



Bueno de Mesquita,
Principles of International Politics,
Washington, D.C.: CQ Press, 1999

EVALUATING ARGUMENTS ABOUT INTERNATIONAL POLITICS

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SUMMARY

The story of Christopher Columbus's quest for sponsorship of his westward journey to the Indies is not just a tale about national security and international political economy. It is also a story about scientific inquiry, about argument and evidence, and about perspective. Columbus faced skeptics who doubted the accuracy of his estimates of the Earth's size, his projections of how large the oceans are, and especially his judgment about the length of the sea voyage going west from Europe to Asia. Different experts offered different theories and appealed to different bodies of evidence to support their views. The statesmen and scientists of the day evaluated the competing arguments and evidence and drew from them their own conclusions about the feasibility of Columbus's plan. The judgment of Ferdinand and Isabella's advisors *truly* mattered for Spain's future as a world power. So it is today in international affairs. Competing arguments and contradictory evidence must be evaluated before policy makers can choose an appropriate course of action—one that may have great consequences for the future of their state and the world as a whole.

In this chapter we will focus our attention on rules for selecting among competing arguments and evidence. By using the scientific guidelines set out in this chapter, you will be able to evaluate the logic of and evidence for alternative explanations of international relations. We will draw distinctions between assumptions and hypotheses and explain theories as simplifications of reality. We will distinguish between the empirical accuracy of hypotheses and assumptions and become familiar with the “first principle of wing-walking” as a guideline for choosing among competing theories. While the distinctions made here are fairly abstract, they nevertheless constitute the basis for applying the scientific method to international affairs.

Policy makers cannot make decisions and implement policies with hindsight, although they can draw on lessons from the past. When they act, they must do so on the basis of the information at hand at the time they choose a course of action. This means that they—and we, as students of political science—need to understand how to make choices while still in the dark about how things will turn out. And that means having some way to evaluate arguments and evidence before results can be known.

The distinction between what is known when a decision is made and what is known later is an important element in judging arguments. Decisions can only be made before the fact. As such, using information that is known afterward when evaluating the decisions leaders make is both unfair and misleading when developing explanations or causal arguments. Historians and political scientists studying international relations commonly confuse what was known before the fact with what is known after the fact. For example, many scholars who are interested in determining the causes of large-scale, destructive wars such as World War I focus their research only on big wars (Gilpin 1981; Organski and Kugler 1980; Kennedy 1987). Yet, the decision makers of the time did not know they were entering into an extraordinarily long, widespread, and costly war. Probably, had they known how devastating these wars would be, at least some of them would have been more inclined to settle their differences without resorting to violence and its attendant costs. For example, we know now that the German invasion of Poland on September 1, 1939, led to World War II. But the leaders of the time did not know that. In fact, contemporary newspaper accounts referred to it as the “German-Polish War.”¹

The making of foreign policy decisions, the shaping of international politics, and our understanding of arguments and evidence depends on two basic

¹ My mother, who fled Belgium when it was bombed by the Nazis on May 10, 1940, always said that World War II started on May 10, 1940. When I pressed her about the German invasion of Poland eight months earlier, she responded, “Oh, that was the German-Polish War.”

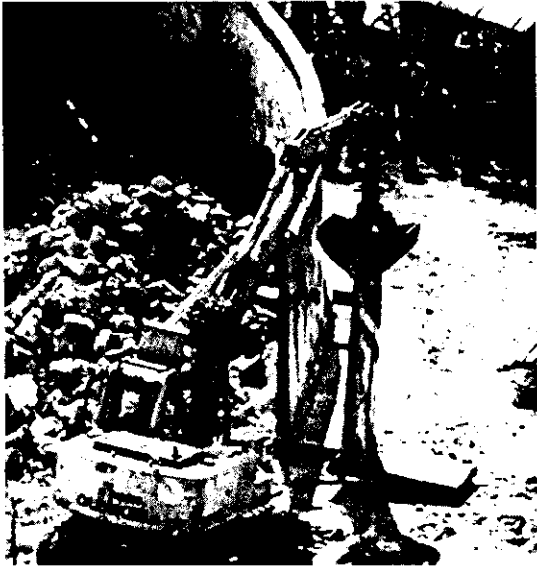
but fundamentally different components: facts and theoretical perspective. Some people think that knowing the facts is all that is necessary to explain adequately what has happened in history or what will happen in the future (Ragin and Becker 1992; Skocpol 1984). Such a viewpoint discourages interest in perspective or theory. An outlook that focuses on facts alone inescapably leads to an inaccurate view of international relations. This is true because an approach based strictly on facts is impossible: everyone brings to the table some theoretical perspective on every question of international cooperation or competition. Indeed, the very selection of facts to look at is shaped by theories that we carry around with us, just as how we interpret those facts is shaped by that theoretical point of view. Employing a useful set of tools—that is, an effective theoretical perspective—for making sense of facts may allow us to predict the range of actions available to a policy maker or policy makers in international affairs and may even help us predict how things will turn out. In doing so we will perhaps be able to engineer better decisions in the future than have sometimes been made in the past.

Before beginning to assess international politics thoughtfully, we need to examine how theoretical arguments and factual evidence are used to understand international affairs. In this chapter I will introduce ideas about arguments that are closely connected to the three core perspectives we have already discussed. These ideas about how to argue, combined with our core perspectives, will form the basic tools of our examination of international affairs. Each available tool will not prove to be equally useful, nor will any one tool always prove to be the best way to think about every aspect of international politics. But some tools will prove to have decided advantages over others in particular situations, perhaps even in most situations.

THEORIES AS SIMPLIFICATIONS OF REALITY

All theories offer simplified representations of reality. Each theory simplifies in its own way what we know and believe. Theorizing about international politics is important in part because reality is much too complex to be made comprehensible without some form of simplification. Neither history nor current events can be understood as the totality of all of the factors that go into defining a past or current circumstance.

We need to pick and choose what we think is important. If you were asked to list the causes of World War I, it is unlikely that you would include the discovery of gun powder in China hundreds of years ago as a contributing factor, yet it would have been exceedingly difficult for those nations involved in the conflict to have wreaked so much destruction and fomented a world war with-



out gun powder. But who would consider such a remote development central to an explanation of the origins of World War I?

If you were asked to explain the collapse of the Soviet Union and the peaceful end of the Cold War, it is unlikely that you would discuss the Helsinki Accords, which in the mid-1970s led the United States and its European allies to recognize the borders of East Germany in exchange for the Soviet government's conceptual acceptance—though certainly not the practice—of principles of human rights. Yet, without the Helsinki Accords it is likely that political dissent in the Soviet Union, and especially in Eastern Europe, would have been more harshly suppressed. The accords in effect gave the international community a license to protest what



The boundaries that define the beginning and end of international events can be hard to discern. For many, when the Berlin Wall (above left) was torn down it was evident that the Cold War was over. Some saw this as the natural consequence of Gorbachev's reform program. Others viewed Reagan's huge defense expenditures in the 1980s as the factor that precipitated the end of the Cold War by forcing the Soviets to choose between reform or eventual bankruptcy. A case can also be made that the 1975 Helsinki Accords hastened the end of the Cold War. Pictured above right are Soviet Premier Leonid Brezhnev and U.S. President Gerald Ford after signing the Helsinki Accords. In exchange for western recognition of the sovereignty of East Germany, the Soviets agreed to allow the international community to monitor human rights in the Soviet Union and Eastern Europe. This right legitimized the Solidarity movement in Poland and external pressure for reform on the Soviets and their allies. Perhaps Helsinki provided just enough of an opportunity to force the hands of the Soviets and to end the Cold War fifteen years later.

previously had been treated diplomatically as an internal affair of the Soviet Union. Still, in the greater scheme of things, the Helsinki Accords might not be given more than a footnote in the explanation of the end of the Cold War (see, for example, Gaddis 1997). From these examples you can see that the explanation of any event depends significantly on which facts we choose to focus on and which facts we choose to ignore.

Do we explain the demise of the Cold War by attending to the internal political and economic problems of the Soviet Union, or by emphasizing the impact of the U.S.-Soviet arms race rivalry? Perhaps European efforts at détente or the threat from China encouraged the Soviets to redefine their attitude toward the United States. Each of these explanations is plausible. Some are complementary, while others are contradictory. Making choices about matters such as these constitutes the first step in theory-building.

WHAT IS A THEORY?

Theories are statements about the expected relationships between variables. Expectations are formed by linking some variables as causes or probabilistic contributors to other variables as consequences in a series of logically connected arguments. The logical connections stipulate the relationship between the variables. A variable is a characteristic, event, idea, and so forth that can take on more than one value. Constants—that is, characteristics, events, ideas, and so forth that have only one value—are not variables. Consequently, theories are not primarily about constants, though constants can play a contributory role. All theories include dependent and independent variables. A dependent variable is something that we hope to explain; an independent variable is something that we think will provide us with all or part of the explanation of the dependent variable. Of course, one theory's dependent variable may be another theory's independent variable.

