's in the Far East.

In other alliances one party receives autonomy benefits from the other. For example, the Anglo-Portuguese alliance of 1899 (the Windsor treaty) stopped arms shipments to the Boers through Delagoa Bay. Because the cession of arms shipments assisted the British in their goal of establishing control over the Transvaal and Orange Free State (i.e., a change in the status quo), Britain gained autonomy from the treaty. The Portuguese in return received territorial guarantees of their colonies.

The exact nature of autonomy benefits is negotiable in an alliance. If one party is willing to offer concessions like changes in its internal policies or military bases that allow the projection of military forces, the other side can gain autonomy from the alliance. Control over one ally's internal and external policies (Schroeder 1976) can produce autonomy benefits by realizing desired changes in the status quo and by freeing resources to pursue other goals. Of course, the same concessions could be made to enhance both parties' security. What distin-

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at any point in time, we should expect to find that nations with above-average security should also have above-average autonomy. Even though alliances provide a trade-off between autonomy and security, we should observe a positive relationship between the two across nations.

guishes these concessions (which are common to alliances) as autonomy or security benefits is the motivation that underlies them. Now we turn to those motivations and examine them through a thought experiment.

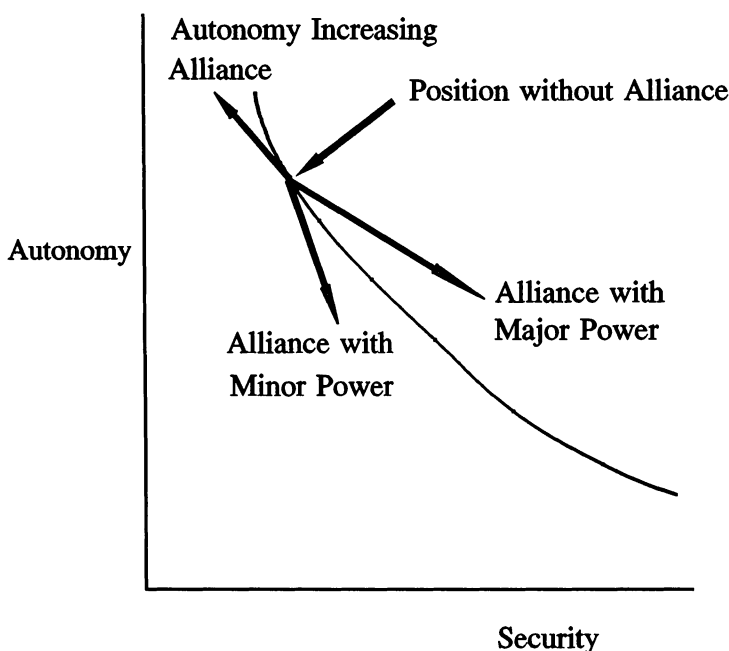
### Power and Alliance Motivations

Imagine a pristine international system, one where there are no alliances and no previous history. Each nation depends only on its own capabilities for its security, which increases with its capabilities. Major powers in such a system would be more secure than minor powers because of their greater military capabilities. Of course, particular major powers may be insecure if their interests are greatly threatened, and particular minor powers may be secure if their interests are not threatened. But all nations would possess high levels of autonomy because none have formed alliances or taken actions that would move their positions away from their ideal points. Before the formation of any alliances, all nations would possess similar levels of autonomy but varying levels of security.

Given convex preferences in autonomy and security (i.e., possessing a moderate level of both is preferable to possessing a great deal of one and not much of the other), nations prefer alliances that equalize the mix of autonomy and security to an unaligned state with an unbalanced combination of the two. Minor powers have low levels of security and high levels of autonomy and so try to form alliances that increase their security at the cost of some autonomy. The exact alliances they form (if any at all) depend on the specific trades of autonomy for security offered and the relative importance of security versus autonomy for each nation (i.e., its utility function for autonomy and security).

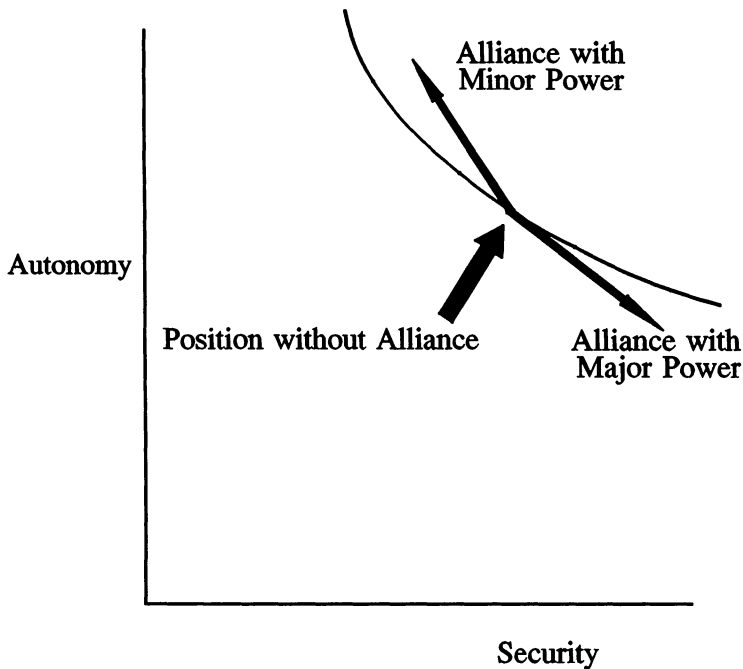
The situation is different for major powers. They possess high levels of both autonomy and security. They have no overriding interest to raise either autonomy or security; some desire to enhance their security, while others are content with theirs. As a group, major powers will not be driven to pursue exclusively autonomy or security in their alliances.

Consider what types of alliances are attractive in this situation. A major power can offer a potential ally a large increase in its security, but it demands a high price in autonomy to form an alliance. Minor powers cannot offer much security to a prospective ally but may be able to offer concessions that increase its ally's autonomy. Figure 1 displays the attractiveness of different types of alliances to minor powers. An alliance with a major power provides a large increase in security at the cost of a large cost in autonomy; an alliance with another minor power provides a small gain in security at a small cost of autonomy. An alliance that increases autonomy does so at a cost of security. The hypothetical minor power wants to form any alliance that shifts its autonomy-security mix above its indifference curve through its original mix, in Figure 1 just the possible alliance with the major power. The attractiveness of a particular alliance depends upon the changes in autonomy and security it produces and how

**Figure 1. The Security and Autonomy Consequences of Alliances for Minor Powers**

a nation evaluates those changes. The hypothetical minor power in Figure 1 might want to ally with some minor powers and not ally with some major powers depending upon the exact consequences of the potential alliance. However, given convex preferences and an initial mix unbalanced with more autonomy than security, minor powers desire large gains in security, and only alliances with major powers can deliver the desired gains.

