

INTEGRATING LEVELS OF ANALYSIS IN WORLD POLITICS

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ABSTRACT

'Levels of analysis' problems can involve issues regarding (1) the relative potency of different categories of explanatory factors, (2) the relationship between analyses focusing on different units of analysis or (3) the relationship between assumptions about individual social entities and hypotheses regarding interactions among those entities. An analysis of the manner in which economists have dealt with levels of analysis issues and recent developments in the field of international politics focusing on the relationship between regime types and international conflict can facilitate the integration of research efforts involving different levels of analysis. Advocates of 'democratic peace' rely increasingly on an assumption that leaders of states place the highest priority on staying in power. This assumption offers a useful basis for the integration of domestic as well as international or environmental explanatory factors. Since this assumption and theoretical notions based on it imply that different types of states behave differently, however, it can also complicate the analysis of interactions among states. Directed dyadic level analyses, and analyses of more complex aggregates using directed dyads as building blocks, can produce data that are more germane to the evaluation of hypotheses regarding the impact of differences between states than aggregate level analyses that typically tend to obscure 'who does what to whom'.

KEY WORDS • democratic peace • directed dyads • interstate conflict • levels of analysis • regime type

Introduction

Debate regarding the levels of analysis problem in the field of international politics in the post Second World War era began to take shape in a book where the issue is never mentioned specifically. In *Man, The State, and War*, Waltz (1954, 1959: 160) refers to 'images', by which he means different categories of factors that cause war, namely the characteristics or attributes of individual human beings, states and the international system. He emphasizes the impact of the structure of the international system as a cause of war, but he does not ignore the other two images, nor does he find it difficult to formulate explanations simultaneously integrating factors pertaining to all three 'images' (Waltz, 1954, 1959: 238).

However, some analysts of international politics see the origins of the

debate about levels of analysis problems in Singer's (1961) article 'The Level-of-Analysis Problem in International Relations'.¹ Singer's view of levels of analysis issues is fundamentally different from Waltz's. While Waltz focuses on categories of explanatory factors, Singer refers primarily to the social entity or aggregation about which descriptions, explanations or predictions are offered in a given study. In a discussion of the relationship between propositions about foreign policies, on the one hand, and international politics, on the other, he concludes that 'one could not add these two kinds of statements together to achieve a cumulative growth of empirical generalizations' and that 'representing different levels of analysis . . . they would defy theoretical integration' (Singer, 1969: 29; emphasis added).²

To this day, international politics specialists use the term 'levels of analysis' to refer, in Waltzian fashion, to different categories of explanatory factors *or*, following Singer, to different social entities or aggregations as targets for analysis. Russett et al. (2000: 11), for example, define 'levels of analysis' as 'points on an ordered scale of size and complexity'. They go on to explain that 'a level may refer to the actors themselves, to the states or individuals whose actions we are trying to explain, or . . . to different kinds of influences on those actors'.

Such a definition is, perhaps, a defensible accommodation to usage of the term within the field of international politics. It is also, however, ambiguous on key points. First, it obscures the fact that some units of analysis are aggregations that do not themselves act or behave. The international system, for example, can serve as a unit of analysis, but it has no purposes or goals, nor does it exhibit any behavior that might serve as a target for explanatory efforts. Furthermore, Russett et al.'s (2000) definition of 'levels of analysis' can obscure the fundamental difference between the issue regarding the relative impacts of different categories of explanatory factors on the behavior of states or policymakers and the quite different issue regarding the relative merits of and relationships between analyses focusing on the behavior or the operation of different social entities or aggregations.

Perhaps the most important reason why it is important to avoid blurring this distinction between 'levels of analysis' as the loci of explanatory factors, on the one hand, and as different social entities whose behavior or operation is being analyzed has to do with issue of integrating levels of analysis. If 'levels of analysis' are nothing more than different locations of explanatory factors, then they can be integrated simply by including variables from

1. Reprinted in Rosenau (1969). The place of this article in the view of one sector of the field is reflected in the assertion that 'in a well-known article, J. David Singer introduced the idea of levels of analysis' (Russett et al., 2000: 11).

2. As Levy (1998: 144) observes specifically about this assertion, 'Singer's statement makes sense only if the levels of analysis are conceptualized in terms of the dependent variable.'

different levels of aggregation as explanatory factors in one's model.³ Integrating levels of analysis in this fashion is relatively simple to accomplish.⁴

The relationship between and the integration of analyses focusing on different social entities, by contrast, are more problematic. While there is certainly lively debate in the field of international politics about the relative strengths of the different categories of explanatory factors, quantitatively oriented analysts, at least, agree that the relative explanatory power of factors on different levels of analysis can be evaluated by comparing the strength of the statistical relationships between them and the phenomenon to be explained. The issues regarding the relative merits of, and especially the relationships among analyses focusing on different social entities or aggregations, in contrast, cannot be resolved in such a straightforward fashion, even in principle.

This article will focus on levels of analysis issues having to do both with the locus of explanatory factors and also with analyses of different social entities. It will deal, in addition, with a related issue having to do with the basic social entities about which one makes assumptions at the initial stages of theory-building, and the analysis of interactions among these entities. (This problem also has a 'level of analysis' aspect to it, as it involves, as we shall see later, a discussion of the relationship between 'micro' and 'macro' analyses.) One purpose of this article is to review levels of analysis issues as they have come up in recent research in international politics, and to examine their relationship to the third issue having to do with the utility of simplifying assumptions about units for the purpose of analyzing interactions among those units. The ultimate aim is to demonstrate that recent developments in research on the relationship between regime type and interstate conflict can help integrate levels of analysis, whether that term refers to different sets of explanatory factors or different social entities as units of analysis. The discussion will begin with an analysis of the relationship between micro and macro analyses in economics, as seen by Waltz (1979) in the founding document for what is often referred to as the predominant paradigm in the field of international politics, i.e. neorealism.⁵ We will review briefly the relationship between micro and macro analyses, as well as that between theories of the firm and theories of markets, as they

3. In one recent example, Oneal and Russett (1999) include both dyadic level measures, such as the degree of democracy exhibited by dyads, along with systemic level measures, like the average degree of democracy in the entire international system, in a model aimed at predicting the propensity of individual pairs of states to become involved in militarized disputes.

4. Integrating these factors in a manner that is theoretically grounded and coherent, however, is not so easy.

5. 'In the last 15 years, neorealist theories have dominated the international relations field . . .' (Elman, 1996:7).

have unfolded in the discipline of economics. This review will provide an important basis for a discussion of apparently analogous issues in the field of international politics, having to do with (1) integrating explanatory factors inside and outside of states and (2) the relationship between theories and analyses focusing on pairs of states, on the one hand, and theories and analyses dealing with larger collections of states, such as the international system, on the other.