In the theory of arms races, for example, the dependent variables generally include such concepts as the arms expenditures of a country and the likelihood that a country will find itself at war. These are the phenomena that theories of arms races are designed to explain. Notice the dependent variables are not individual events like "World War I" or the "1995 U.S. defense budget." Rather, World War I might be an event that constitutes one of many events captured by a dependent variable, such as the "likelihood of war." The 1995 U.S. defense budget, likewise, is an example of a defense expenditure decision; it is not itself a variable but rather a single value or single observation that is one part of a variable list of values or observations.

Some common independent variables in theories of arms races include the magnitude of the perceived threat coming from an adversary (often measured as that country's level of arms expenditure) and the domestic demand for con-

sumer goods, public services, and so forth rather than defense (i.e., guns vs. butter). Changes in the values of the independent variables (e.g., increases or decreases in the level of perceived threat; changes in public demands for consumer goods and social services) are expected to lead to changes in arms expenditures or in the likelihood that the country will fight a war. For example, an increase in the perceived magnitude of a foreign threat is hypothesized to lead to an increase in arms expenditures. Thus, the theory of arms races states relationships between its independent variables and its dependent variables. It does not state a detailed explanation of a single event; rather, it tries to provide an explanation for at least one class of events.

The relationships between independent and dependent variables implied by any theory (including, of course, arms race theories) constitute its predictions. These predictions are often referred to as hypotheses. They are the empirical implications drawn from the theory's logical connections between variables. The reasons the variables are expected to be related to one another in the way claimed in a theory constitutes the theory's explanation of the phenomena or generalizations with which it is concerned.

Predictions serve as a way of testing a theory's explanation (Friedman 1953). Reliable explanations almost certainly suggest that at least some reliable prediction is possible, provided the necessary tools of measurement and observation are available. Accurate predictions, however, can be achieved even without a meaningful explanation, and a meaningful explanation may lead only to limited predictive accuracy. Consider an example of accurate prediction without an attendant explanation. Cricket chirps are very highly correlated with the temperature of the air. If we know the number of cricket chirps per minute, we can predict the temperature outside quite accurately even though we may not have a clue about why crickets chirp as often as they do. It is certainly more likely that the temperature influences the chirping of crickets than that cricket chirps influence the temperature.

CONSTRUCTING THEORIES

How is a theory constructed? In some ways there are as many answers to this question as there are theories—or theorists. But every theory has some core features in common. For example, every theory contains a set of assumptions. The assumptions of a theory are its crucial building blocks. Assumptions specify the group of simplifying conditions under which the theory is expected to be a helpful tool for explaining and predicting the phenomena with which it is concerned. In the study of international politics, a researcher selects assumptions that reflect his or her views and understanding of international affairs. Consequently, different researchers adopt different assumptions as they try to explain a broad range of international events.

Neorealist theorists, for example, assume that states are unitary actors, though they know that many individuals, often with different opinions, are involved in decisions that influence international politics. Neorealists make the implicit judgment that the variation in opinions across decision makers is not sufficient to distort the predictions made by a theory that assumes states are unitary actors. Those who theorize based on the notion that bureaucracies shape foreign policy reject the idea that states are unitary actors, preferring instead to focus on the organizational mission of specific bureaucracies and their leaders. Naturally, these researchers know that on some issues, like the American declaration of war against Japan on December 8, 1941, there was virtual unanimity among responsible decision makers in the United States. They know that the unitary actor assumption can be a helpful convenience in some cases, but they believe it oversimplifies reality in too many cases to be of real help in structuring a reliable account of international affairs.

Assumptions are the principle means by which theorists simplify reality. Assumptions describe the set of conditions under which the theory's predictions are expected to hold. That means that one of the most important questions to ask about any theory is whether its assumptions limit the domain of circumstances that the theory is capable of addressing to such an extent that the theory seems trivial. If a theory's assumptions prevent it from addressing the events or phenomena in the real world that motivated its construction in the first place, then the theory's value is certainly going to be quite limited.

If, for instance, we are interested in explaining why small wars occur, then a theory that *only* addresses the causes of global war is not very helpful. Such a theory does not provide an answer to the question that motivated the construction of the theory in the first place. Of course, this does not mean that a theory of global war would not be useful for a theorist concerned about small wars. But, it does mean that theories are judged and compared in the context of what they are intended to explain and predict. In general, the more events or facts a theory can explain with a limited set of assumptions, the more useful the theory will be. This is the principle of parsimony. Thus, a theory of war that does not require you to distinguish between big wars and little wars has greater potential value for the study of war than does a theory of nuclear war or a theory of short, low cost, bilateral wars or a theory of trade wars. A theory of politics that also explains war is more useful still, even though it was not constructed to explain war alone.

JUDGING THEORIES

Judgment of any theory revolves around its logical truth or falsity and whether its predictions are trivial or useful. The logical truthfulness of a theory is a question of consistency, meaning that no assumptions can contradict others con-

tained within the same theory. The accuracy of empirical predictions about what happens in the world is the primary means we have to judge the usefulness of a theory as an explanation for the real-world events that concern us. As human beings we often make value-judgments, but we should not confuse these with dispassionate evaluation of the logic and evidence for and against a theory. We do not have to like a theory's implications for those implications to be true. And we certainly cannot make the world a better place by ignoring unpleasant or inconvenient realities. In fact, we must confront those realities through logic and evidence so that we can think about how to improve the world without violating the laws of nature.

THE IMPORTANCE OF LOGICAL CONSISTENCY

A good starting place to judge a theory's value is to evaluate whether its assumptions contradict each other. If they do, there will be considerable confusion about exactly what the theory predicts or what its explanation is. And this confusion will be irreconcilable. The presence of internal inconsistencies means that at least part of the theory is false on logical grounds. We will not even need to look at reality to judge its usefulness. Predictions that depend on logical contradictions cannot be useful because, whatever is observed, the opposite might just as easily be a prediction that can be defended using the same theory. These predictions will be of the type "if A then B, but also if A then not B, and, maybe, if not A then B," and so forth. In fact, such a theory has nothing valuable to say about the relationship between A and B.

Contradictions are sometimes unintentionally overlooked or sidestepped when scholars construct theories or arguments about international affairs. We can guard against such oversights by insisting that assumptions be stated very clearly and explicitly. Only when we know all of a theory's assumptions can we figure out the logical connections that link independent and dependent variables in that theory. There is no room for careless reasoning because such reasoning can get us—and the world—into too much trouble. To see how much trouble imprecision can cause, consider the following assumptions from a very prominent theory of international politics:

Since the desire to attain a maximum of power is universal, all nations must always be afraid that their own miscalculations and the power increases of other nations might add up to an inferiority for themselves which they must at all costs try to avoid. Hence all nations who have gained an apparent edge over their competitors tend to consolidate that advantage and use it for changing the distribution of power permanently in their favor. . . . The status quo nations, which by definition are dedicated to

peaceful pursuits and want only to hold what they have, will hardly be able to keep pace with the dynamic and rapid increase in power characteristic of a nation bent upon imperialistic expansion. (Morgenthau 1978, 215–217)

The above statement is drawn from perhaps the most influential international relations theorist of the past several decades, Hans Morgenthau. His theory of realism, introduced in Chapter 3, focused on power as the essential determinant of how nations relate to one another. His was a brilliantly parsimonious effort at developing a comprehensive set of generalizations or laws about politics among nations. Much of his theory offered keen insight and wisdom, which is why his writings are still influential today. Yet his theory housed fundamental contradictions, as reflected in the above quotation. And these contradictions make it very difficult to figure out exactly what Morgenthau is arguing.

On the one hand, realism is about a world in which each and every nation (assumed to be a rational, unitary actor) wants to get as much power as possible. In fact, each nation wants power so badly that it pursues the acquisition of more and more power at any cost. On the other hand, we are told that there are at least two kinds of nations in the world: status quo powers that are content with what they have and so do not pursue increases in their power and imperialist powers that are dissatisfied with the amount of power they have and so try to gain more. What, then, does the theory predict about the relationship between a nation's power and its actions? One part of the argument stipulates that a nation faced with the opportunity to gain power will pursue that opportunity no matter what (i.e., at any cost). The other part says a nation might or might not pursue the opportunity to gain power, depending on whether it is a status quo type or an imperialist expansionist type. How do we recognize whether a nation is imperialistic or status quo oriented? The answer apparently is based on hindsight: What did the nation do when faced with the opportunity?

No matter what a nation does when faced with the chance to gain power, its actions must have contradicted some condition of the theory and must be consistent with some other condition of the theory. Its behavior is not, in fact, predicted by the theory at all. Or—and this is much worse—it behaved in a manner that is apparently consistent with the theory because it behaved in accord with one of the two contradictory conditions. The theory cannot be proven to be wrong, even in principle.

Morgenthau's theory of realism provides no guidance as to who is and who is not a status quo power or an imperialist power, except after the fact. If a nation does not reach out for more power, then we can say it must be a status

quo nation satisfied with what it has. If it does reach out for power, then it might be an imperialist power, in accordance with the second condition of the argument, or it may simply be any type of state (including a status quo state), in accordance with the first condition of the argument (recall that the first assumption states that all states reach out for power whenever the opportunity presents itself). Thus, the theory fails to provide guidance about one of the very phenomena it was designed to address. Inconsistencies in its assumptions rule out the possibility of reliable predictions.