Figure 2 gives a major power's situation. An alliance with another major power could raise its security at the cost of some autonomy. Alternatively, it could form an alliance with a minor power that reduces its security but raises its autonomy through concessions made by the minor power to secure the alliance. These concessions could include military bases that provide strategic location for the projection of power or agreements that allow the major power to intervene in the minor power's domestic politics in the future. Deals between major and minor powers are natural in this situation; the minor power will make autonomy concessions to the major power in return for the security the major power can provide. This pattern of alliance will be called *asymmetric* because the parties receive different benefits from the alliance. Additionally, asymmetries in capabilities are generally found in asymmetric alliances.

**Figure 2. The Security and Autonomy Consequences of Alliances for Major Powers**

*Symmetric* alliances, where each party gains the same type of benefit, are also possible. Two major powers' interests may be sufficiently close for them to form an alliance where they both gain security (if their interests in preserving the status quo match) or autonomy (if their interests in changing the status quo complement one another), provided that the cost in the other is not too high. Minor powers may be able to provide one another with sufficient security to overcome the autonomy loss of an alliance, the Little Entente being a classic example of an alliance of minor powers for security. However, such alliances are rare and limited. The Little Entente faced only the Hungarian threat to the status quo because the German, Italian, and Soviet threats to the status quo were not shared by its members, and their military capabilities were insufficient to defeat any of those threats. Opportunities to form symmetric alliances will be rare because they require great harmony of interest. Asymmetric alliances should be easier to form because each side receives different benefits, and both sides can deliver their end of the bargain. Assuming there are an equal number of opportunities to form both types of alliances, we should expect to see more asymmetric than symmetric alliances and more allies that are unequal in power than allies that are equal.

As alliances start to form in our hypothetical pristine system, minor powers will convert some of their autonomy to security, and major powers will convert some of their security to autonomy. These trades lead to an international system where the powerful tend to possess higher levels of both autonomy and security than the weak.

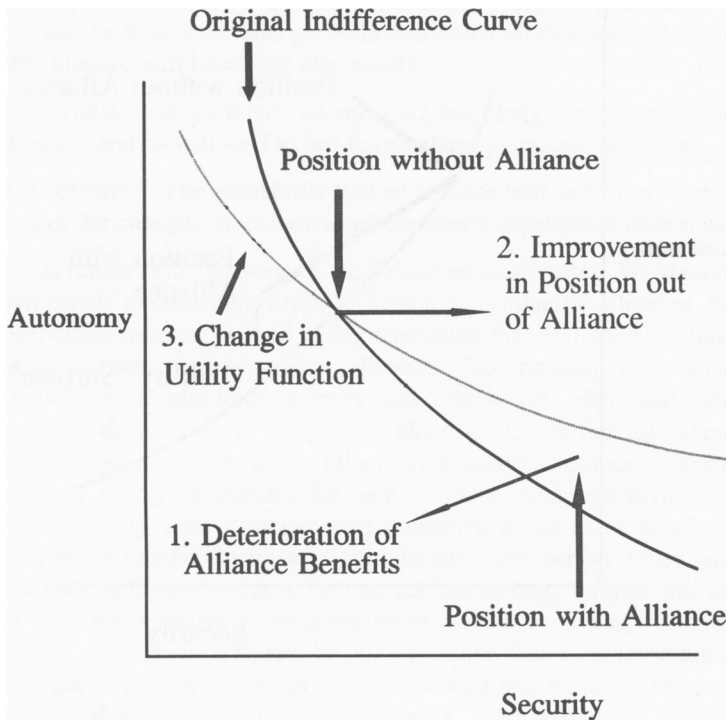
The attraction of any individual alliance depends on the autonomy and security that each party can provide and the value each party attaches to those goals. Some minor powers may be unable to form alliances because they are unable to deliver sufficient autonomy benefits to attract a major power. For example, if military bases are the autonomy concession, not all minor powers possess the strategic location that make such bases attractive to a major power. One type of asymmetric alliance (which Mares 1988 calls regional hegemonies) provides sufficient autonomy benefits for the major power to remove its incentive to threaten its ally, thereby increasing the minor power's security. Other minor powers will value their autonomy highly, making those concessions unattractive even to gain large security benefits. The classic case here is Hoxha's Albania, which quit asymmetric relationships with both the Soviet Union and the People's Republic of China in order to preserve the autonomy of its foreign policy. The same considerations will change the willingness of major powers to enter into alliances; the United States between the wars valued its security in the Western Hemisphere (and its autonomy in Latin America) highly and so remained isolationist (with respect to European politics). The argument above does not suggest that all nations will enter asymmetric alliances nor that only asymmetric alliances will form, but rather that asymmetric alliances are unusually attractive compared to symmetric alliances.

### **Hypotheses on Changes in Power and Alliances**

The thought experiment above asserts the attraction of asymmetric alliances, but how do the motivations to form alliances change in a system where some alliances already exist and capabilities change over time?

To consider these changes, continue the thought experiment to analyze the motivations to break alliances. A nation will want to break an alliance when it prefers (i.e., is on a higher indifference curve) the combination of security and autonomy it obtains without the alliance to that with it. Three motivations make this shift attractive: (1) a deterioration of its security or autonomy in the alliance; (2) an improvement in its security and autonomy out of the alliance; or (3) a shift in the nation's utility function (Berkowitz 1983). Figure 3 shows each of these motivations graphically.