As Vasquez (1999: 194) points out:

One of the major problems with Waltz's (1959) three images and the way the level of analysis problem has been generally conceptualized (Singer, 1961) is that they leave out what is turning out to be the most important level . . . Working at the dyadic level, i.e. examining the relations between pairs of states – what they actually do to each other – has been much more productive . . . in the analysis of foreign policy and in retrodicting the onset of war . . .

While acknowledging the validity of Vasquez's point about the utility of dyadic level analyses, I will also argue here that the research programme devoted to 'democratic peace' has produced some evidence related in a rather tenuous fashion to the theoretical ideas being evaluated. Standard dyadic level analyses, for example, on which most research on democratic peace depends, are typically addressed to theoretical ideas emphasizing distinctions between states with different regime types. Yet standard dyadic level analyses virtually by definition, obscure 'who does what to whom'. (In other words, they do not, as Vasquez contends, analyze pairs of states in a way that takes into account what states in the pairs being analyzed 'actually do to each other'.) Recent analyses of the relationship between the distribution of regime types and the incidence of conflict in the entire international system compound this problem.

Nevertheless, the democratic peace research programme has evolved in such a way as to point not only toward a logical and theoretically coherent way to integrate explanatory factors found at different levels of analysis. It also can provide guidance about the integration of analyses that focus on different social entities, such as dyads, on the one hand, and the entire international system, on the other. The article will conclude with an argument that evidence produced up to this point by recent analyses focusing on the relationship between democracy and peace at various levels of analyses could be supplemented in useful and enlightening ways by directed dyadic level analyses, and higher level analyses utilizing directed dyads as building blocks.

The Relationship between Micro and Macro Analyses

In *Theory of International Politics*, Waltz (1979: 89, 110) insists that 'political scientists tend to think that microtheory is theory about small-scale

matters, a usage that ill accords with its established meaning'. He adds that 'among economists the distinction [between microeconomics and macroeconomics] is well understood. Among political scientists it is not.'

If it were true that economists have successfully worked out the relationship between micro and macro analyses, then it would behoove political scientists and specialists of international politics to learn what they can about the understanding that economists have achieved on this issue. It seems clear that the distinction between micro and macro analyses in the field of economics is of relatively recent origin. Classical economic analysis as exemplified by Marshall's (1890) *Principles of Economics* dominated the field until the Great Depression. That crisis evoked Keynes's (1936) *General Theory of Employment, Interest, and Money*. 'In the Marshallian analysis, all economic questions are described and analyzed in terms of the behavior of individuals . . . In Keynesian analysis . . . collective determinations often take precedence over individual behavior' (Heilbroner and Milberg' 1995: 65). Keynes's *General Theory* marks the advent of 'macro' analysis. But 'we owe the sharp distinction between individual and collective analysis to Samuelson's (1947) *Foundations of Economic Analysis* . . . which framed the issue in terms of 'micro' and 'macro' that have become permanent additions to the economic vocabulary' (Heilbroner and Milberg' 1995: 65).

Since Samuelson originally developed the distinction between micro and macroeconomics, his views on the distinction are of special interest. Samuelson (and Nordhaus, 1989: 5) explain that 'macroeconomics . . . studies the functioning of the economy as a whole, and microeconomics . . . analyzes the behavior of individual components like industries, firms, and households'. In another recent, prominent text, Baumol and Blinder (1994: 105) assert that 'in microeconomics *we study the behavior of individual decision-making units*', and that '*macroeconomics concentrates on the behavior of entire economies*'. If these definitions reflect the thinking of economists in general on the distinction between micro and macroeconomics, political scientists might be forgiven for concluding that microeconomics focuses on relatively 'small-scale matters'.

However, if one looks beyond the initial definitions of micro and macroeconomics typically provided by economists, the distinction between them tends to become less clear-cut than the definitions they provide seem to imply. Having offered seemingly straightforward definitions of micro and macroeconomics, Samuelson and Nordhaus (1989: 76) then declare that 'microeconomics comprises the study of individual prices and quantities and markets'. Baumol and Blinder (1994: 106) follow up their simple definitions with a discussion that implies quite clearly that microeconomics differs from macroeconomics not so much in the units analyzed as in the substantive topics with which they deal. 'The macroeconomist', they explain, 'analyzes the size of the economic pie', while a 'microeconomist

... assumes that the pie is of the right size and shape, and frets over its ingredients and division'.

In other words, economists tend to assert that macroeconomists focus on whole economies, while microeconomists study individual units within those economies. But then they assert (in the manner of Baumol and Blinder) that microeconomists *as well as* macroeconomists analyze the entire 'pie', as it were. More specifically, it is quite clear that microeconomists focus on *markets* and *interactions* among the individual units that are allegedly the purview of macroeconomists in a manner that obscures considerably the initial distinctions between micro and macro analyses as they tend to be defined in the abstract. Microeconomists do put more emphasis on initial assumptions about the smaller interacting units than macroeconomists do, thus creating the widespread impression that they analyze 'small-scale matters'. But ultimately, Waltz (1979: 110) seems justified in his conclusion that 'in economics, both micro- and macro-theories deal with large realms'; and that 'the difference between them is found not in the size of the objects they study, but in the way the objects of study are approached and the theory to explain them is constructed'.

While Waltz insists that both micro and macro theory (in economics) are addressed to 'large realms', he argues with equal vigor that they are virtually independent of each other. The notion that there is a fundamental gap between micro and macro analyses has long been common among economists. Heilbroner and Milburg (1995: 42) point out that Samuelson's textbook, published in 1948,

overcame the gulf between Marshallian and Keynesian views by consigning the first to a 'micro' and the second to a 'macro' section. Neither section discussed the problems of the other, and the two approaches were presumably reconciled by being bundled into a single textbook.⁶

Even a text published in the 1990s acknowledges that 'students could easily reach the conclusion that macroeconomics and microeconomics are two entirely distinct fields' (Barro, 1990: 8).

However, 'the lack of a clear connection between macroeconomics and microeconomics has long been a source of discontent among economists' (Howitt, 1987: 273). Such dissatisfaction was given a powerful boost when macroeconomics and Keynesianism suffered a significant blow to their credibility in the 1970s. The combination in that decade of inflation with increasing unemployment was quite anomalous for mainstream economics.⁷

6. The reference is to Samuelson (1948).

7. 'A Keynesian model cannot explain how inflation and high rates of unemployment can occur together, as they did in the 1970s' (Olson, 1982: 192). 'The ... frequently cited reason for the unraveling of the Keynesian classical situation [is] its failure to include a concept of stagflation – the simultaneous experience of recession and rising inflation – in its spectrum of macroeconomic outcomes' (Heilbroner and Milburg, 1995: 14).