The logical dilemma Morgenthau created is readily corrected. Let's assume that the world is made up of two types of states, imperialist states and status quo states. Suppose, contrary to Morgenthau, that we assume that the difference between these two types of states is that imperialist states seek power regardless of the costs, while status quo states only seek power if there is no attendant cost but will pay a cost to maintain their current power. Assume, further (as Morgenthau does elsewhere) that seeking or preserving power always involves potential costs. Such a theory has surprising implications.

If two imperialist states confront each other, each will seek to take power from the other regardless of the cost. This suggests that they will fight until one of them no longer has any power—that is, until one of them no longer exists as a sovereign state. If two status quo states confront each other they will not fight, regardless of the difference in their power, because any fight involves potential costs. If an imperialist state and a status quo state confront each other, the imperialist state will be prepared to fight while the status quo state faces a quandary. Either it must voluntarily give up power to the imperialist state—clearly a costly action—or it must fight to protect what it has—also a costly action. Presumably, the status quo state will pursue whichever option has the lower expected cost. Following this through to its logical conclusion, our theory predicts that the world eventually will consist either of many status quo states and no imperialist states or of a single imperialist state. No other combination of states can persist once each state has had an opportunity to confront each other state.

Solving Morgenthau's logical inconsistency reveals a theory that does not at all resemble reality. Conflicts between nations reveal that not all nations can be status quo powers. Likewise, that some countries live in peace with others indicates that all states are not imperialistically inclined. It is difficult indeed to find evidence that suggests that the world is being reduced to a single monolithic imperial power or to a global collection of peace-loving status quo powers. The revised theory is logically sound, but empirically of no interest. Morgenthau's theory required inconsistency to adequately account for the variety of actions we can readily observe in international relations. Without that inconsistency, his

theory cannot explain reality. Yet with it, we cannot say *what* the theory explains. This is why logical consistency is so important.

TRUTH AND FALSITY IN ASSUMPTIONS

Assumptions are not casual statements to be taken seriously when convenient and ignored otherwise. An assumption is a defining characteristic of a theory. A theory cannot exist outside of its assumptions because it is the logical connections among the assumptions that imply the theory's predicted relationships among variables. I emphasize the importance of consistency because it is virtually impossible to know what is being argued when theorists (or policy makers) contradict themselves. And we cannot evaluate arguments if we do not know what they are.

Because assumptions are so important, it may seem appropriate, even important, to establish whether a stated assumption is true or not. However, in my opinion this is not a fruitful basis for evaluating a theory. As I explain here my view on this issue, keep in mind that my viewpoint, though quite common in the physical sciences and in much of economics, is quite controversial among some social scientists.

To begin with, what exactly is meant by "true" or "false" when it comes to assumptions? We can distinguish between the two on purely logical grounds. A true theory is one in which the predictions follow logically from the assumptions. This is a somewhat narrow use of the term, and you may prefer to substitute the phrase "logically true" in its place in the discussion that follows. If the predictions do not follow from the assumptions, then we can say the theory is false. A theory with contradictions in it, then, is false (at least with regard to the parts influenced by the contradictory assumptions). Morgenthau's theory, or at least part of it, is, in these terms, false. Note that this judgment is not arrived at because I disagree with any one of his assumptions. My disagreement with any of his assumptions would be a matter of taste or personal judgment. Whether a pair (or more) of assumptions are mutually contradictory is not a matter of taste, it is a matter of logic.

We can distinguish true and false from the notions of useful or trivial. The usefulness of a theory is an empirical question. If the theory makes predictions that reliably help us understand the phenomena that motivated the theory's construction, then the theory is useful. If the predictions are irrelevant or excessively inaccurate with regard to the phenomena of interest, then the theory is

How would the implications of Morgenthau's revised theory change if status quo states did not avoid all costs but instead were willing to tolerate lower costs than imperialist states? Could imperialist and status quo states coexist?

trivial when applied to the phenomena that motivated its development. So while true or false refers to the internal logic of the theory, useful or trivial refers to its empirical value. False theories are inevitably trivial.² Some true theories are also trivial because they fail to account for the facts we hoped to explain. What we all seek to discover are theories that are both true and useful.

Because true and false refer to internal consistency, I do not attempt to establish whether this or that individual assumption is true or false. What I do address is whether the set of assumptions behind a theory is both true and useful. The set is true if the assumptions do not contradict one another. The set is useful if the assumptions lead to explanations and predictions that are consistent with reality according to some stated criteria for evaluating the theory's empirical performance. While individual assumptions may describe a world we do not care about (and so may be trivial), a single assumption cannot contradict itself (and so is neither true nor false).

No set of assumptions can be true in the sense that it represents an exhaustive catalog of the factors that influence the phenomena the theory is expected to explain and, perhaps, predict. All theories are necessarily simplifications of reality. The only alternative to a simplification of reality is reality itself, in all of its infinite complexity. Therefore, assumptions always leave something out.

Even recognizing this, we still may object that some assumptions are not true in the sense that they misrepresent an important part of reality. Yet when people say such assumptions are not true, they really mean that they are not useful. For example, it is common among many international relations researchers to talk about the national interest (Krasner 1978) or the nation's foreign policy. The nation is treated as if it were a unitary, singular actor, almost as if it were a human being. Such a description of a nation is obviously not true in some empirical sense. No nation consists of a single person or of a large number of people who unanimously hold the same opinion about every foreign policy matter.

The unitary actor assumption seems to be at odds with reality much of the time. But does that necessarily mean that we should toss it out? While it *may* not be a useful assumption, I am confident that such a judgment cannot be made at the time the assumption is stated. We must always keep in mind that theories in-

² Even if some of the predictions of a logically inconsistent theory are supported by the empirical record, the theory must be false. While the empirical record suggests that it is worthwhile to construct a theory that in fact truly leads to predictions about the events supposedly "predicted" by the false theory, the falseness of the theory still cannot be in doubt. Logical inconsistency can allow one to make almost any claim or statement. Any part of a theory that is logically inconsistent is of no empirical interest per se. So too is any part that fails to pass the stated criteria in empirical tests of the theory's usefulness.

evitably simplify reality in order to make explanation and prediction feasible and practical. Assumptions are the vehicle through which theorists simplify. Perhaps the unitary actor assumption simplifies too much, and perhaps it does not. We can only judge the value of an assumption (apart from its internal logical consistency) in terms of its output. What does the assumption contribute to the theory's explanation and prediction of events? This is the relevant question for judging its value. Tossing out the unitary actor assumption means that we must dispose of our inclination to talk about the *nation's* policy, the *state's* interests, and so forth. So embedded is the notion of the state as a meaningful concept that we should be cautious about throwing out the unitary actor assumption before demonstrating that there is a more useful simplification of reality.

If an assumption provides many accurate predictions, then it does not simplify reality too much. If it does not provide many helpful and accurate predictions, then it *does* simplify too much. We can only make these sorts of judgments after we have evaluated the whole of any theory and have seen what happens as we drop each of its assumptions, one at a time. We cannot tell how valuable an assumption is going to be on philosophical grounds. The value of one or another assumption is a practical matter. If an assumption adds to the theory's predictive ability more than it takes away, then it is useful. Because the addition of assumptions increasingly restricts a theory's domain, it is important that we have only enough assumptions to deal with the circumstances of interest. The more assumptions we add, the fewer are the circumstances to which it can be applied. Therefore, it is useful to know exactly which assumptions from a theory are required to produce each of its hypotheses. Some hypotheses may need only a few assumptions while others require the whole set. If any assumption is not required for the predictions that follow from a theory, then that assumption need not be included in the theory.

The most common objection to one or another assumption is that it is not true in the sense that it is not realistic. This is the most common reservation about the unitary actor assumption. It is also a common objection to theories in which decision makers are assumed to calculate costs and benefits and compare alternative strategies on the basis of their expected returns. The trouble with this point of view is that it implies that the person making the claim or standing in judgment of some theory already knows what the true (or at least a truer) theory of international politics is. But if we knew what the right assumptions were, then we would have no need to theorize further. Our only remaining task would be to construct the instruments needed to implement the actions and strategies implied by the true theory (if, indeed, it is action-oriented). Thus, when critics argue that an individual assumption is false, they are really saying that either they have evidence

that the implications or predictions that depend on the assumption are false or they are making an argument based on taste, their personal likes and dislikes.