What changes can produce each of these three motivations to break an alliance? First, growth in capabilities in one alliance partner: as one ally grows in power, its ability to provide for its own security increases. At the same time, its

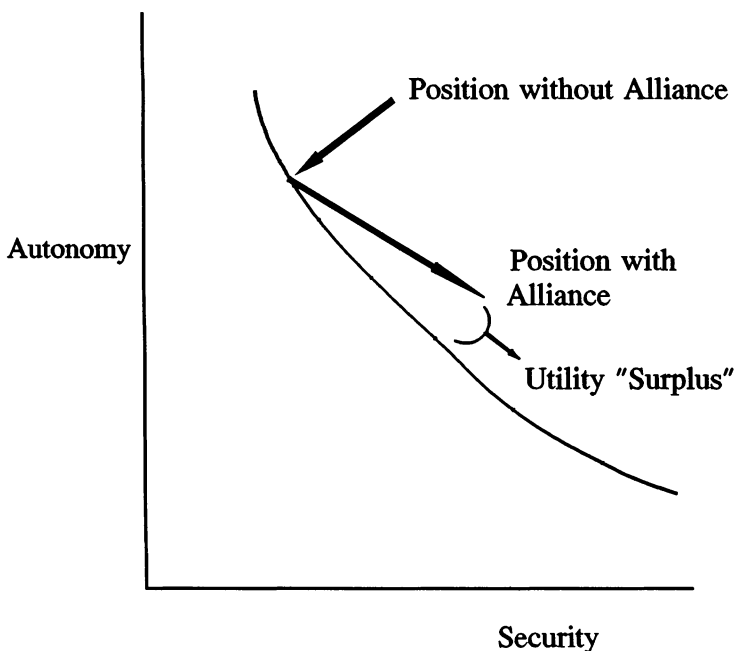
**Figure 3. Three Changes That Could Break an Alliance**

security in the alliance also increases. As a consequence of this second increase, it will demand additional autonomy from its ally, either by obtaining new concessions or by removing old obligations. Much of that renegotiation occurs tacitly as the parties adjust their actions over time; McGinnis (1986) provides an insightful analysis of such adjustment between superpowers and their clients. These changes can make breaking the alliance more attractive to the ally than can continuing the alliance. Second, decline in a nation's capabilities has the same effect when its ally obtains security from the alliance. The alliance now provides less security, and the partner with constant capabilities will demand additional autonomy to continue the alliance. For both of the first two reasons, the bigger the change in capabilities, the bigger the renegotiation required. Third, shifts in either ally's utility function (e.g., through a change in government) can make existing alliances no longer attractive (such shifts can also reinforce the attractiveness of existing alliances).

For all three changes, adjustments of security and autonomy are easier when



Figure 4. A Graphic Depiction of Utility “Surplus”



both parties have a large utility “surplus” for the alliance because each can grant larger concessions of autonomy or security and still wish to remain in the alliance. We can think of a nation’s utility “surplus” for an alliance as the distance between its autonomy and security position with the alliance and its indifference curve through its autonomy and security without the alliance (see Figure 4).

Asymmetric alliances are less likely to break in a given period than symmetric alliances and so tend to last longer for two reasons. First, changes in the weaker power’s capabilities will not greatly alter the nature of the trade. Because it provides autonomy to the major power, its contribution to the alliance is unaffected by changes in its capabilities. Its security is primarily provided by its major power ally, so its benefits from the alliance will not change greatly with changes in its capabilities. Consequently, these shifts in capabilities are unlikely to break the alliance. In a symmetric alliance, a change in either ally’s capabilities forces a reallocation of the benefits of the alliance, making the alliance less likely to persist. Second, asymmetric alliances tend to produce a greater utility “surplus” than symmetric alliances because both allies move toward a more even mixture of autonomy and security. Once again, these arguments do not claim

that all asymmetric alliances persist longer than all symmetric alliances, only that across a large number of alliances, asymmetry leads to greater average duration. Also the bigger the change in an individual ally's capabilities, the more likely the alliance will break (all else equal).

**HYPOTHESIS 1:** Asymmetric alliances are less likely to break than symmetric alliances and so will tend to last longer than symmetric alliances.

**HYPOTHESIS 2:** The probability that an alliance will be broken increases the greater the changes in its individual member's capabilities over time.

Let us return to the question of the formation of alliances. We should expect that asymmetric alliances are easier to form than symmetric alliances. But does this observation necessarily lead to the conclusion that asymmetric alliances are formed more often than symmetric alliances? No. Existing alliances provide some nations with additional security and others with additional autonomy, reducing their desire to form asymmetric alliances. Given that asymmetric alliances last longer than symmetric alliances, a smaller number of asymmetric alliances may satisfy the demand for such alliances. Although asymmetric alliances are generally more attractive than symmetric alliances, demands for such alliances may be satisfied by fewer of them because they persist. More symmetric alliances may be formed because they do not last as long; nations will probably have to form a symmetric alliance whenever a situation calling for one arises. Asymmetric alliances then should be more common than symmetric alliances in the sense that more nation-years of asymmetric alliances should be observed than nation-years of symmetric alliances. However, more symmetric alliances are likely to be formed.

**HYPOTHESIS 3:** Asymmetric alliances exist more frequently than symmetric alliances—more nation-years of asymmetric alliances should be observed than nation-years of symmetric alliances.

**HYPOTHESIS 4:** More symmetric alliances are formed than asymmetric alliances.

Finally, we turn to which nations are likely to form alliances. Asymmetric alliances trade security for increased autonomy. For major powers, increases in their capabilities raise their security. When the capabilities of a major power increase, it should want to trade some of that increased security for more autonomy by forming an asymmetric alliance. The major powers that form new asymmetric alliances should be predominantly drawn from those major powers whose capabilities have recently increased.

However, this line of logic should not work for the most powerful nations. Because of their exceptionally high capabilities, those nations should always

possess “extra” security that they would like to trade for autonomy. Increases in their capabilities should be irrelevant to their interest in forming asymmetric alliances.

A second reason supports the hypothesis that increases in capabilities increase the likelihood that a major power will form an asymmetric alliance but are irrelevant for exceptionally powerful nations. Asymmetric alliances require an interested minor power. Minor powers require security to complete such a deal, but not all major powers can provide that security. One way for a minor power to ensure that a prospective protector will possess sufficient capabilities is to ally with a major power whose capabilities are increasing.

Some major powers, such as Britain in the nineteenth century and the United States in the twentieth century, are so powerful that they can guarantee security to any minor power. Increases in capabilities in the latter case are not necessary to ensure their ability to protect their clients.

Minor powers tend to have less choice in the formation of asymmetric alliances. If they do not hold a strategic geographic position or a central political role, it may be very hard to find any major power that wishes to protect them in return for autonomy concessions. Changes in minor power capabilities should then be less relevant to the formation of asymmetric alliances.

**HYPOTHESIS 5:** Increases in capabilities for second-rank major powers increase the chance that they form an asymmetric alliance.