This failure proved fertile ground for criticisms like those of Lucas and Sargent (1979), who argued that macroeconomics was fundamentally flawed because it lacked a firm foundation in microeconomics. Lucas's (1972) model 'became the analytical paradigm of the school of new classical economics in the 1970s and the 1980s, whose research programme was explicitly to base all macroeconomics upon firm microeconomic principles' (Howitt, 1987: 275). By the 1990s, the principle that microeconomics and macroeconomics should be integrated became widely advocated. Barro (1990: 8), for example, asserts that 'a central theme of this book is that a more satisfactory macroeconomics emerges when it is linked to the underlying microeconomics'. Baumol and Blinder (1994: 107) explain that the 'crucial interconnection between macroeconomics and microeconomics is with us all the time. There is, after all, only one economy'. Even as early as 1987, Howitt (1987: 275) argued that the field of economics was developing in such a way that the distinction between micro and macroeconomics might be on the verge of disappearing altogether.

The Relationship Between theories of the Firm and Theories of Markets

It seems clear from the foregoing discussion (at least to this writer) that in spite of Waltz's statement that economists understand that both micro and macro analyses deal with 'large scale matters', economists have not, in fact, developed such a clear understanding of the distinction between micro and macro analyses or the relationship between them that their insights can be applied in a straightforward fashion to the relationship levels of analysis in international politics. Waltz (1996: 57) also argues that 'economists get along quite well with separate theories of firms and markets . . .'. At another point he asserts that 'offering the bureaucratic politics approach as an alternative to the state-as-an-actor approach is like saying that a theory of the firm is an alternative to a theory of the market, a mistake no competent economist would make' (Waltz, 1979: 122).

Note, however, that when Waltz distinguishes in this fashion between theories of the firm and theories of markets, he is not talking precisely about the relationship between micro and macroeconomics. Economists quite clearly tend to categorize both theories of the firm and theories of markets under the rubric of microeconomics (see, for example, Mas-Collel et al., 1995). Nevertheless, there is disagreement among economists and even possibly confusion about the relationship between theories of the firm and theories of markets or interactions among firms that is reminiscent of that regarding the relationship between micro and macro analyses. Waltz (1979: 122) argues that even Nobel Prize winning economist Herbert

Simon is confused about the distinction between theories of the firm and theories about markets.

In the neoclassical theory of the firm, 'the firm is treated as a perfectly efficient "black box" inside which everything operates perfectly smoothly and everybody does what they are told' (Hart, 1995: 17). In the last 25 years or so, some analysts of firms have become dissatisfied with that approach. Such dissatisfaction accounts, to some extent, for the development of principal-agent theory, which emphasizes the impact of internal structure and internal incentives within the firm.⁸ In the end, while micro and macro analyses in economics seem on the surface to involve analyses at different levels of aggregation, in fact most micro *and* macro analyses focus on interactions among units. Micro analyses simply put more emphasis on basic assumptions about the individual units being analyzed. On the other hand, theories of the firm and theories of markets actually *do* involve analyses at different levels of aggregation, with the former focusing on individual firms, and the latter dealing more specifically with interactions among firms. In short, while both the micro-macro and the theories of the firm/theories of markets distinctions *appear* to focus on the differences between analyses of actions (or units), on the one hand, and of interactions among units, on the other, it is only in the latter case (having to do with firms and markets) that the distinction is consistently valid.

Levels of Analysis Issues and the Democratic Peace Research Programme

There is a research programme within the academic field of international politics that emphasizes the impact of domestic politics and internal political attributes of states on their international interactions, while at the same time taking into account the impact of outward-looking and external factors such as power ratios, alliance ties and geographic contiguity on those same interactions. This programme also, especially in the most recent years, has begun to deal with international interactions as well as processes at the level of the international system, both in terms of their impact on states, and in terms of dealing with the system as an entity whose operation is to be explained. In short, it deals with 'levels of analysis problems' having to do with the integration of explanatory factors, as well as the relationship between analyses focusing on different social entities. This

8. 'Principal-agent theory, which in effect drops the neoclassical theory's unitary-actor assumption to consider the implications of incentive problems within firms, is indeed analogous to IR theory on how different domestic-political bureaucratic institutions affect who controls foreign policy with what results' (Fearon, 1998: 293-4).

research programme focuses on what has become known as the 'democratic peace'.

Building on earlier work by Babst (1972), Rummel (1975–1981) and Doyle (1983a, 1983b), Maoz and Abdolali (1989) were the first to analyze in a systematic empirical manner the incidence of interstate war between democratic pairs of states as compared to the rate of warfare among mixed or jointly autocratic pairs of states over an extended time period.⁹ They also analyzed the relationship between regime type and interstate conflict on the national as well as the systemic level of analysis. They found substantially different relationships between democracy and peace on each level. On the national level, they reported that democratic states are not, in general, less conflict prone than other types of states. Nevertheless, Maoz and Abdolali (1989: 21) also reported, on the dyadic level, that democratic states rarely if ever go to war against each other. Finally, they also conclude that 'the proportion of democracies in the system positively affects the number of disputes begun and underway' (Maoz and Abdolali, 1989: 29).

Maoz and Russett (1993) rather embrace the contrast between the national and the dyadic level relationships between democracy and peace, welcoming it as a puzzle to be addressed in their research. Maoz (2001: 146), however, is much less receptive to the differences between the dyadic and the systemic level relationships of democracy and peace, feeling that the 'inability to aggregate the dyadic level finding into a systemic level represents a serious problem . . . '.

However, there is no logical reason to expect that empirical relationships between variables should be 'consistent' across different levels of analysis. On the contrary, relationships between variables on different levels of analysis (that is, across analyses addressing different social entities such as states, pairs of states and the entire international system) can be relatively independent from each other, and they may well be strikingly different. If democracies are no less war prone, for example, than undemocratic states, then the correlation between democracy and peace on the national level of analysis will be zero (except by chance, perhaps). If it is also true that democracies rarely or never fight wars against each other, then the correlation between democracy and peace on the dyadic level of analysis can be +1.0, provided that the coefficient reflects the sufficient but not necessary nature of the impact of joint democracy on peace (Braumoeller and Goertz, 2000). And even if the dyadic level correlation between democracy and

9. Small and Singer (1976) analyzed the relationship between regime type and interstate war from 1816 to 1965, but data limitations prevented them from comparing rates of warfare (i.e. wars per pairs of states per year) or the analysis of all pairs of states during that time period. They focused instead on the relative intensity or duration of wars involving democratic states and those that did not. Rummel (1983) compared rates of conflict between different categories of pairs of states, but only for the years from 1976 to 1980.

peace is +1.0, the system level correlation between the proportion of democracies and peace in the international system may be (and some empirical analyses suggest that it is) negative.¹⁰

These are not merely statements about statistical possibilities or even contrasting empirical patterns involving the 'same' concepts (such as 'democracy' and 'peace'). Rather the main point here has to do with the *logical* compatibility between contrasting correlations *as well as* substantially different causal relationships on different units of analysis, defined as the social entities about which analysts offer descriptions, explanations and predictions. If it is true on the national level of analysis that democratic states never initiate interstate wars, period, then it logically follows on the dyadic level of analysis that it must be true that democratic states never initiate wars against each other. However, if it is true on the national level of analysis that democratic states are as likely to initiate wars as other kinds of states, it does *not* logically follow that democratic states are as likely to initiate wars against other democratic states as are other types of states. And, even if it is true that democratic states never initiate wars against each other, one cannot logically infer that increased numbers of democracies in an international system will make that system less war (or conflict) prone. Furthermore, especially since it is logically possible for contrasting relationships between democracy and peace on different levels of analysis to co-exist, there is nothing illogical about constructing theoretical explanations about these contrasting relationships. And the logical possibility for these contrasting relationships (correlational as well as causal) to co-exist on the different levels of analysis makes it impossible to extrapolate in any simple or straightforward fashion from national or dyadic level relationships between democracy and peace to a logical or convincing conclusion about the relationship between the distribution of regime types and the incidence of conflict in the international system.