Arguments based on differences in taste generally are not productive. Just as different people find different forms of music or painting or literature or movies or foods or clothing appealing, so too do different people find different theoretical perspectives more or less appealing. The best way to deal with such differences in opinion about what are potentially fruitful assumptions is to put alternative views of the world to the test of history and to the test of the future. In this regard it is wise to be pragmatic. None of us truly knows exactly how international relations works, just as no one truly knows how the physical world works. If we knew completely how any physical or human sphere of study really works, then that subject would be a dead subject. No new research would be needed no matter how many new facts were accumulated or how much time had passed. If the phenomena are fully explained there is nothing new to say. No one is still studying the causes and cure of smallpox, for example. A full explanation has been achieved. Perhaps a new variety of smallpox will emerge in the future (as has happened with tuberculosis), thereby creating a need for new theorizing or new empirical research, but for now the subject has nothing left for study. This is not the case with international politics. In international politics, we must judge whether one theory or another explains more of the facts of interest without creating more confusion than clarity.

THE FIRST PRINCIPLE OF WING-WALKING

Explanations are always tentative. Theories are expected to prevail only so long as they outperform rival explanations of the same phenomena. If a more accurate, more predictive explanation comes along, it is likely to supplant less successful theories. This may happen quickly or it may take many generations, but eventually better ideas come to prevail over inferior ones.

Sometimes theories, though capable of being proved false, can accommodate the discovery of *some* contradictory evidence. They are judged to be false only if the body of contradictory evidence grows large enough. Consider, for instance, Ptolemy's theory of mechanics, which predated Newton's theory. No one today relies on Ptolemaic theories of motion to explain, for instance, the movement of planets and stars even though for most everyday purposes the Ptolemaic view does as well as Newtonian mechanics and Einstein's theory of relativity. Ptolemaic theory persisted for a long time, but the ideas of Copernicus, Kepler, and others eventually shook confidence in it. Ptolemaic astronomy predicts fewer events correctly than does Newtonian theory. For instance, while

Ptolemy's theory did rather well in predicting the motion of heavenly bodies, it did not do well in predicting the trajectory of falling objects on earth.

Ptolemaic theory contends that planets do not follow elliptical orbits around the sun, but rather follow epicycles (roughly, loop-to-loops) around the Earth. Such a pattern of movement is consistent with observations taken from the night sky. If you plot the location of a distant planet from night to night over the course of the year, you will not observe an orderly path of motion. The path can be made predictable, however, if you assume that the planet loops back from time to time. These epicycles generally provide accurate predictions. But once we accept Copernicus's theory that the Sun, not the Earth, is at the center of the solar system, Ptolemaic astronomy no longer makes sense. Eventually, the evidence against the Ptolemaic view became too great for the theory to be sustained. Rival arguments did a better job of explaining "the facts," including those the Ptolemaic perspective simply could not accommodate.

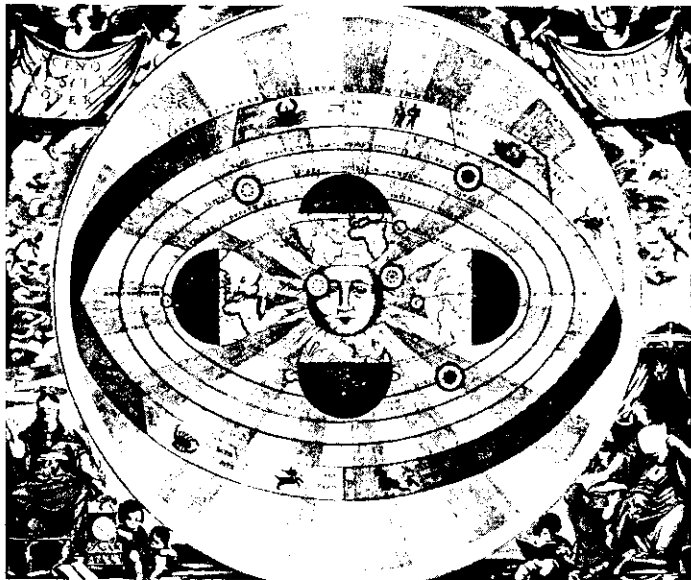
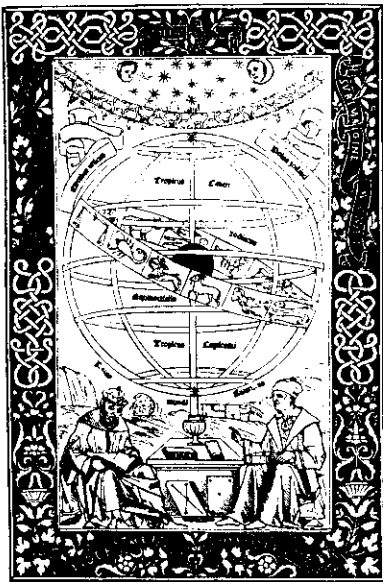
Clearly, we need some guidelines to help us judge when the evidence or the flaws in an argument are sufficient to conclude that the theory or argument in question is inadequate. In our everyday lives we make such judgments all of the time. Few of us rely on our daily horoscope to plan our activities. Reading horoscopes may be fun, but there just does not seem to be a reliable relationship between prediction and reality. We have concluded that it is not an adequate tool. It is the accumulation of evidence and counter-arguments about what happens in reality that is at the heart of choosing among competing theories. We would be rather alarmed to discover that our foreign policy leaders choose their actions according to horoscope readings. In fact, false rumors that Ronald Reagan relied on astrological readings during negotiations with Mikhail Gorbachev created quite a stir and not a few jokes at Reagan's expense.

Sometimes we cling to a theory even when we know it is not reliable. Usually we do so in observation of the first principle of wing-walking.³ If you are out on the wing of an airplane in flight (and I *really* recommend against finding yourself in such a situation), don't let go unless you have something better to hold on to. Even then, you may have to think twice about letting go. Knowing that something better is available does not mean that the alternative is sufficiently attractive that you will immediately want to make the switch, especially if there are associated risks or costs. This is one reason why Ptolemaic mechanics held sway for so long. However hard it was to believe that planets loop back on themselves, there was no point in giving up that theory until something better (such as New-

³ I thank Kenneth Shepsle, who first introduced me to this principle.

tonian mechanics) came along. Even then, switching was costly, and so people clung to the old ideas for a long time. Newtonian mechanics were not regularly taught in British schools for one hundred years after their development.

The first principle of wing-walking is particularly relevant when dealing with beliefs about how things work in the world. Giving up beliefs is costly. The benefits of a new set of beliefs had better be large enough to compensate for the costs of abandoning old ones. If the benefits are not expected to exceed the costs, then it seems unlikely that any of us would give up our beliefs. One reason that international politics may be predictable is that beliefs are not easily abandoned. Because leaders stick to their beliefs until it becomes too costly to continue to do so, behavior is likely to run a predictable course. If we can assess people's beliefs, we can begin to understand how they perceive the world and we can use that knowledge to predict their decisions and actions.



Theoretical assumptions shape how we view the world, whether that world is the physical universe or the domain of politics. The Ptolemaic perspective (left) dominated thinking for two millennia, while the Copernican system (right) has been dominant for about five hundred years. Some keystones of the Ptolemaic view include the assumption that earth was at the center of the universe and that objects were naturally at rest unless put into motion. God was seen as the prime mover required to put the planets, sun, and other heavenly bodies into motion. The Copernican system placed the sun at the center of our solar system, with the planets revolving around it. Later, scholars like Kepler, Galileo, Newton, and others elaborated on Copernicus's insight, introducing the idea that orbits are elliptical, objects are naturally in motion unless brought to rest, and gravity is a force that brings objects to rest, perhaps obviating the need for God as a prime mover. Changes in scientific assumptions can fundamentally alter how we understand even the most commonplace experiences, thereby giving us new insights into how our physical or social world works.

Consider this simple example of the costs of switching from an inferior tool to a superior one. Suppose you are doing a fix-up job at home. Maybe you are assembling a new television stand or wiring a stereo. In either case you probably will need a screwdriver. Now maybe you do not have the best fitting screwdriver manufactured for the job, but you do have a screwdriver that will work, even if it will wiggle around in the screw a bit too much. Most of us would know that a better screwdriver exists, but most of us would not spend the time and money involved in getting the better tool. After all, we probably won't be needing the new tool very often and the screwdriver we have is adequate—not ideal, but adequate. Maybe it will do some damage to the head of a screw, but then we do not anticipate having to fiddle with the screw again in the foreseeable future.

So it is with the selection and the use of theories. We do not always strive to use the best tool because identifying the best tool may be too costly or, even if we know what tool to use, it may be too costly to learn how to use it. The more convinced we are that we have an adequate alternative, the lower the costs have to be to justify a switch in tools. If the stakes are large enough, and errors are expected to be sufficiently costly, then we probably will spend the time and money to learn about a better tool. If, for instance, we need to repair a fighter aircraft with a screwdriver, then we will probably get the best screwdriver available for the task. The cost of an error is too great to risk using the wrong tool. Crossed stereo wires are one thing, a malfunction at 40,000 feet at twice the speed of sound is quite another.

The first principle of wing-walking was an essential (though unspoken) feature of the national security debate in the United States during the presidency of Ronald Reagan. At that time, the noted physicist (and father of the hydrogen bomb) Edward Teller proposed a defensive response to the threat of nuclear holocaust. The policy Teller proposed was to develop a defense against incoming missiles, or what became known as the Strategic Defense Initiative (SDI) or, as it was dubbed by its critics, "Star Wars." Teller's proposal represented a sharp departure from existing American policy and a return to a military approach more commonly seen before the second world war.