**HYPOTHESIS 6:** Increases in capabilities for exceptionally powerful nations are irrelevant to their formation of asymmetric alliances.

Compare the two models of alliances. The capability aggregation model provides a basis for understanding security-increasing symmetric alliances. But the autonomy-security trade-off model is logically superior because it incorporates this understanding while also explaining asymmetric alliances and offensive alliances (i.e., autonomy-increasing symmetric alliances). Further, Hypotheses 1, 3, 4, 5, and 6 provide critical tests for separating the two models. Although both models predict that alliances are more likely to break as their members’ capabilities change, the capability aggregation model says little about why asymmetric alliances would form or when they would be broken. Given that minor powers can offer little security to their major power allies, the capability aggregation model suggests that asymmetric alliances would be rare and more likely to break than symmetric alliances. Now we turn to an examination of alliance durations and patterns to assess the evidence for the autonomy-security trade-off model.

### **Testing the Hypotheses**

A set of 164 military alliances formed between 1815 and 1965 is used to test the six hypotheses. The primary source is the Correlates of War collection

of all mutual military alliances (Small and Singer 1969) with the addition of wartime alliances given by Holsti, Hopmann, and Sullivan (1973). Each alliance is treated as a whole and is not decomposed into dyads of allies. Separate alliances formed with the intent of building one multilateral alliance are treated as one alliance, starting with the formation of the first alliance in the set and ending with the dissolution of the whole alliance. For instance, the Little Entente is treated as one alliance beginning in 1920, when Czechoslovakia and Yugoslavia concluded the first bilateral pact.

To test the first hypothesis, the alliances were classified as symmetric or asymmetric. Nations are classified into three groups: minor, major, and superpowers. The definition of major powers is taken from the *Correlates of War* (Small and Singer 1982, 47–50). All nonmajor powers are classified as minor powers. After 1945 the definition of major power is problematic because the Soviet Union and the United States are more than equals of the other major powers (i.e., United Kingdom, France, and the People's Republic of China). To rectify this problem, the Soviet Union and the United States are classified as superpowers from 1945 on, creating three types of nations for that period. Alliances with only one type of power are considered symmetric; those including one superpower or one major power and only lesser powers are considered asymmetric. Alliances with more than one major power and at least one minor power were classified on a case-by-case basis depending on the nature and purpose of the alliance.<sup>10</sup>

<sup>10</sup>The mixed alliances were classified as follows: The Germanic Confederation is asymmetric because Austria and Prussia used it to control the German states (Kraehe 1963). The Quadruple Alliance is asymmetric because France requested the addition of Spain and Portugal to the alliance to give Britain and France control over Spain and Portugal (Webster 1951). The 1840 alliance against Mehemet Ali is symmetric because all parties were interested in restraining independent French action (Webster 1951; Schroeder 1976). The Crimean War alliance of Britain, France, and Turkey is symmetric because of their common interest in resisting the Russian threat to the status quo in the Eastern Mediterranean. The 1861 alliance of France, Great Britain, and Spain against Mexico is symmetric because of their common interest in intervening in Mexico (Albrecht-Carrie 1958, 120). The alliance of Romania with the members of the Triple Alliance is treated as a separate asymmetric alliance from the Triple Alliance because Austria-Hungary used the alliance to provide additional support against Russia in the Balkans and to protect against Romanian agitation in Transylvania, and Romania insisted that Germany be included (Taylor 1954, 277). The Mediterranean agreement between Austria-Hungary, Italy, and Spain is asymmetric because the alliance acted to constrain Spain from dealing with France over Morocco. Bulgaria joining the Central Powers and Romania joining the Allies during World War I are symmetric because all parties were pursuing changes in the status quo. The Brussels Pact is symmetric because its original purpose was to encourage U.S. protection of Western Europe (Kaplan 1984); having succeeded in that goal with the formation of NATO, I consider the alliance terminated in 1949, even though it continues to exist to this day.

All bilateral alliances between Warsaw Pact members are considered separate from the pact itself because they are considered to bind the Soviet Union to defend Eastern Europe more strongly than the pact itself (Meissner 1966).

One of the referees wondered if some alliances between major and minor powers are actually

**Table 1. Mean Durations of Symmetric and Asymmetric Alliances**

Type	Years	Number
Asymmetric alliances	15.69 $\pm$ 12.80	78
Symmetric alliances	12.21 $\pm$ 12.84	86
$t = 1.74$		
Significance = .043		

*Note:* The  $t$ -statistic is calculated using independent estimates of the variances and 78 degrees of freedom. The significance probability is based on a one-tailed test of the hypothesis that asymmetric alliances endure longer than symmetric alliances.

The average lengths of asymmetric and symmetric alliances were compared using a one-tailed  $t$ -test on the hypothesis that asymmetric alliances should last longer. Table 1 gives the results; asymmetric alliances last three and a half years longer on the average than symmetric alliances. This difference is significant at the .05 level.

The data set contains 78 asymmetric and 86 symmetric alliances. Compared to the probability of symmetric and asymmetric alliances if alliance partners were chosen randomly, the significance probability of this difference is .26 ( $n = 164$ , the number of alliances).<sup>11</sup> Although this observation supports the fourth

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symmetric. Misclassifying symmetric alliances between minor and major powers as asymmetric might compromise the statistical tests. Such misclassifications could produce either error or bias. Error (i.e., random misclassifications of cases) increases the variance of the estimators which would reduce the power of the tests. Bias (i.e., systematic errors) is a more serious problem. If this bias exists here, it can make the tests only more, not less, likely to falsify the theory. *If my theory is true*, such alliances should be short-lived because they produce a small utility surplus for the major power. By misclassifying these symmetric alliances as asymmetric, I would reduce the mean duration of asymmetric alliances and increase that of symmetric alliances in the test. These changes would make it more difficult to show that asymmetric alliances last longer than symmetric alliances. Thus, *if my theory is true*, any error or bias introduced by misclassifying symmetric alliances between major and minor powers as asymmetric makes the tests less powerful; it increases the probability of type II errors, but reduces the probability of type I errors.

The reader may also wonder if the accumulation of different national commitments across time into one alliance introduces a bias by including ex post information (what nations were in the complete alliance) when determining the nature (i.e., symmetric versus asymmetric) of an alliance for a prediction of its length. This problem does not occur because none of the alliances examined that added or lost members after initial formation changes its nature as a consequence of those changes.