Is the Systemic Level of Analysis Relevant to Democratic Peace?

As Oneal and Russett (1999: 1) have pointed out recently, 'over two hundred years ago Immanuel Kant suggested that "republican constitutions", a "commercial spirit" of international trade, and a federation of interdependent republics would provide the basis for perpetual peace'.

10. Another way of making this same point is to emphasize that when analysts switch from one level of analysis to another, they are really dealing with different variables. The variables on the different levels of analysis may, as in this case, have equivalent conceptual labels such as 'democracy' and 'peace', but the variables being analyzed on the different levels of analysis are different, thus creating the possibility that the relationships will also be substantially different.

Their allusion to the 'federation' of interdependent republics stresses the 'systemic level' aspect of Kant's thinking on these issues. That Kant's thought ultimately emphasized a system level vision is brought out even more clearly by Huntley (1996: 45), who points out that Kant 'identified anarchy and conflict as key sources of progress away from the state of war among states'. Huntley (1996: 57) explains that according to Kant:

States with republican government can more effectively mobilize social resources; other states increasingly experience competitive pressures to replicate republican successes . . . [I]nterest defined in terms of power necessitates continuing extension of the rule of law. Regimes do not relinquish to the people their power over the people from benevolence or ignorance. They are compelled to do so by state interest and the urge to survive. They bow to systemic forces.¹¹

It is quite clear in this passage that Huntley uses the term 'system level' to refer primarily to the locus of causal impacts, rather than to the social entity whose operation is being accounted for. But it is also clear that he ultimately sees Kant's thought and explanatory efforts as addressed to the international system as a whole, rather than simply to states or pairs of states.¹² He, too, emphasizes that Kant saw as a fundamental key to peace a 'Federation of Free States'.

To the extent, then, that recent empirically oriented research into the relationship between democracy and peace has been inspired by Kantian thought, it is appropriate that analysts have turned their attention to the relationship between the distribution of regime types and the incidence of conflict in the international system. Furthermore, these analysts have certainly not been oblivious to one type of 'levels of analysis' problem that is a central concern here. For example, Gleditsch and Hegre (1997: 284) do not accept the seemingly straightforward, but potentially fallacious conclusion that 'if democracies do not fight each other, an increasing number of democracies in the system will produce a more peaceful system'. Instead, they argue that adding democracies to the system will *initially* increase the proportion of conflict prone mixed (democratic-autocratic) pairs of states in the system more than it will increase the proportion of potentially peaceful jointly democratic 'dyads'. Only after a point has been reached at which

11. Similarly, Waltz (1962: 336) explains that Kant believed that 'since states are in close competition, the sovereign, to avoid weakening his state, must grant a greater liberty to his subjects'.

12. According to Waltz (1962: 336), Kant argued that the 'planless aggregate' of human actions can be represented as 'constituting a system', and that in this system 'men and states seek their ends little knowing that they are by their actions producing a result that may have been no part of their intentions'. In his later writings, Waltz (1979: 75-7) makes it clear that in his view this independence of outcomes from the *intentions* of the actors produced by *interactions* among them is an essential characteristic of 'systems'.

additions of democracies increase the proportion of jointly democratic dyads more than they increase the proportions of conflict-prone mixed dyads will such increases in the proportion of democratic states in the international system, they argue, decrease the amount of conflict in the system. They present some preliminary evidence that there is, in fact, such a curvilinear relationship between the proportion of democracies and the amount of war in the international system.

However, Senese (1997: 420) finds in his system level analysis that 'contrary to my expectations . . . the results suggest . . . a higher proportion of democratic states may actually help breed more conflict'. Mitchell et al. (1999) report that they can find no evidence of the parabolic system level relationship between democracy and war posited by Gleditsch and Hegre (1997), but that there does seem to be a developing negative relationship between democracy and conflict in the international system over time.¹³ Maoz (2001) reports that growth in the proportion of 'networked' democratic states in the system (that is, democratic states that interact with each other because, for example, they are in the same geographic region), lessens the number of conflict in the system, in terms of militarized disputes or interstate wars. Crescenzi and Enterline (1999) provide a comprehensive and revealing analysis of this question regarding the relationship between the distribution of regime types and conflict within interstate systems. They find it necessary to make a rather lengthy series of methodological choices on which to base their analyses. They select, for example, a 'threshold' above which states qualify as 'democratic'.¹⁴ They need to select different lengths of time to analyze both the system as a whole and each region. Membership lists for each region must be defined. They make decisions regarding the length of time lags to incorporate 'Granger causality' into their search as well as on the order in which the variables are entered into their analyses. Were any of this long list of choices that they concede to be essentially arbitrary to be made differently, obviously the results might be altered substantially. And just about every time they change the focus or alter the form of their analyses, from one time period to another, from one region to another (and the regions, to repeat, are each analyzed for different time periods), their findings regarding the relationship between the proportion of democracies

13. Mitchell et al. (1999: 788) also acknowledge, however, that the analytic technique they use, namely Kalman filter analysis, makes it difficult to detect a positive relationship between democracy and war on the system level, and thus also difficult to reveal a parabolic relationship. Their finding of a negative relationship between democracy and war that is becoming stronger over time would corroborate findings by Cederman (2001) that democracies apparently 'learn' over time to become more peaceful in their relationships with each other.

14. They subtract from each state's score on Polity III's (Jaggers and Gurr, 1995) democracy scale its score on Polity III's autocracy scale, and count as 'democratic' every state for which the difference in those scores is greater than +3.

and the amount of conflict in the system are different or non-existent. They conclude that 'aggregating these regional patterns into a global analysis risks masking some of the "true" relationships between variables'; and that the 'generalizability of the causal processes of interest are more effectively examined at the regional level' (Crescenzi and Enterline, 1999: 92-3).

However, it seems to this writer, at least, that none of these aggregate level analyses, regional or systemic, of the relationship between the distribution of regime types and the incidence of conflict are as germane as they could be to coherent, plausible, aggregate or system level theoretical arguments or hypotheses, because they all share the same research design problem. All these analysts start out with ideas about how democracies differ fundamentally in their policies and interactions from autocracies. And yet they all end up with analyses structured in such a way as to obscure these differences.