Before World War II an important feature of any nation's military policy was to maintain a strong defense against foreign aggression. The emergence of a nuclear threat, however, changed this thinking in the United States. Americans introduced the idea of Mutual Assured Destruction (MAD), in which it was thought that the best defense against nuclear war was an offense so powerful that it could insure its possessor's ability to wreak unacceptable destruction even after an opponent had launched a successful first-strike attack. Under MAD, cities and civilian populations were the priority targets of attack rather than weapons and military installations precisely because it was thought that the fear

of such devastating and demoralizing losses would curb anyone's appetite for war. SDI would have changed that by providing a protective shield against the destruction of cities. Among the many arguments made against SDI, one focused on the technical feasibility of the program. Another relied on the first principle of wing-walking. Many observed that nuclear deterrence through MAD had successfully protected peace and stability for decades. They believed that there was no good reason to switch to a different approach that might or might not prove to be a significant improvement over existing policy. They chose to live with the existing theory of nuclear security (nuclear deterrence) rather than switch to a new theory based on defense (SDI).

The first principle of wing-walking forces us to pay attention to the costs as well as to the benefits of alternative ways of thinking about a problem. This principle of costs and benefits is one of the reasons that some rather disappointing theories of international politics remain prominent long after they have been shown to be lacking in explanatory or predictive capabilities. The first principle of wing-walking is the reason that Morgenthau's flawed theory continues to be taught and believed in by researchers and policy makers alike. Whatever its weaknesses, for these scholars, either realism seems sufficiently adequate (as Ptolemaic mechanics seemed adequate for so long) or the costs of switching to an alternative theory seem too high to merit its abandonment.

The first principle of wing walking encourages caution in rejecting theories. It reminds us to be skeptical of new ideas while also encouraging us to be open to persuasive evidence against old ideas. One threat to such openness arises because we have certain "habits of mind" that help us in thinking about things (Margolis 1993). Consider a simple example. Look around you and make a list of some of the objects that you see that are moving and some that are not. Perhaps you have noticed that the chair you are sitting on is quite still (or are you rocking back on its legs?) but that people around you are moving about. Surely you can draw up a long list of things that are moving and things that are still. In fact, *no* object is still. After all, you, your chair, this book, and everything else around you is hurtling through space at tremendous speed.

One of Galileo's great intellectual triumphs was to begin his theorizing by assuming that objects can naturally be in motion unless they are brought to rest. He assumed that this was true of objects like himself, the planet Earth, and so forth. Galileo's assumption contradicted a well-established "habit of mind" of his day, and, perhaps, even of ours. People usually follow their senses. In Galileo's day they were used to thinking that stones and trees and especially the Earth did not move. It seemed to Galileo's contemporaries that some objects moved—like the Sun or the Moon—and other objects stood still. To them, Galileo's assumption seemed absurd, and so, therefore, did the implications or predictions of his theory.

Galileo assumed that objects were in motion until a strong enough force (such as gravity) brought them to rest. The standard assumption about motion (or rest) required that some force be exerted to set an object in motion and that, once that force was dissipated, the object would come back to rest. This, of course, created the problem of what first impelled the object to move, leading (quite pleasingly from the point of view of the Catholic Church) to an argument in support of God as the prime mover. Such arguments are less persuasive to many of us today. Still, we rely heavily on our senses to make judgments about physical things—judgments that often turn out to be wrong. The senses suggest that the Sun moves around the Earth. We see it rise in the east every morning and set in the west. Even today the language we use to describe dawn and dusk depends on the notion that the Sun is moving around the Earth, rising and falling, rather than the Earth moving around the Sun and around its own axis.

The notion that objects are naturally in motion represented a radical departure from conventional thinking in Galileo's day. It not only violated people's sense of what was true, but it also contradicted the teachings of the Catholic Church. That, of course, got Galileo into a great deal of very serious trouble. Rather than face the consequences of his heresy, he reluctantly agreed to stop teaching that the Earth moved, but neither his recanting nor common sense observations could change reality or the evidence that would gradually be amassed to show that Galileo was right. It took the Catholic Church about 350 years to agree that Galileo was right, which it finally conceded in 1992. It took most of the world much less time than that. But, however long it took, the resolution of the issue did not depend on whether we liked the assumption or not; nor on whether Galileo recanted his politically incorrect view or not; it depended on the predictions that followed from the assumption (in conjunction with his other, less controversial assumptions, such as a friction-free surface) and the consistency between the evidence in the world and the expectations from theories that assume objects move until stopped rather than stand still until moved. Galileo's experience teaches us to be humble about assumptions and encourages us not to be overly resistant to new ideas. We should not be too quick to dismiss a theory because we doubt its assumptions. Rather, we should wait for the evidence about the theory's predictions. The proof of the theory is in the testing; not in our judgment of the quality of its assumptions.

One final comment about assumptions and the first principle of wing-walking is in order before we move on. Sometimes people are tempted to dismiss a theory because they believe the assumptions reflect some bias. In fact, they may be right. Capitalists tend to dismiss Marxist arguments on these grounds, much as Marxists often dismiss free market-oriented theories based on ideological bias. This is just another guise by which people object to assumptions on the basis of differences in taste. Whether assumptions are selected be-

cause of a bias or not does not matter as long as the standard for evaluating the usefulness of assumptions is how well the theory performs in predicting and explaining events. If tests are biased, then there will be a problem. However, despite the motivation behind its construction, the theory itself is best judged on the basis of whether it accounts for the facts it was constructed to explain and predict. Biased assumptions have no advantage over unbiased assumptions (whatever those may be) in terms of empirical performance.

THE CASE STUDY METHOD AND TESTING THEORIES

In international relations research, it is common to evaluate the empirical usefulness of theories by presenting one or several case histories that are consistent with a theory's predictions. The evaluation of a theory through the close scrutiny of a single event and the associated details is often referred to as a case study. Case studies can be helpful tools for developing ideas about a phenomenon or for shedding light on a specific event, but when cases are selected because they are consistent with a particular claim, they are not a test of the accuracy of the claim.

Selecting cases because they are consistent with a theory is not a fair test of the theory. For example, consider the following test of the claim that arms races cause war: We look at the circumstances of relevant nations just before the Napoleonic wars, World War I, and World War II, and we see that in each case an arms race was in progress. We infer, therefore, that the claim that arms races cause war is true. This inference is not warranted by the evidence, however, because there are many other examples where arms races were not succeeded by war. Picking cases because they are consistent with theory leads us to miss all those cases that could refute the theory.

Selecting cases that are consistent with the theory under study is sometimes justified by picking a "difficult" case. Usually this just compounds the problem because the case is "difficult" in the sense that it is not representative of the class of events that the theory in question seeks to explain. That is, the case is difficult because it has some features that make it extremely unusual. Cases for investigation should be selected because they represent a wide array of variation on the independent *and* dependent variables, not because they represent a particular value on the dependent variable or because they seem difficult because confounding factors are in operation.

Remember that theories are about relationships among variables, not about constants. Yet many, many investigations of the causes of very large wars examine only the constants. There are literally thousands of studies on the causes of World War I. Many of these evaluate a theory, or at least some hypothesis, about the causes of very deadly, long, multilateral wars. But these studies select facts based on a particular value of the dependent variable. In fact, the dependent

variable turns out not to be a variable at all. It is a constant within the case, which leaves nothing to be explained. Understanding the causes of large wars requires that we understand how those causes differ from the causes of small wars or other types of conflicts. Looking at only large wars leaves no variation in the thing to be explained—namely, the causes of large wars. If we want to know what makes them large, we must also know what factors prevent other conflicts from turning into large wars. We need cases with different scales of war that can be compared to one another.

A similar problem in selection bias is common among studies of international political economy because such studies focus on regimes and cooperation. Many researchers are interested in evaluating what impact regimes have in encouraging cooperation. Regimes, recall, are organizations, institutions, or norms that regulate a pattern of behavior (Ruggie 1975; Krasner 1983; Keohane 1984; Morrow 1994b). Usually the interest in regime studies is in explaining cooperation between states. Commonly, the researcher selects a case with a known cooperative outcome and then looks for the existence of an international regime or organization that can be said to have fostered the cooperative outcome. Perhaps the author is correct in the assessment of the role of the regime, but this does not at all tell us whether similar regimes also operated in settings that did not lead to cooperation between states. The question of whether certain regimes promote cooperation (a relationship between variables, including the presence or absence of a regime and the presence or absence of cooperation) simply cannot be evaluated without knowing more about the tendency of the regime context to produce cooperative outcomes compared to circumstances not imbedded in a regime context. Are there regimes designed to foster cooperation that end up yielding conflict? Of course there are, but studies typically do not pay attention to these failures and so produce biased inferences. OPEC, the organization designed to foster cooperation among oil-producing and -exporting countries, is frequently home to conflict among its members over what their oil production quota ought to be. Though widely studied by economists and others interested in cartels, there are few studies of OPEC among regime theorists interested in international cooperation.