<sup>11</sup>The random probabilities of asymmetric and symmetric alliances are calculated by assuming that each ally is drawn randomly from the three types (super, major, and minor powers) with probability equal to the proportion of alliance commitments made by the three types and that all alliances are bilateral. This calculation controls for both the number of opportunities to form the different

hypothesis, it understates the higher formation rate of symmetric alliances because more nations are included in the typical symmetric alliance than the typical asymmetric alliance. To test the third and fourth hypotheses, the number of nations that formed each type of alliance and the number of nation-years that each type of alliance existed were calculated. Nations form symmetric alliances more often than asymmetric alliances, with 259 national commitments to symmetric alliances compared to 224 national commitments to asymmetric alliances. Using the same random probability as above, this difference is significant at the .052 level ( $n = 483$ , the number of alliance commitments). However, more asymmetric alliances than symmetric alliances are in existence, with 4,415 nation-years of asymmetric alliances compared to 3,261 nation-years of symmetric alliances over the 165-year period covered, supporting the third hypothesis. This difference is significant at the .028 level ( $n = 164$ , the number of alliances) compared to the same random probabilities above.

Evidence for the second, fifth, and sixth hypotheses requires more work. The second hypothesis states that the greater the change in the individual allies' capabilities over time, the more likely an alliance will break. The duration of each alliance was separated into a string of five-year periods, starting with its formation and extending through its dissolution (or 1980 if it is still in existence). For example, an alliance formed in 1888 and dissolved in 1901 would be broken into three five-year periods, 1888 to 1892, 1893 to 1897, 1898 to 1902. The slope coefficient of a regression of each member's composite capabilities on time (year 1 to year 5 of each period) gives an estimate of the change in its relative capabilities over that five-year period.<sup>12</sup> Because both increases and decreases in

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types of alliances and the greater propensity of major powers to form alliances. Of the 483 alliance commitments, superpowers make 15, major powers 176, and minor powers 292. Then the probabilities of each type making an alliance commitment are .031, .364, and .605, respectively. If a pair of allies are chosen randomly, the probability of a symmetric alliance being formed by two nations is the sum of the squares of the probability of each type:  $(.031)^2 + (.364)^2 + (.605)^2 = .499$ . The probability of an asymmetric alliance is just the complement of this probability, .501. The statistical tests compare these random probabilities to the observed frequencies in the data.

<sup>12</sup>Composite capabilities scores used in the analysis were obtained from the Correlates of War project directed by J. David Singer at the University of Michigan. They are based on six different indicators of military capabilities: military expenditures, military personnel, total population, urban population, iron and steel production, and energy consumption. For each indicator and each year, a nation's share of that indicator is calculated by dividing its score on that indicator by the sum total of all nations' scores on that indicator for a given year. A nation's composite capabilities is the average of its share of these six indicators, providing a measure of a nation's relative capabilities.

Composite capabilities are a crude indicator of existing and potential military capabilities. They vary from year to year, often through essentially random variation of the underlying indicators. To reduce the importance of this random variation when determining the change in a nation's capabilities, the strategy of regressing five years of capabilities against time was adopted. The slope of a regression line gives an average change across the five-year period, smoothing out year-to-year variations in composite capabilities to tap the long-term changes in capabilities.

capabilities are hypothesized to increase the chance that an alliance will break, the absolute value of the slope coefficients was taken to find a nation's change in capabilities across each five-year period. Two measures of the changes in capabilities of the members of an alliance (the sum total change of all members of the alliance and the maximum change experienced by any one member) were calculated from these absolute values of estimated changes in relative capabilities. The second measure of capability is used as a check on multilateral alliances where the first measure could make many small changes appear large when added together.

Probit analysis was run to differentiate those periods in which alliances were dissolved from those where they were not. Because composite capabilities indices are very unstable during periods of major wars, all five-year periods that overlapped with at least one year of World War I or II were eliminated from the analysis.<sup>13</sup> Two analyses were run, one for each of the two measures of changes in capabilities in an alliance. Each analysis also included a dummy variable for whether the alliance was symmetric or asymmetric (coded 1 if the alliance was asymmetric and 0 if it was symmetric). The autonomy-security trade-off model predicts that the coefficient for the type of alliance should be negative (all else equal, asymmetric alliances should be less likely to break than symmetric alliances) and the coefficient for the change in capabilities in the alliance positive (the greater the change in the capabilities of the members of an alliance, the more likely the alliance will be broken). The capability aggregation model predicts that both coefficients should be positive.

Table 2 gives the results of the two analyses. In both analyses the coefficients are in the direction predicted by the autonomy-security trade-off model and significant, with the coefficient for changes in capabilities being highly significant.

The fifth hypothesis states that increases in capabilities for second-rank major powers increases the chance of their forming an asymmetric alliance, and the sixth hypothesis states that such increases are irrelevant for first-rank major powers. Both of these hypotheses can be tested with one probit equation that relates changes in major power capabilities to the likelihood of forming an asymmetric alliance. The period from 1816 to 1965 was divided into five-year periods (e.g., 1816 to 1820, 1821 to 1825, etc.). For each period the average capabilities and average rate of change of capabilities were calculated for each major power during that period as in the previous analysis (the intercept of the regression of capabilities on time gives the average capabilities and the slope coefficient the rate of change). The rate of change of each major power's capabilities and the interaction of its average capabilities and rate of change were used to predict

<sup>13</sup>Analyses that include the periods that overlap World War I and II produce essentially identical results to those reported in the text.



**Table 2. Probit Estimates of the Relationship between Changes in Capabilities and the Break-up of Alliances**

	Model 1	Model 2
Constant	-1.07	-1.02
Standard error	.11	.11
Alliance asymmetric?	-.26	-.26
Standard error	.15	.15
Significance	.04	.04
Change in capabilities		
Sum of all allies	51.71	
Standard error	14.19	
Significance	.0001	
Maximum of all allies		46.83
Standard error		16.79
Significance		.003
-2 × Log likelihood ratio	14.55	8.69
Significance	.0007	.01

*Note:*  $N = 454$  for both models. All significance tests for coefficients are one-tailed tests based on their predicted sign.

whether that major power formed an asymmetric alliance during that five-year period. Once again, time periods that overlapped either World War I or II were omitted from the analysis.