In other words, the basic idea motivating all regional or system level analyses to date is that democracy is a pacifying force or at least that regime type affects relationships between states. However, when aggregations of states such as the international system are analyzed in the way they have been up to this point, it is impossible to know whether the conflict that is observed is produced by democratic states initiating conflicts with autocratic states, by autocratic states involved in conflicts with each other, by democracies in conflict with each other or by autocratic states initiating conflicts with democratic states. Contributions to the amount of conflict for any aggregation of states for any time period may come from one of these categories, all of them in equal amounts or some of them at some times and not others. So, what type of theoretical account of the conflict within such aggregations is appropriate for the different time periods, or different spatial domains, is virtually impossible to determine. The problem is compounded by the fact that many aggregate level studies of the incidence of conflict focus also on states that join in ongoing conflicts as third and fourth parties. Furthermore, they do not differentiate between states that join these conflicts voluntarily and those that become involved through the initiative of one of the initial belligerents.

In short, starting out with the assumption that democratic states, or pairs of states, are fundamentally different in their behavior or interactions from autocratic or mixed pairs (as opposed to simpler assumptions such as all states seek power or all states seek security) creates complexity that is difficult to cope with in systemic or any aggregate level analyses. Such complexity can certainly not be dealt with coherently or convincingly by such simple extrapolations from dyadic level hypotheses such as 'democratic states do not fight wars with each other' to systemic level conclusions like 'the more democracies there are in the system the less conflict prone it will be'. The breach between 'levels of analysis' cannot be overcome even by

such relatively sophisticated inferences from dyadic level premises like 'mixed dyads are more conflict prone' to systemic level conclusions such as 'there is a curvilinear relationship between the proportion of democratic states and the incidence of conflict in the system'.

Assumptions about States and Analyzing Interactions Among States with Different Regime Types

It is apparently an appreciation of the complex implications for system level interactions of even drastically simple assumptions or premises regarding primary units of analysis that leads Waltz (1979: 91) to argue that

in a microtheory [which, recall, he views as addressed to 'large realms' such as the international system] the motivation of the actors is assumed rather than realistically described. I assume that states seek to ensure their survival. The assumption is a radical simplification made for the sake of constructing a theory.

Similarly, Singer (1969: 23) acknowledges that systemic level theorizing 'inevitably requires that we postulate a high degree of uniformity in the foreign policy operational codes of our national actors'.

Such simplifying assumptions about units as bases for theorizing about aggregations of units, or their interactions, have evoked suspicions for at least 200 years.¹⁵ One point that clearly needs to be emphasized in reaction to such objections is that assumptions about units as premises for theorizing about interactions among units are not meant to serve the same purpose as hypotheses regarding those units. They are aimed rather at providing a workable basis for theorizing about interactions among units or specific aspects of system level operations and processes. (Hypotheses about units, in contrast, are obviously aimed at understanding the separate and individual behavior of the units in question.)

It should also be acknowledged, perhaps, that the crucial step of going from assumptions about units to theorizing about interactions between units, or among units in systems, is not always obvious, in economics, as we have seen earlier, or in the field of international politics. Bueno de Mesquita (1981), for example, assumes that states are rational, and then makes predictions about when individual states will initiate wars. Thus he apparently makes assumptions about individual states for the purpose of developing hypotheses about individual states. Apparently but not really. Bueno de Mesquita's (1981) model is, as Midlarsky (1989) observes, at least 'minimally dyadic'. That is, it focuses on conditions under which one state will

15. 'From the early 18th century to the present, . . . economic theory has been faulted because its assumptions fail to correspond to realities' (Waltz, 1979: 89). More recently, Schrodt (1990: 149), for example, complains that 'the persistent use of empirically unsupported "as if" assumptions is symptomatic of sloth, not science'.

initiate a war against a specific potential target, another state. More recently, Morrow (2000) reviews game theory as it applies to international conflict theories in general. He deals with four categories of approaches relying on game theory, i.e. deterrence theory, balance of power theory, power transition theory and democratic peace theory. All four focus on *interactions* between or among states. In other words, within all four categories the analysts make assumptions about individual states (or their leaders) and then theorize or offer hypotheses about interactions among states. In every case, they make use of simplifying assumptions about *units* in order to deal with the complexities that necessarily arise in the analysis of *interactions* among those units.¹⁶

Would it not be better, a critic of such practices will wonder, if the assumptions about units upon which theories regarding their interactions are based corresponded as closely as is possible to what we know about those units? Starting off with assumptions about those units that we know are 'false' is a fundamentally misguided misstep at the outset of the theorizing process, is it not?¹⁷ The answer to these questions favored by this writer, at least, is that even if such assumptions are 'false' or 'unrealistic', such simplification is quite clearly necessary to prevent theoretical implications regarding even relatively simple dyadic level interactions, and certainly about interactions on the level of complex aggregations such as the entire international system, from becoming impossibly complex to deal with. It does not take, in other words, very complex initial assumptions about interacting units to produce a large number and variety of implications about those interactions. This number can quickly become so large as to make plausible or logical predictions about interactions among units virtually impossible. Therefore, theorists have no practical choice but to hope that even highly simplified or 'unrealistic' assumptions about primary units are 'true enough' to provide a tractable basis for predictions about interactions among states that are sufficiently accurate as to be significantly helpful or useful to efforts to understand those interactions.

Perhaps, however, assumptions about primary units for the purposes of theorizing about interactions within aggregations of units do not need to be quite so austere as those made by Waltz in 'neorealism'. (Or even by formal theorists such as Bueno de Mesquita [1981] or Bueno de Mesquita and Lalman [1992] who deal mostly with dyadic rather than systemic level interactions.) It may be useful, instead, to adopt as an initial theoretical premise

16. Similarly, microeconomists typically adopt simplifying assumptions about consumers and firms, not necessarily to analyze or hypothesize about individual consumers or firms, but to provide a basis for hypotheses about interactions among consumers and firms within markets.

17. Herbert Simon (1997: 23) asserts that we should 'test the validity of some or all of the specific assumptions that are built into models'.

the assumption that the highest priority for leaders of states is to stay in power (Ray, 1995: 39–41; Bueno de Mesquita and Siverson, 1997; Bueno de Mesquita et al., 1999; Bueno de Mesquita, 2000; Ray, 2001). One important virtue of this assumption is that it provides a basis for taking into account domestic as well as international sources of foreign policies and international interactions in a theoretically coherent fashion. Thus, *it facilitates the integration of causal factors pertaining to different 'levels of analysis', at least for those who see such levels as pertaining by definition primarily to the locus of explanatory factors* (Ray 2001). It also leads to the hypothesis that the 'two-level games' (Putnam, 1988) played by democratic leaders are fundamentally different from those encountered by autocratic leaders in ways that can help account for peace among democratic states (Bueno de Mesquita et al., 1999; Ray, 2001).