Are there instances of cooperation without a regime? Again the answer is yes. For decades, the United States government and the Israeli government have demonstrated a high degree of cooperation without relying on a formal alliance agreement. Though there is substantial research on U.S.-Israeli relations, little of it has been conducted by international relations specialists interested in the role of regimes in fostering cooperation.

The cases of OPEC and U.S.-Israeli relations help sort out how important regimes are in fostering, or not fostering, cooperation (Downs and Rocke 1990, 1995). Selecting on the dependent variable by only picking cases of cooperation in regimes introduces an analytic bias and makes use of knowledge about what

ultimately happened, knowledge that the decision makers could not possibly have before the fact. Analytic bias and hindsight are two elements that we should avoid in designing ways to assess how well alternative theories perform empirically.⁴

Before leaving our discussion of case studies, I will add one more set of thoughts to the discussion. It is possible to establish or refute certain claims of a theory unambiguously through the use of even a single case study. Let us briefly

consider the difference between necessary conditions, sufficient conditions, and necessary and sufficient conditions.

Tables 5-1, 5-2, and 5-3 look at whether or not a regime is present (the independent variable) in a set of circumstances and relate this to whether or not that set of circumstances culminates in cooperation or conflict (the dependent variable). The regimes litera-

ture suggests a hypothesis that says that regimes foster cooperation. Table 5-1 shows an example of thirty hypothetical observations that support the inference that the presence of a regime appears necessary but not sufficient for cooperation. Table 5-2 illustrates hypothetical evidence for thirty observations that support the claim that regimes are sufficient but not necessary for cooperation. Table 5-3 depicts a pattern in which regimes are both necessary and sufficient for cooperation.

In Table 5-1 we can see that whenever cooperation is observed (the dependent variable), we also observe that a regime is present. At the same time it is ev-

ident that regimes do not guarantee cooperation; half of the time when a regime is present there is still conflict, but there is never cooperation without a regime. This is what is meant when we say it is a necessary condition. If there are no problems with assigning cases to each category in the table, then a single instance of cooperation with-

out a regime, such as the U.S.-Israeli case, refutes the hypothesis that a regime is necessary for cooperation.

Table 5-2 shows that whenever a regime is present there is cooperation, although cooperation can also occur without a regime. Thus, Table 5-2 illustrates

Can you think of examples of international organizations in which the member states commonly fight (verbally or even violently) with each other? Can you think of examples of states that generally cooperate despite having no formal agreement between them about the conditions for cooperation?

TABLE 5-1

Regimes and Cooperation: Necessary Conditions

Regime	Cooperation	Conflict
Yes	10	10
No	0	10

⁴ Selecting on the dependent variable is a problem for any argument concerned with identifying factors sufficient to cause a result, but is not a problem when the concern is only to identify factors that are necessary for a result (see Most and Starr 1989).

the case where the presence of a regime is sufficient to produce cooperation, but not necessary. This is evident from the fact that there are cases of cooperation without regimes. Table 5-3 shows that cooperation only occurs when a regime is present and conflict only arises when a regime is not present. Table 5-3 illustrates both necessary and sufficient conditions. It is evident that if there is one instance of a regime that does not lead to cooperation, as in the case of OPEC, then regimes are not sufficient to guarantee cooperation. Either the U.S.-Israeli case or the OPEC case refutes the argument that regimes are necessary and sufficient to insure cooperation.

Suppose a theory makes a weaker prediction than that implied by necessity, sufficiency, or both. If a theory predicts that something is possible under certain conditions—not necessary or sufficient, nor even probable—then we can prove the claim with just one case. A single demonstration that the specified conditions have occurred and the possible outcome has arisen is adequate to prove such a weak claim. These claims are known as existence claims. Let's look at an example.

Two similar and widely held theories suggest that wars that fundamentally alter the structure of international relations, especially relations between the most powerful states, must be large, costly wars.⁵ An alternative view, the theory of strategic competition between states, suggests that it is possible for a system transforming war to occur even if the war is short, and costs relatively few lives. The Seven Weeks' War, fought in 1866 between Prussia and Austria with participation by Italy and several small German principalities, is an example of just such a war (Bueno de Mesquita 1990). The existence claim of the strategic perspective is proven because this small, relatively low-cost war transformed how the states of Europe related to each other as suggested by the strategic perspective but in contradiction to the other theories. This one case does not prove that the theory from which the claim is derived is true, just that the specified phenomenon can exist in contradiction to some other theory.

TABLE 5-2

Regimes and Cooperation: Sufficient Conditions

Regime	Cooperation	Conflict
Yes	10	0
No	10	10

TABLE 5-3

Regimes and Cooperation: Necessary and Sufficient Conditions

Regime	Cooperation	Conflict
Yes	15	0
No	0	15

⁵ These theories are discussed in Chapter 15. They are known as the theory of the power transition and the theory of hegemonic war.

A STANDARD FOR COMPARING THEORIES

How can we choose among competing theories? We can use the first principle of wing-walking. This means that we choose one theory over another if it outperforms the competing theory (Popper 1963; Lakatos 1978; Laudan 1977). The criteria applied here are straightforward. When two theories make predictions about the same phenomena or set of events, one is judged to be better than the other if it explains those facts accounted for by the rival theory plus some additional facts not explained by the competing theory. Furthermore, the allegedly better theory must explain these additional facts without adding a net surplus of newly unexplained circumstances. Thus, our standard of judgment is quite pragmatic. The more things a theory can explain, and the fewer the errors it makes compared to alternative theories, the better it is. A theory will be abandoned only after the evidence shows that a competing theory does a superior job of accounting for the facts. It is not enough to get more things right; the theory must also not get more things wrong that were previously accounted for. There must be a net improvement in prediction. There are, of course, practical difficulties in the implementation of this, or any, standard. But at least this is removed from arguments about personal tastes and imbedded in criteria on which people can agree.

I use seven criteria to turn the theoretical discussion into practical rules for assessing arguments. The criteria adopted here have been suggested by Kenneth Waltz (1979, 13), one of the most prominent students of international affairs. These criteria are as follows:

1. State the theory being tested.
2. Infer hypotheses from it.
3. Subject the hypotheses to experimental or observational tests.
4. In taking steps two and three, use the definitions of terms found in the theory being tested.
5. Eliminate or control perturbing variables not included in the theory under examination.
6. Devise a number of distinct and demanding tests.
7. If a test fails, ask whether the theory flunks completely, needs repair and re-statement, or requires a narrowing of scope of its explanatory claims.

These seven criteria capture at minimum what is needed for a theory to remain a contender in the struggle to discover how international politics works. By carefully applying these criteria to the tools of analysis available to us, it should be possible for us to come to a better understanding of international affairs.

WHY DO WE NEED THEORIES?

You may well wonder what need there is to worry at all about abstract theoretical perspectives on how international politics works. Why, for instance, don't we just get on with the business of describing and explaining international affairs as they are? Do national leaders *really* care about theories or scientific standards in devising their policies, or is it enough to have good judgment, wisdom, some knowledge of history, and maybe a little luck? These are good questions that deserve serious consideration and serious responses.

The business of describing, explaining, predicting, and perhaps engineering international affairs is not as simple as it may seem. Knowledge of the facts, for example, is a far cry from understanding those facts or comprehending why circumstances evolved in the way they did (Farkas 1999). It seems almost impossible to talk about the facts of international politics without worrying about standards for judging evidence and the means of evaluating competing theories about what is happening before our eyes (Popper 1963; Lakatos 1976, 1978; Laudan 1977; Rosenberg 1988; Margolis 1993). How else are we to know which facts are relevant and which can safely be ignored?

Just consider today's headlines. Someplace in today's newspaper there is a story about an international dispute, possibly over trade barriers, ethnic rivalries, border clashes, or religious differences. Perhaps Turkey and Greece are arguing over the treatment of the ethnic Greek or ethnic Turkish on Cyprus. Maybe India and Pakistan are engaged in a dispute over their claims to Kashmir. Possibly the United States and Canada disagree about the interpretation of NAFTA. Maybe Britain and Argentina are threatening one another about their respective claims to the Falklands/Malvinas Islands. China, Vietnam, Malaysia, Taiwan, and others may each be claiming the rights to oil deposits near the Spratly Islands in the South China Sea. Iran and Iraq may be quarreling over the treatment of Shia Muslims, or Israel and Syria over the rights of Palestinians. Romanians and Moldavians may be disputing the location of legitimate boundaries between their territories.

Whatever the headlines, it will be evident that there are lots of different ways to explain each of these conflicts of interest. News accounts of ethnic rivalry, the balance of power, economic dependency, or imperialism reflect ideas about theories or organizing principles that explain international affairs. Such common ideas as "do unto others as you would have them do unto you," "an eye for an eye, a tooth for a tooth," or "turn the other cheek" are just a few ways people think about what encourages or discourages countries from resolving their differences. Each is part of some theory of international relations developed as a tool that

might help us understand how nations relate to each other. Each tool directs us to focus our attention on different facts and offers a different explanation of events.