Hypotheses 5 and 6 predict that the signs of the coefficients should be positive and negative, respectively. Increases in capabilities should increase the likelihood of a major power forming an asymmetric alliance with the effect of those increases decreasing with the major power's average capabilities. Furthermore, the joint effect of the two variables should be negligible for the most powerful nations (e.g., Great Britain in the nineteenth century and the United States in the twentieth century).

Table 3 presents the results of this analysis. Both coefficients are in the predicted directions and statistically significant at the .01 level. Dividing the coefficient for changes in capabilities by the coefficient for the interaction of capabilities and their change produces a break-even level of about .16. That is, changes in capabilities are irrelevant for the formation of asymmetric alliances for nations with average capabilities greater than .16. Only Great Britain from 1816 to 1900, Russia from 1816 to 1850, the United States from 1900 to 1965, and the Soviet Union from 1945 to 1965 reach this level consistently. As the theory predicts, changes in capabilities are irrelevant for the most powerful

**Table 3. Probit Estimates of the Relationship between Changes in Major Power Capabilities and the Formation of Asymmetric Alliances**

Constant	− 0.77
Standard error	.12
Change in capabilities	125.86
Standard error	52.40
Significance	.009
(Capabilities) ×	
(Change in capabilities)	− 730.06
Standard error	294.69
Significance	.007
− 2 × Log likelihood ratio	8.34
Significance	.015

*Note:* *N* = 148. All significance tests for coefficients are one-tailed tests based on their predicted sign.

nations; for second-rank major powers, like France, Italy, and Austria-Hungary, changes in capabilities drive their formation of asymmetric alliances.

Summarizing the empirical analysis, hypotheses 1, 3, 4, 5, and 6 are all supported. The evidence presented here supports the autonomy-security trade-off model over the capability aggregation model. Of course, this evidence is not definitive, but it suggests that asymmetric alliances are more common and durable than the capability aggregation model would lead us to believe. Hypothesis 2 is also supported, but it follows from both models, so it cannot differentiate between the two.

**Further Implications of the Argument**

Having established some empirical support for the autonomy-security trade-off model of alliances, let us turn to its consequences for other conclusions about alliances and the international system.

*Balance of Power versus Power Transition Views of Alliances*

Opposing systemic theories of international politics argue for different conceptions of the fundamental role of alliances. In the balance of power theory (Morgenthau 1973), nations form alliances to offset growing powers and restore the balance. Alliances in a balance of power system should be nonideological and last as long as the immediate threat. This view is the capability aggregation model. Prospective allies are just capabilities that can be added through alliance,

and once the threat to the balance has been countered, the alliance is unnecessary and should be broken.

The power transition theory (Organski 1968; Organski and Kugler 1980) postulates an international system dominated by one nation. This dominant state forms a large alliance from the lesser powers that share its ideology. Nations not in this satisfied coalition may form alliances dedicated to the overthrow of the existing international system. Alliances in a power transition system should be ideological and long-lasting.

From the perspective of the argument of this paper, the theories are both correct and incorrect because, as Bueno de Mesquita (1988, 641–42) points out, they make different assumptions about the distribution of capabilities in the system. Balance of power theory assumes an international system composed of a number of major powers with relatively equal capabilities. The role of minor powers is ignored because they do not possess sufficient capabilities to shift the balance of power. In the international system postulated by balance of power theory, only symmetric alliances can be formed because all possible allies have equal capabilities. Alliances are formed only to gain security (i.e., nonideological) and do not persist because they are symmetric. Power transition theory, however, assumes a system with one dominant state holding a preponderance of power. Any alliance that the dominant state forms is asymmetric. Alliances in a power transition system are formed to advance the autonomy interests of the dominant state or challenger (i.e., ideological) and persist because they are asymmetric.<sup>14</sup>

Both theories are right in the sense that given their assumptions about the international system and their focus on relations among equals or between the dominant state and all others, their conclusions about alliances follow. However, widening our analysis of alliances shows that those conclusions are not general. Furthermore, the argument presented here also explains why both theories should be able to find supporting evidence in the historical record. Scholars generally see the nineteenth century as a balance of power period, while the power transition model fits the twentieth century better (e.g., Singer, Bremer, and Stuckey's 1972 results on the effects of systemic concentration of capabilities on war). The alliances examined reflect this observation; symmetric alliances are formed more frequently in the nineteenth century (26 symmetric alliances versus 16 asymmetric alliances) than in the twentieth century (62 to 60). But in both centuries, asymmetric alliances last longer on the average than symmetric alliances. In the nineteenth century, symmetric alliances last an average of  $7.85 \pm$

<sup>14</sup>For Waltz's (1979) version of balance of power theory, a similar argument explains why alliances in a multipolar world should be flexible (they must be symmetric) and why alliances in a bipolar world should be rigid (they must be asymmetric).

10.40 years; asymmetric alliances,  $12.81 \pm 14.76$  years. The significance probability of this difference is .128. In the twentieth century, symmetric alliances last an average of  $14.10 \pm 13.40$  years; asymmetric alliances,  $16.44 \pm 12.27$  years. The significance probability of this difference is .160. Although neither difference is statistically significant at the .05 level, the significance probabilities are close, indicating that the difference between the symmetric and asymmetric alliances is not confined to one of the two time periods.

### *Balancing versus Bandwagoning*

Walt (1985, 1987) draws a contrast between balancing (allying against a threat) and bandwagoning (allying with the threat). He contends that balancing should be more common than bandwagoning and supports his contention with a survey of alliances in the Middle East. This conclusion is not surprising from the perspective of the argument here. Threats arise from differences in position on issues on which the threatening nation pursues change. Because alliances require agreement between the allies over some set of issues, nations will generally not ally with nations that threaten them for the lack of areas of agreement. Balancing alliances have the common interest in resisting the threatening nation to bring the allies together.

Bandwagoning alliances could form for two reasons: (1) because both parties face a common threat from a third nation or (2) because the threatening nation receives concessions to deactivate the threat. The former leads to a symmetric alliance; the latter, to an asymmetric alliance. An example of the former from Walt's 1987 cases would be Jordan's alignment with Egypt on the eve of the Six Day War. Balancing alliances can also be either symmetric or asymmetric. NATO is an example of an asymmetric balancing alliance.

### *Burden Sharing and Free Riding*

The question of burden sharing within an alliance is another familiar theme in the literature (e.g., Beer 1972; Murdoch and Sandler 1982; Olson and Zeckhauser 1965). According to this argument, security is a public good within an alliance. Each member of an alliance will attempt to free ride on the military expenditures of its allies, and so alliances should underproduce military goods unless one dominant member provides sufficient security for all.