This premise regarding the priority that state leaders attach to keeping themselves in power, and the inference that democratic states (or at least pairs of democratic states) are, therefore, fundamentally different from autocratic states, have important implications for theorizing about aggregations of states, whether the aggregations in question are simply pairs of states or the entire international system. The idea that regime type has an important impact on interstate interactions imposes requirements on the structure of aggregate level analyses focusing on state interactions that have typically not been taken into account. Namely, in order to deal with the theoretical notions in question, both dyadic level and system level analyses focusing on the impact of regime type on interstate interactions should be structured in such a way as to make it possible to keep track of who is doing what to whom.¹⁸ In other words, analyses of state interactions need to be modified in recognition of the fact that a relatively straightforward, neo-realistic assumption that 'a state is a state is a state' (and they all seek security) has been abandoned. Let us turn to a discussion of an approach aimed at dealing with this and related problems, based in important part on a relatively subtle shift in the standard level of analysis on which most research on the democratic peace has been based up to this point.

Dyadic Level Research and the Democratic Peace Research Programme

The standard dyadic level analyses on which most systematic empirical research regarding 'democratic peace' has been based (e.g., Maoz and

18. Lemke and Reed (2001: 468) make a similar point when they assert: 'Just as researchers abandoned systemic-level analyses in the late 1970s when they realized that the "system" does not act, we think we need to move away from dyadic-level analyses of rivalry because a "dyadic rivalry" does not act. Rather, individual rivals and potential rivals do.'

Abdolali, 1989;¹⁹ Bremer, 1992; 1993; Maoz and Russett, 1993; Russett, 1993; Oneal and Russett, 1997, 1999; Oneal and Ray, 1997; Russett et al., 1998) focus on interaction within 'aggregations' rather than purposeful actions by individual units. In other words, even the minimal degree of aggregation involved in treating pairs of states as units of analysis crosses the important dividing line between 'action' and 'interaction' as the focus of attention; analyses structured in this fashion lead unavoidably to hypotheses about conflict *involvement* as opposed to conflict *initiation*. And such a focus on conflict or war involvement is somewhat analogous to an analysis of crime without regard to the distinction between perpetrators and victims. In such analyses of 'crime involvement', the question of who does what to whom would necessarily be ignored.

However, aggregate level analyses can be structured in such a way as to retain the focus on interaction among states, while at the same time being sufficiently transparent to produce evidence regarding actions by some states and reactions by others. One can, for example, focus on all states in the relevant space-time frame as *potential* initiators of crises, serious militarized disputes or interstate wars for the purpose of evaluating hypotheses regarding the relationship between regime type and interstate conflict. In standard dyadic level analyses, the rate of conflict involvement for democratic states with each other is compared with the rates of conflict involvement for mixed dyads or jointly autocratic states. In *directed dyadic level* analyses, the behavior of different categories of potential initiators of crises, militarized disputes or wars can be compared in a more specific way that simultaneously takes into account the attributes of specific potential targets.

In schematic or simplified terms, directed dyadic level hypotheses could then be based on the four categories of conflict depicted in Figure 1. Comparisons of each of the possible pairs among these four categories could serve as the basis for evaluating six basic directed dyadic level hypotheses, in this case inspired by the general idea that democracy is a pacifying factor:

Hypothesis 1. Democratic states are less likely than autocratic states to initiate conflicts against other democratic states.

Hypothesis 2. Democratic states are less likely to initiate conflicts against other democratic states than to initiate conflicts against autocratic states.

19. An anonymous referee has pointed out to me that Maoz and Abdolali (1989: 20, 22) did report the results of what might be considered directed dyadic level analyses. However, as Maoz and Abdolali acknowledge, these analyses focus on conflict dyads only, providing no information regarding the relative rates of conflict across the categorizations of states by regime type that they analyze. They go on to take into account the entire population of dyad-year observations in standard dyadic level analyses to which they appropriately give more emphasis.

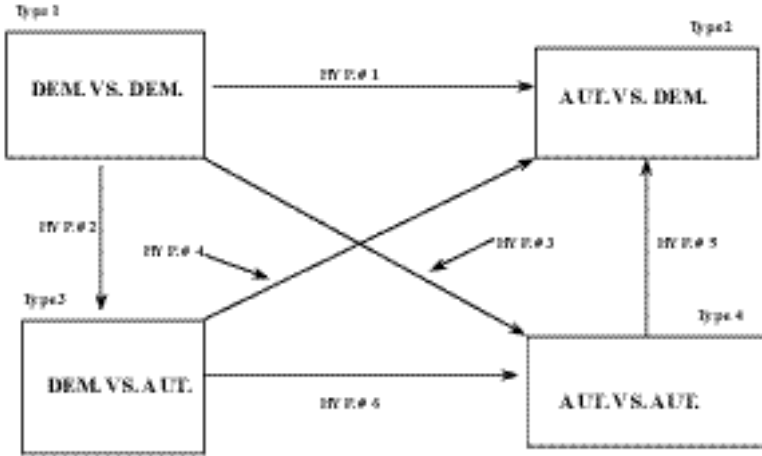


Figure 1. Four types of conflicts: Bases of directional dyadic hypotheses

Hypothesis 3. Democratic states are less likely to initiate conflicts against other democratic states than are autocratic states to initiate conflicts against other autocratic states.

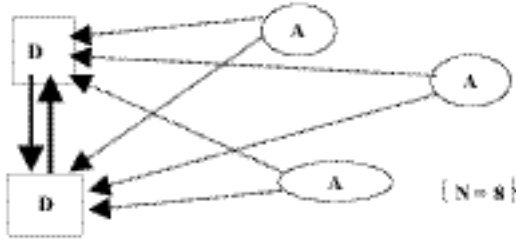
Hypothesis 4. Democratic states are less likely to initiate conflicts against autocratic states than are autocratic states to initiate conflicts against democratic states.

Hypothesis 5. Autocratic states are less likely to initiate conflicts against democratic states than they are to initiate conflicts against other autocratic states.

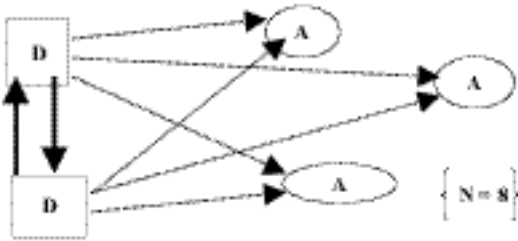
Hypothesis 6. Democratic states are less likely than autocratic states to initiate conflicts against autocratic states.