Theories about norms might turn our attention toward the history of past interactions between particular states. If we focus on norms, then we are likely to be concerned about the domestic social and cultural constraints leaders face. Perhaps the cultural or social values in some countries make using violent strategies especially costly for political leaders. In that case, norms could be a pacifying influence in foreign policy. Balance-of-power theory, by contrast, encourages us to seek out facts about the power resources of states and to assume that nations are inherently hostile toward one another. We would be more concerned with the wealth and military might of states if we took a balance-of-power perspective than if we approached a rivalry from the perspective of cooperative norms. From the point of view of a theory of cooperative norms, such as the theory of liberalism discussed in Chapter 3, power would be thought less consequential than, for example, the history of shared interests and cultural values.

The choice among alternative theories, or tools, and the standards for evaluating them are not only important for us as students and citizens but are important as well for those individuals entrusted with the responsibility for making the myriad decisions that describe the relations between nations. Decision makers probably do not choose their courses of action by throwing darts at a list of options. Surely if we believed that our leaders make life and death decisions in such an irresponsible way we would throw them out of office. And that, remember, is a risk that people who are ambitious to lead do not engage in lightly. Each leader around the world relies, knowingly or unconsciously, on some tools or theories of international affairs to help guide decisions. Leaders often quote the principles or hypotheses derived from such tools as the justification for their decisions. Consider two examples of principles used by leaders in critical foreign policy settings.

Admiral Isoroku Yamamoto, the architect of Japan's attack against Pearl Harbor, was fond of saying, "an efficient hawk hides his claws" (Prange 1981, 13). Here is a generalization about international affairs that helped guide the secretiveness behind Japan's planning and execution of its attack. It may or may not be a useful or helpful principle, but it certainly was an important one. After all, it was not inevitable that the Japanese would choose the secret and aggressive course of action that they did choose on December 7, 1941.

The Japanese might just as readily have taken a different point of view. They might have subscribed to a hypothesis commonly argued by those who believe in the theory of deterrence. Had they accepted a deterrence point of view, the Japanese might have openly declared in 1941 that they would launch a severely punishing attack against American interests unless the United States lifted its trade em-

bargo against Japan and stopped threatening its activities in the Pacific. Probably Japan's leaders would not have wanted to say exactly what the threatened punishment would be or exactly when it would take place. That would have put their fleet of aircraft carriers at unnecessary risk. Still, they might have chosen an open threat intended to alter America's behavior. Such an approach would have relied on an utterly different assessment of the appropriate tools for accomplishing their objectives than the tools implied by their secret, clandestine attack. Had they believed they could deter the United States by persuading Franklin Roosevelt that the costs of his policies toward Japan outweighed the benefits, then the threat of punishment alone might have been sufficient to achieve their goals. They might never have attacked any American facilities at all. Indeed, later we will see how Japan came to choose the stealth approach in which their intentions and actions were kept secret as long as possible over the deterrent alternative in which their alleged intentions, if not their actions, would have been common knowledge to all concerned parties. Had Japan's intentions been common knowledge, the United States would have known of them; the Japanese government, in turn, would have known that the American government knew Japan's intentions; the American government, for its part, would then have known that the Japanese government knew that the Americans knew Japanese intentions; and so forth. We will learn when the threat of punishment can be sufficient to induce the desired behavior and when a threatened punishment must actually be carried out.

Leaders often talk about "maintaining the balance of power" or "promoting a favorable balance of power" (which usually means having a great imbalance in their favor) as guidelines to conducting their nations' foreign policies. Indeed, a few illustrations may help suggest that a concern with the theory of the balance of power is as old as history and as fresh as today's headlines. Consider the following three quotations. Each reveals a concern about the balance of power between rivals. The first comes from the Gospel according to Luke, the second from a memorandum by Sir Eyre Crowe to the British government shortly before the outbreak of World War I, and the third from the memoirs of Henry Kissinger, Richard Nixon's notable national security advisor and later secretary of state.

What king, going to make war against another king, sitteth not down first and consulteth whether he be able with ten thousand to meet him that cometh against him with twenty thousand.

Or else, while the other is still far away he sends a delegation and asks terms of peace. (Luke 14:31)

History shows that the danger threatening the independence of this or that nation has generally arisen, at least in part, out of the momentary predominance of a neighboring State at once militarily powerful, economically efficient, and ambitious to extend its frontiers or spread its influence. . . .

The only check on the abuse of political predominance derived from such a position has always consisted in the opposition of an equally formidable rival, or of a combination of several countries forming leagues of defence. The equilibrium established by such a grouping of forces is technically known as the balance of power. . . . (Quoted in Hartmann 1978, 316)

Throughout history the political influence of nations has been roughly correlative to their military power. While states might differ in their moral worth and prestige of their institutions, diplomatic skill could augment but never substitute for military strength. In the final reckoning weakness has invariably tempted aggression and impotence brings abdication of policy in its train. . . . The balance of power . . . has in fact been the precondition of peace. (Kissinger 1979, 195)

Can you think of a current foreign policy dispute in which one state is threatening another with dire consequences if the latter does not change its behavior? Has the exact nature of those consequences been made clear (e.g., economic sanctions, military action, severing of diplomatic relations, etc.)? Can you think of a dispute in which a state seems to be hiding its true intentions, saying one thing but seemingly doing another? What is more reliable information, what a state's leaders say they are doing or what they are observed to be doing?

Such examples suggest that leaders, at least some of the time, take very seriously the theories that have been used to try to make sense of history. Theories probably do not determine choices in a mechanistic way so much as they serve as signposts for leaders who must map out a foreign policy course. That is one reason why it is important to un-

derstand the tools that shape their judgments, even if those tools prove to be faulty or just plain wrong. Even if a theory is woefully inaccurate, still, if leaders rely on it we should strive to understand it and to understand why it goes wrong and with what consequences. Later, I believe you will be convinced that the balance-of-power theory is incorrect in many of its most important predictions. Yet it strongly influences how leaders make decisions. Surely it is as important for us to understand what consequences follow from reliance on incorrect arguments as it is to understand what consequences emerge from reliance on correct arguments. By comprehending the faults with a theory we may help prevent foreign policy errors in the future.

GUIDELINES FOR EVALUATING ARGUMENTS AND EVIDENCE: THE SCIENTIFIC METHOD

With so many alternative ways to think about what is going on in international affairs, amassing facts and making decisions can be a daunting task. Fortunately, there are sensible guidelines to help us and our leaders evaluate the effectiveness of these alternative ways of thinking about international problems and to con-

clude when a perspective is probably wrong. By using these guidelines, we can expect to make reasonable and helpful judgments about the quality of different arguments and the credibility of the evidence for or against those arguments.

What I am referring to here is use of the scientific method. The scientific method imposes only a few basic conditions. In doing so, it guides our application of the first principle of wing-walking by helping us to see when to hold on to an old theory and when to let go and embrace a new one. As I emphasized earlier, scientific analysis requires logical consistency. This means that we must state clearly how one set of factors imply or cause another set of factors. Competing arguments must be evaluated through experiments that control for confounding, alternative explanations. In the physical sciences this is a much easier requirement to satisfy than in the social sciences. Within the field of international politics, controlled experiments means that theoretical expectations are evaluated against historical data. The cases selected for evaluation must be representative of the class of events in which we are interested. Since no one case study can be representative, case studies alone are not adequate as scientific tests of an argument. The representativeness of cases also means that we choose randomly with regard to factors that are not part of the argument. Randomness insures that the tests control for the possible effects of other factors. Tests must also be replicable. That is, different researchers examining the same body of evidence should reach the same conclusions even if they are unfamiliar with each other's investigations. The conclusions are not based on personal judgments or on personal values. Theories lead to empirical predictions. This is why both the logic and the evidence for or against a theory is so important.

Predictions are always contingent. They differ from prophecies in that scientific predictions state that if certain conditions are met, then certain results are expected to follow (Gaddis 1992; Ray and Russett 1996; Bueno de Mesquita 1998). When other conditions are met, then the theory may predict other outcomes. Prophecies are not concerned with the conditions from which consequences follow; they are only concerned with the consequences. Scientific predictions can be about things that have already happened or about things that have not yet happened. For example, using Newtonian mechanics we can predict the location of Mars in the night sky on any day of any year, past, present, or future. If Mars were observed to be somewhere other than the predicted location, then the theory on which the prediction was based would be called into question. This would be just as true if Mars proved to have been somewhere else on a past date or a future date. Tests of theories about international affairs also rely on predictions. Sometimes the evidence is based on how closely past events fit the expectations of a given theory. In the most demanding cases, the evidence for a theory pertains to predictions about events that have not yet happened.

Both types of predictions are emphasized throughout this book, and you will learn how to make reliable predictions about events that have not yet happened.