From the perspective of the argument here, the security as public good argument is partly correct but misses the main point. The dominant partner in an asymmetric alliance is willing to provide security for its allies if they provide autonomy benefits for it. The essential nature of those alliances leads to a disproportionate sharing of military expenditures. What should be contentious in asymmetric alliances is the composition of military forces, not the distribution of military expenditure. The dominant nation wants alliance forces configured to

advance its autonomy interests rather than the security of the alliance. When autonomy and security interests demand different force structures, we should expect to see conflict in asymmetric alliances over the appropriate force structure. In symmetric alliances burden sharing should not be a great problem because each nation wishes to increase its security and is capable of making a significant contribution to its own security. Consequently, neither ally will be interested in free riding on the alliance.

Theis (1987) provides evidence that supports the argument that unequal burden sharing should only be present in asymmetric alliances. He examined seven pre–World War II alliances for patterns of burden sharing. Every alliance (i.e., Franco-Czech and Franco-Belgian between the wars) that showed any evidence of free riding was asymmetric. However, the Franco-Polish alliance between the wars did not show evidence of free riding by Poland despite its asymmetric nature.

### *Conflict between Allies*

Bueno de Mesquita (1981, 73–83, 159–64) contends that allies are more likely to fight each other than enemies are to fight each other. Ignoring the question of relative frequency, what types of allies are likely to fight? Symmetric alliances bind together nations with very similar interests, whether they be security or autonomy interests. It is unlikely that the kind of policy differences necessary to start a war could develop within a symmetric alliance. If such differences did emerge, the alliance would fail to provide the desired benefits, and one nation would break the alliance before going to war. In an asymmetric alliance, the parties gain different interests. The difference in interests could lead the parties into conflict while preserving their overall interest in the alliance. War among allies should occur only in asymmetric alliances. Three patterns of war within an asymmetric alliance (with historical examples) suggest themselves: first, the dominant ally disciplines a straying minor power (the Russian invasion of Hungary); second, two minor powers fight over a minor issue within the alliance (the Soccer War); and third, a struggle over the dominant position in the alliance (the Seven Weeks' War; see Bueno de Mesquita 1990).

### *Cycles of Hegemony and Asymmetric Alliances*

The argument also provides a clue to the underlying dynamics of cycles of general wars (e.g., Levy 1985). According to arguments advanced to explain general wars (e.g., Gilpin 1981; Modelski 1983; Organski 1968), a hegemon emerges after such a war and extends its control over the international system. Over time its power declines, allowing a challenger to catch up to the hegemon in power. Eventually, another general war is triggered, and the cycle starts over. Asymmetric alliances are one of the tools hegemons use to extend their control

over the international system. The hegemon provides its allies with security from their neighbors and receives both some control over the allies' policies and strategic locations to advance its interests further. The United States best exemplifies this strategy for extending hegemony through the network of asymmetric alliances that it established after World War II. These alliances both protected U.S. allies and provided the United States with bases for the projection of power and the position to intervene on behalf of "friendly" governments. Great Britain depended on its empire to extend its control during the Pax Britannica, but it also extended its control of India through asymmetric alliances with native princes.

What are the long-run power consequences of developing a network of asymmetric alliances? They help to create the "territorial trap" that Thompson and Zuk (1986) discuss. Like the financial costs of an empire, supporting a network of asymmetric alliances raises the hegemon's military expenditures. In the long run, these increased military expenditures drain the hegemon's economy and hasten its decline in power (Gilpin 1981; Kennedy 1987). These alliances help drive the cycle of rise and decline of nations. Hegemons make a commitment to enjoy short-run political benefits by reshaping the international system to fit their view of the system and pay the price of long-term relative decline in power and security.

### **Conclusion**

The autonomy-security trade-off model of alliances implies that asymmetric alliances should be easier both to form and to maintain than symmetric alliances. In an asymmetric alliance, the stronger partner gains autonomy and provides security to the lesser partner. Because this trade of commitments produces a more even mix of autonomy and security for both partners, asymmetric alliances should be attractive to both. Symmetric alliances provide both partners with security (or occasionally autonomy), which requires greater agreement on the interests that the alliance advances. Because symmetric alliances between major powers increase their already high security, they move their members toward a less even mix of autonomy and security.

This model also suggests that alliances are more likely to break as their members' capabilities change and that second-rank major powers are more likely to form asymmetric alliances as their capabilities increase. Statistical analysis of alliances formed between 1815 and 1965 strongly supports all the above hypotheses. The support for all the hypotheses lends credit to the autonomy-security trade-off model of alliances.

Alliances require a critical choice between conflicting goals of security and autonomy. The pursuit of one exacts sacrifices on the other. Credible commitments require a careful matching of interests between allies; however, those in-

terests need not be identical, just complementary. Predicting individual alliances calls for careful analysis of the interests that the alliance advances and the ability of each side to carry out its end of the bargain. In the end, alliances are choices of which interests should be pursued at the cost of other interests.