The structure of analyses that would address these directed dyadic level analyses is depicted in Figure 2. In general, such analyses would focus on the rates of conflict initiation found for observations corresponding to the bold arrows in that figure, compared to the rates of conflict initiation observed for relationships indicated by the dotted arrows. So, for example, to evaluate Hypothesis 3, for each year the system or other aggregation of states is observed, the proportion of observations focusing on relationships among democratic states that actually produced a conflict initiation would be compared to the corresponding proportion of observations of relationships among autocratic states that involved an initiation of conflict. (Note that in general, State A’s behavior in a given year toward State B, for example, would be observed separately for the purposes of doing such an analysis from State B’s behavior toward State A in that same year.) Alternatively, in analyses aimed at the evaluation of Hypothesis 4, the proportion

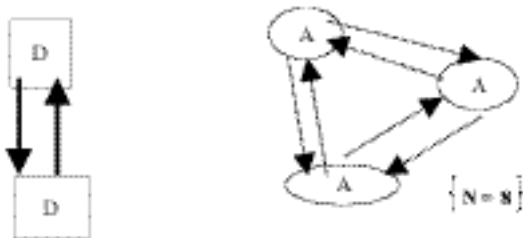
HYPOTHESIS #1



HYPOTHESIS #2



HYPOTHESIS #3



HYPOTHESIS #4

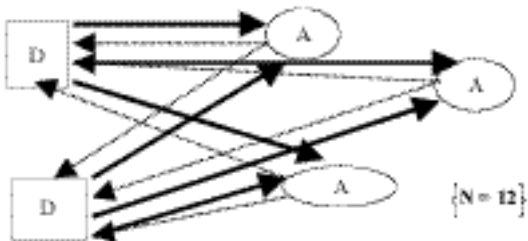


Figure 2. Patterns of observations for six directional dyadic hypotheses

of observations (represented by black arrows in the portion of Figure 2 corresponding to that hypothesis) involving democratic states initiating conflicts against autocratic states would be compared to the proportion of observations (represented by dotted line arrows) revealing autocratic states initiating conflicts against democratic states.

Table 1 presents preliminary analyses along these lines in order to clarify their structure and potential utility. They focus on interstate war initiations as defined and reported by Small and Singer (1982), as well as in more recent data compiled by the Correlates of War (COW) project. The original COW data focus on the initiator of each war. For the analyses in Table 1, however, the data also include interstate war initiations that have occurred in the context of ongoing multilateral wars.²⁰ Every observation of directed dyads that reveals an interstate war initiation is coded as 1, while the rest are coded as 0. For these analyses, states (and pairs of states) are also categorized according to regime type with data from Polity III (Jagers and Gurr, 1995, 1996), as well as Polity IIID (McLaughlin et al., 1998).²¹ Each state's autocracy score in those data sets, on a scale from zero to ten (with ten being most autocratic) is subtracted from its democracy score (also on a scale from zero to ten). Any state with a resulting score of six or higher is categorized as 'democratic'. And if both states have a score of six or higher, then the directed dyad is coded as 'jointly democratic'.

Such directed dyadic level analyses can lead to a clearer understanding of the relationships among states than is possible with standard dyadic level analyses. In principle, for example, virtually the entire difference between the conflict proneness of jointly democratic pairs of states and other pairs might be accounted for by the aggressiveness or assertiveness of democratic states against autocratic states. Or, that difference could be produced entirely by the aggressiveness of autocratic states. Only directed dyadic level analyses can reveal where in between those extremes the 'real world' is located.

In short, such analyses provide specific, though (in this case) descriptive replies to the question: 'Are democratic states more peaceful than autocratic states?' The analyses in Table 1 show that the preliminary answer to

20. If wars are one's units of observation, then it may well be true that Austria-Hungary initiated the First World War by attacking Serbia, while Germany initiated the Second World War by attacking Poland. However, from a directed dyadic point of view focusing on interstate war initiations, Austria-Hungary and Germany's attacks were only some of the war initiations that took place within those prolonged and complex interstate confrontations. (See Ray, 1999.)

21. The annual observations of directed dyads, and the Polity III scores for those observations, are taken from Bennett and Stam (1999). Version 1.19 of EUGene was used to generate the data sets relied on for Table 1. (See also Bennett and Stam, 2000.) Polity IIID contains more specific data on the exact dates of regime transitions than does Polity III. In these analyses, Polity IIID data on regime type are incorporated into the data set only for those dyad-years during which an interstate war was initiated.

Table 1. Cross-tabulation of Regime Type and Interstate War Initiation, Six Directional Dyadic Hypotheses, 1816–1992 (Annual Observations, All Independent States)

HYPOTHESIS#1			HYPOTHESIS#2		
War Initiated?	Dem.-Dem.	Aut.-Dem.	War Initiated?	Dem.-Dem.	Dem.-Aut.
No	85,067 (100.0%)	175,042 (99.9902%)	No	85,067 (100.00%)	175,035 (99.9880%)
Yes	0 (0.0%)	17 (0.0097%)	Yes	0 (0.0%)	21 (0.0120%)
N=2,60,126 FET* p<.001			N=2,60,123 FET* p<.000		
HYPOTHESIS #3			HYPOTHESIS#4		
War Initiated?	Dem.-Dem.	Aut.-Aut.	War Initiated?	Dem.-Aut.	Aut.-Dem.
No	85,067 (100.00%)	414,154 (99.9835%)	No	175,035 (99.9880%)	175,042 (99.9902%)
Yes	0 (0.00%)	68 (0.0164%)	Yes	21 (.0119%)	17 (.0097%)
N=492,289 FET* p<.000			N=350,115 FET* p<.314		
HYPOTHESIS #5			HYPOTHESIS#6		
War Initiated?	Aut.-Dem.	Aut.-Aut.	War Initiated?	Dem.-Aut.	Aut.-Aut.
No	175,042 (99.9902%)	414,154 (99.9835%)	No	175,035 (99.9880%)	414,154 (99.9835%)
Yes	17 (.0097%)	68 (.0164%)	Yes	21 (0.0120%)	68 (0.0164%)
N=589,059 FET* p<.000			N=589,278 FET* p<.125		

*Fishers Exact Test, 1-sided

that question must be 'It depends'. That is, it depends on what more specific questions one might have in mind. From 1816 to 1992, for example, democratic states have been 'significantly' less likely than autocratic states to initiate interstate wars against other democratic states (Hypothesis 1). (This is arguably the directed dyadic hypothesis closest in form and logic to the 'democratic peace hypothesis' as it has been tested on numerous occasions in standard dyadic level analyses.) The strongest relationship in Table 1 pertains to Hypothesis 3. In one respect, democratic states have quite clearly been more peaceful than autocratic states. If one focuses on different time periods (or on militarized interstate disputes), then one may find that there has been something of an 'autocratic peace' as well as a 'democratic peace' (Elman, 1997; Gowa, 1999). But Table 1 shows that if one focuses on interstate wars over the time period 1816–1992, there has been nothing like an autocratic peace. Autocratic states have been more likely to initiate interstate wars against each other than have democratic states over that time period (Hypothesis 3). Not only that, if we focus on interstate war initiations on the directed dyadic level of analysis, we find that autocratic states have been more likely to initiate interstate wars against other autocratic states than against democratic states (Hypothesis 5).