The scientific method focuses our attention on the internal, logical consistency of alternative explanations of "the facts" and compels us to look for critical, replicable tests and evidence that allow any of us to reach theoretically and empirically defensible conclusions about competing arguments. We may disagree about the interpretation of the evidence or the weight to be given to it in assessing the strengths and weaknesses of a theory, but at least we will be able to discuss these matters based on the same criteria, even if we do not share common judgments or expectations. Of course, you may disagree about the appropriateness of the scientific method, and I may be wrong about its value. There certainly is no shortage of sensible, knowledgeable people who have concluded that the standard methods of science are not applicable to politics. But whether these standards can be applied to international politics is not a matter to be resolved by assertion; the proof of this pudding really is in the testing.

Many prefer to speak of the art of politics rather than the science. I respectfully disagree, but, of course, it is not enough to assert a point of view. I must demonstrate the applicability of the scientific method or acknowledge failure. This is why it is important to discuss the criteria to be employed when judging arguments and evidence and to consider alternatives that others might prefer to use. Judgments about alternative theories are important because the costs of wrong decisions in international affairs can be devastating. We certainly want to avoid using wrong ideas or ideas that are inappropriate for the problem at hand.

WHEN A THEORY IS WRONG

The notion that a theory can "go wrong" does not seem terribly complicated. Most of us probably understand this phrase in pretty much the same way. For one thing, we probably would have no problem agreeing that if a theory regularly leads to predictions that are inconsistent with reality, then the theory, rather than reality, is wrong. After all, reality is what it is. Reality may be "wrong" in a moral sense. We may not like what happens, but it still incontrovertibly happens.

There are some theorists who argue that reality is wrong when what actually happens does not conform with the theorist's expectations of what should have happened. Marxist theory sometimes exhibits this characteristic because it gets interpreted along Marxist ideological lines. Marxism as a theory is intended to explain changes in economic and social relations over time. It is an effort to explain history. Class conflict is presumed to be inevitable in Marxist theory. If class conflict does not arise, then Marxist theorists usually presume that some-

thing is wrong with people's class consciousness. The theory is not presumed to be mistaken.

Soviet founder Vladimir Illyich Lenin, a theorist as well as a revolutionary leader, devised such concepts as a "trade union mentality" and the "vanguard of the proletariat" to deal with the problem of inconsistencies between predicted behavior and observed behavior. A trade union mentality is, in more modern parlance, equivalent to false consciousness. Because some members of the working class might, according to this notion, misunderstand their true interests, Lenin constructed the idea that a group such as Communist Party elites was needed to lead the way for the proletariat. According to Lenin, party elites could be better trusted than workers to know what was in the true interest of the working class. Indeed, many argue that Lenin's concept of the vanguard of the proletariat ensured that Marxist theory would, if put into practice along Leninist lines, evolve into a dictatorial ideology. Lenin, in fact, argued in his essay "What Is to be Done?" against any debate regarding socialist ideology. His logic inevitably led to the conclusion that if the observed facts contradicted socialist/Marxist predictions, then the facts were in error because they reflect a bourgeois ideology.

Marxist predictions and reality were not consistent with one another in 1914. Marxist theorists predicted that the first world war could not happen because the workers of the world would recognize their common class interests and the divergence between their interests and those of the aristocratic and capitalist classes who were making war. The workers simply were not expected to agree to serve in the armies of their countries, fighting against their class fellows from other lands. Marxist theorists greatly underestimated the power of nationalist feelings to join people together, even against members of their own "class." Indeed, Marxism had no room for nationalism, as nationalism competes with class as an organizing principle. Marxist predictions about World War I proved wrong, but Marxist theorists dismissed the problem as being an error of the workers who were fooled by false consciousness (i.e., nationalism, trade union mentality, etc.) rather than an error of the theory. They invented auxiliary arguments to cope with the failed predictions of their theory. It took repeated failures, culminating in the early 1990s, before most Marxist theorists accepted that the evidence was overwhelming that their theoretical perspective was wrong. As suggested by the first principle of wing-walking, Marxists were conservative in their willingness to surrender their preferred theory. They needed to be convinced by a great preponderance of evidence. They had to reach the point when they recognized that their auxiliary arguments had become unsustainable.

The addition of auxiliary arguments to a theory is not inherently problematic. If the new arguments explain previously unexplained events without be-

coming wrong when applied to previously explained events, then the gains in explanation can exceed the costs in lost parsimony. A theory is more or less parsimonious depending on how many facts it explains compared to the number of assumptions it requires to make predictions. In general, the more events or facts a theory can explain with a limited set of assumptions, the greater the potential usefulness of the theory and the greater its parsimony. So, if auxiliary arguments (like nationalism, trade union mentality, encirclement by the bourgeois states, etc.) are added and only explain one event each, then there is no improvement in parsimony. In fact, such additions are evidence that the theory in question is degenerate. That is, the theory needs to make up a special explanation for each new circumstance and so really is no explanation at all (Lakatos 1976, 1978; Christensen and Snyder 1997; Elman and Elman 1997; Schweller 1997; Vasquez 1997; Walt 1997; Waltz 1997).

The principle of parsimony is important because it provides one benchmark by which we can choose among competing theories. When a theory or its auxiliary statements need to be changed to suit many—sometimes even each—new observation, then we should suspect that the theory is just plain wrong.



Marxist theory not only fails the tests of logical consistency and empirical reliability; it also failed in practice. Here we see a worker relegating a bust of Lenin to a trash heap after removing it from a church that, during the Soviet period, was converted into a factory that produced statues of Lenin. Marxist theory seems to have gone the way of Lenin's bust.

SCIENTIFIC THEORIES MUST BE FALSIFIABLE

How we judge predictions is certainly open to some dispute. Some theories do not allow any possibility that evidence can show them to be wrong. Such theories are not *falsifiable*. They may be true (or not), but we have no way to be confident they are true or useful, short of faith. Indeed, religious beliefs can be thought of as a set of theories or tools devised to explain human behavior and phenomena in nature. They may be true (or not), but we cannot judge their veracity by normal scientific standards; we must rely on faith. Core religious beliefs, such as a belief in the existence of God, cannot be falsified, although lesser religious arguments, such as when the world is expected to come to an end, clearly can be shown to be false (though maybe not convincingly to a believer). It is essential that a theory seeking the imprimatur of science be susceptible to possible falsification. A theory that has scientific standing is one for which it is possible to imagine a test or set of tests whose results would lead us to conclude that the theory, or at least its central predictions, are just plain wrong. If no such test can be imagined, then the theory really is an article of faith rather than an article of science.

Sometimes people are confused by this idea of falsifiability. They think, "Well, if a theory is true, it cannot be falsified, so how can falsifiability be helpful with true theories?" I want to be very clear. Falsifiability does not have to do with whether an argument is true or false, but rather with whether conditions exist in principle under which one would conclude that the argument was false. In short, true claims cannot be falsified, but they can be falsifiable. For example, every object at the Earth's surface falls at thirty-two feet per second if we assume that there is no air friction. Apparently this is true despite the fact that the simplifying assumption that there is no air friction is never precisely met. It is also a falsifiable claim. If, for instance, you let go of a rock near the Earth's surface, there is no air friction, and there is nothing holding the rock back or otherwise interfering with it and it rises rather than falls, then the hypothesis would be disproved. Thus, we can state the conditions for falsification. Whether they are satisfied or not is related to falsification; whether they can be stated or not is sufficient to establish falsifiability. One objective throughout this volume is to sort out which theories of international relations are falsifiable and which are

Can you think of an explanation of foreign policy that is falsifiable? Can you think of an explanation that is not falsifiable? When journalists explain clashes between ethnic groups by saying that the fighting stems from cultural differences or from the fact that the groups have hated each other for hundreds of years, are the journalists making a falsifiable claim? Is the claim false? How can you account for the periods of peaceful coexistence between such ethnic groups in light of the journalistic explanation of their clashes?

not. We can do this by examining the logic of each theory and the evidence for and against it relative to alternative theories. We saw earlier that an important part of Morgenthau's theory of realism is not falsifiable according to the standards of science. Those who subscribe to it may be right about how the world works, but we have no way to tell. Falsifiability and the examination of logic and evidence are ways we can assess the relative merits of competing explanations while upholding the first principle of wing-walking.

SUMMARY

The first principle of wing-walking establishes that we should not abandon one theory for another until the new theory proves to be a better tool for explaining the events of interest. The reliability of predictions is the primary standard for judging the relative merits of competing explanations of events. Theories provide the linkage between assumptions and empirical generalizations. They stipulate how variables relate to each other. In doing so, theories identify the causal or probabilistic association between independent and dependent variables. They provide a simplified view of reality that is believed to reduce the complexity of the real world to its essential components.

Assumptions describe the set of conditions under which a theory is expected to apply to the phenomena of interest. Hence, assumptions define a theory's relevant world of applicability. If the assumed world is too far removed from the world in which we live, then the theory's predictions will prove unreliable and we will conclude that the theory is useless or trivial. If the assumptions contradict each other on logical grounds, then the theory is logically false and so cannot provide a coherent explanation of the world in which we live. Consequently, theories will be judged based on their logical consistency and empirical usefulness. Taste or esthetic appeal are not critical in evaluating alternative explanations of international affairs; adherence to the requirements of the scientific method is critical.