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## REFERENCES

- Albrecht-Carrie, Rene. 1958. *A Diplomatic History of Europe since the Congress of Vienna*. New York: Harper.
- Altfeld, Michael F. 1984. "The Decision to Ally: A Theory and Test." *Western Political Quarterly* 37:523–44.
- Beer, Francis A. 1972. *The Political Economy of Alliances: Benefits, Costs, and Institutions in NATO*. Beverly Hills: Sage.
- Berkowitz, Bruce D. 1983. "Realignment in International Treaty Organizations." *International Studies Quarterly* 27:77–96.
- Bueno de Mesquita, Bruce. 1981. *The War Trap*. New Haven: Yale University Press.
- . 1985. "The War Trap Revisited: A Revised Expected Utility Model." *American Political Science Review* 79:156–77.
- . 1988. "The Contribution of Expected Utility Theory to the Study of International Conflict." *Journal of Interdisciplinary History* 18:629–52.
- . 1990. "Pride of Place: The Origins of German Hegemony." *World Politics* 43:28–52.
- Bueno de Mesquita, Bruce, and J. David Singer. 1973. "Alliances, Capabilities, and War: A Review and Synthesis." In *Political Science Annual: An International Review*, vol. 4, ed. Cornelius Cotter. Indianapolis: Bobbs-Merrill.
- Dingman, Roger V. 1979. "Theories of, and Approaches to, Alliance Politics." In *Diplomacy: New Approaches in History, Theory, and Policy*, ed. Paul Gordon Lauren. New York: Free Press.
- Gilpin, Robert. 1981. *War and Change in World Politics*. Cambridge: Cambridge University Press.
- Holsti, Ole R., P. Terrence Hopmann, and John D. Sullivan. 1973. *Unity and Disintegration in International Alliances: Comparative Studies*. New York: Wiley.
- Kaplan, Lawrence S. 1984. *The United States and NATO: The Formative Years*. Lexington: University Press of Kentucky.
- Kaplan, Morton A. 1957. *System and Process in International Politics*. New York: Wiley.
- Kennedy, Paul M. 1987. *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*. New York: Random House.
- Kraehe, Enno E. 1963. *Metternich's German Policy*. Vol. 1. Princeton: Princeton University Press.
- Lalman, David, and David Newman. 1991. "Alliance Formation and National Security." *International Interactions* 16:239–54.
- Levy, Jack S. 1981. "Alliance Formation and War Behavior: An Analysis of the Great Powers, 1495–1975." *Journal of Conflict Resolution* 25:581–613.
- . 1985. "Theories of General War." *World Politics* 37:344–75.
- Li, Richard P. Y., and William R. Thompson. 1978. "The Stochastic Process of Alliance Formation." *American Political Science Review* 72:1288–1303.
- Liska, George. 1962. *Nations in Alliance: The Limits of Interdependence*. Baltimore: Johns Hopkins University Press.



- McGinnis, Michael D. 1986. "Arms, Aid, and Allies in the Security Policies of Regional Rivals." Presented at the annual meeting of the Midwest Political Science Association, Chicago.
- McGowan, Patrick J., and Robert M. Rood. 1975. "Alliance Behavior in Balance of Power Systems: Applying a Poisson Model to Nineteenth-Century Europe." *American Political Science Review* 69:850–70.
- Mansbach, Richard W., and John A. Vasquez. 1981. *In Search of Theory: A Paradigm for Global Politics*. New York: Columbia University Press.
- Mares, David R. 1988. "Middle Powers under Regional Hegemony: To Challenge or Acquiesce in Hegemonic Enforcement." *International Studies Quarterly* 32:453–71.
- Meissner, Boris. 1966. "The Soviet Union's Bilateral Pact System in Eastern Europe." In *Eastern Europe in Transition*, ed. Kurt London. Baltimore: Johns Hopkins University Press.
- Midlarsky, Manus I. 1981. "Equilibria in the Nineteenth-Century Balance of Power System." *American Journal of Political Science* 25:270–96.
- . 1983. "Absence of Memory in the Nineteenth-Century Alliance System: Perspectives from Queuing Theory and Bivariate Probability Distributions." *American Journal of Political Science* 27:762–84.
- . 1988. *The Onset of World War*. Boston: Unwin Hyman.
- Modelski, George. 1983. "Long Cycles of World Leadership." In *Contending Approaches to World-System Analysis*, ed. William R. Thompson. Beverly Hills: Sage.
- Morgan, T. Clifton. 1984. "A Spatial Model of Crisis Bargaining." *International Studies Quarterly* 28:407–26.
- Morgenthau, Hans J. 1973. *Politics among Nations: The Struggle for Power and Peace*. 5th ed. New York: Knopf.
- Morrow, James D. 1985. "A Continuous-Outcome Expected Utility Theory of War." *Journal of Conflict Resolution* 29:473–502.
- . 1986. "A Spatial Model of International Conflict." *American Political Science Review* 80:1131–50.
- . 1987. "On the Theoretical Basis of a Measure of National Risk Attitudes." *International Studies Quarterly* 31:423–38.
- Murdoch, James C., and Todd Sandler. 1982. "A Theoretical and Empirical Study of NATO." *Journal of Conflict Resolution* 26:237–63.
- Olson, Mancur, Jr., and Richard Zeckhauser. 1965. "An Economic Theory of Alliances." *Review of Economics and Statistics* 48:266–79.
- Organski, A. F. K. 1968. *World Politics*. 2d ed. New York: Knopf.
- Organski, A. F. K., and Jacek Kugler. 1980. *The War Ledger*. Chicago: University of Chicago Press.
- Riker, William H. 1962. *The Theory of Political Coalitions*. New Haven: Yale University Press.
- Rothstein, Robert L. 1968. *Alliances and Small Powers*. New York: Columbia University Press.
- Schroeder, Paul W. 1976. "Alliances, 1815–1945: Weapons of Power and Tools of Management." In *Historical Dimensions of National Security Problems*, ed. Klaus Knorr. Lawrence: University Press of Kansas.
- Singer, J. David, Stuart Bremer, and John Stuckey. 1972. "Capability Distribution, Uncertainty, and Major Power War, 1820–1965." In *Peace, War, and Numbers*, ed. Bruce M. Russett. Beverly Hills: Sage.
- Small, Melvin, and J. David Singer. 1969. "Formal Alliances, 1816–1965: An Extension of the Basic Data." *Journal of Peace Research* 3:257–82.
- . 1982. *Resort to Arms: International and Civil Wars, 1816–1980*. Beverly Hills: Sage.
- Snyder, Glenn H. 1984. "The Security Dilemma in Alliance Politics." *World Politics* 36:461–95.
- Taylor, A. J. P. 1954. *The Struggle for Mastery in Europe, 1848–1918*. New York: Oxford University Press.

- Theis, Wallace J. 1987. "Alliances and Collective Goods: A Reappraisal." *Journal of Conflict Resolution* 31:298–332.
- Thompson, William R., and Gary Zuk. 1986. "World Power and the Strategic Trap of Territorial Commitments." *International Studies Quarterly* 30:249–67.
- Walt, Stephen M. 1985. "Alliance Formation and the Balance of Power." *International Security* 9:3–43.
- . 1987. *The Origins of Alliances*. Ithaca: Cornell University Press.
- Waltz, Kenneth N. 1979. *Theory of International Politics*. New York: Random House.
- Ward, Michael Don. 1982. *Research Gaps in Alliance Dynamics*. Monograph Series in World Affairs, vol. 19, book 1. Denver: Graduate School of International Studies, University of Denver.
- Webster, Charles K. 1951. *The Foreign Policy of Palmerston, 1830–1841*. London: G. Bell.