It can certainly be argued that with numbers of observations running into the hundreds of thousands, one is virtually certain to find that almost any analysis will reveal 'significant' relationships. However, not all relationships in Table 1 are 'significant'. The analyses pertaining to Hypotheses 4 and 6 reveal limits to the idea that 'mixed dyads' are particularly conflict prone.²² In the time period 1816–1992, democratic states have not (as Hypothesis 4 asserts) been less likely to initiate interstate wars against autocratic states than autocratic states have been to initiate wars against democratic states. It also turns out that democratic states have historically *not* been significantly more likely than autocratic states to initiate wars against autocratic states (Hypothesis 6). In short, the analyses of data pertaining to Hypotheses 4 and 6 provide evidence in support of the idea in Russett (1993) and Maoz and Russett (1993) that democratic states adopt 'undemocratic' norms of conflict resolution when they interact with autocratic states. In the time period from 1816 to 1992, at least, democratic states have been at least as likely to initiate interstate wars against autocratic states as autocratic

22. Actually, according to Bueno de Mesquita et al. (1999: 791), contrary to Hypothesis 4 as I have formulated it here, the hypothesis more congruent with the theoretical logic supporting 'democratic peace' is that 'democracies are more likely to initiate wars against autocracies than are autocracies against democracies'. Let me note here first that this is a hypothesis that can be evaluated only with *directed* dyadic level analyses. The analysis in Table 1 shows that democracies have, in fact, been more likely to initiate wars against autocracies than vice versa, but the relevant difference in the rates of war initiation is not statistically significant.

states have been to initiate wars against democratic states. And democratic states have been just as likely to initiate interstate wars against autocratic states as other autocratic states have been.

Moving to System Level Analyses

If standard dyadic level analyses can obscure who is doing what to whom, then analyses focusing on regions or the entire international system have an even greater potential for producing confusion regarding that question. One basic reason is that such analyses typically take into account the involvement of an additional and significant category of conflict participants, namely that of third parties that join ongoing conflicts.

For example, Gleditsch and Hegre (1997), Senese (1997), Mitchell et al. (1999) and Crescenzi and Enterline (1999) all focus on accounting for the proportion of states in the system *involved* in interstate conflict or international war on an annual basis. (Maoz [2001] focuses on the simple number of disputes or wars occurring per year.) In short, all these analyses lump together democratic *and* autocratic states that initiated wars *either* against similar *or* the opposite type of regimes; *and* those states that were targets of initiatives by other states of the same *or* of a different regime type; *and* those that became involved in wars as third, fourth or fifth parties. In addition, none of these analyses discriminates between 'joiners' that became involved in wars as third parties by their own initiative (actively coming to the aid of an alliance partner, for example) *or* those that joined ongoing conflicts in processes beyond their control and perhaps entirely against their wishes. Especially if it assumed (or hypothesized) that democratic states are fundamentally different from autocratic states, complex aggregations such as the international system are *opaque* in the sense that treated as units of analysis they can obscure entirely who did what to whom. This can make the total amounts or incidence of conflict within the system, for example, virtually impenetrable objects for logical, theoretical analysis.

For example, let us imagine that as the proportion of democratic states in the system increases from t_0 to t_{+1} , the incidence of conflict in the system (as indicated, say, by the proportion of states involved in militarized interstate disputes) decreases. One might with apparent (but not real) logic attribute this decrease to the relatively pacific relationships that democracies have with each other. However, perhaps as the proportion of democracies in the system increases, democratic states actually become more conflict prone in their relationships with each other. This increase in conflict among democracies might come about, for example, because of decreases in the previously unifying impact of opposition from the now diminishing number of autocratic states in the system. At the same time, perhaps the increase in the

number of democracies has a unifying impact on relationships among increasingly outnumbered autocracies (see Ray, 2000: 313). If these conjectures are valid, then this would mean that the increase in the proportion of democracies in the system actually exerted one positive impact on the incidence of conflict in the system (i.e. among democracies) that might have been more than offset by a countervailing pacifying impact involving the fact that the increasingly outnumbered autocracies experienced a substantially decreased number of conflicts among themselves. This, in turn, would mean that the decrease in the incidence of conflict in the system co-incident with the increase in the proportion of democracies in the system had, in fact, nothing to do with the pacifistic tendencies that democratic states may display in their interactions with each other (on the dyadic level of analysis).

This is not an argument for avoiding analyses of the entire system altogether. The fact that relationships on the system level do not dependably reflect in some apparently logical or obvious way relationships found on lower, more disaggregated levels of analysis in no way de-legitimizes utilizing more complex social entities as units of analysis. In fact, the opposite is the case. System level analyses only make important contributions to our knowledge when they do *not* produce results perfectly predictable in some arithmetic or additive fashion from analyses on a lower level of analysis. And, as Jervis (1997: 34) points out, for example, 'we cannot understand systems by summing up the characteristics of the parts or the bilateral relations between pairs of them'.²³ A corollary of such arguments is that if a system's operation *can* be predicted by simple summation of characteristics or behavior of its constituent units, then systemic level influences or processes are apparently not important, and system level analyses will add nothing to our knowledge of the behavior or processes in question.²⁴

So, for example, Gleditsch and Hegre (1997) argue that since there is a curvilinear relationship between the proportion of democratic states in the system and the proportion of relatively conflict-prone mixed dyads, there will be a curvilinear relationship between the proportion of democracies and the incidence of conflict in the system. But even if this latter curvilinear relationship were perfect, the system level analysis would do nothing but uncover a reflection on that higher, aggregate level of dyadic level processes. Under such circumstances, the system level analyses would not add

23. Similarly, Schelling (1978: 14) asserts that situations 'in which people's behavior or people's choices depend on the behavior or choices of other people are the ones that usually don't permit simple summation or extrapolation to the aggregates'.

24. This statement is not a comment on the potential utility of system level characteristics as predictors of the behavior or operation of lower level aggregations. Oneal and Russett (1999), for example, utilize system level characteristics as predictors of the conflict proneness of pairs of states. See also Bueno de Mesquita and Lalman (1988).

anything to our understanding of the conflict behavior in question, except that in this case the system level relationship reflects in a straightforward arithmetic fashion lower level processes.

If one assumes or hypothesizes that democratic states are fundamentally different from autocratic states, and if one wants empirical analyses to generate evidence that is relevant to the evaluation of such hypotheses, one needs first to structure system level analyses in such a way as to differentiate between the four types of conflicts depicted in Figure 1. Such analyses would also need to be structured in such a way as to differentiate between active and passive third party joiners in ongoing conflicts. Then, in the absence of axiomatically based accounting for relationships between the distribution of regime types and the incidence of conflict in the system, one might conjecture that as the proportion of democracies in the system increases, the reduction in the unifying threat from the decreasing number or proportion of autocratic states in the system might increase the propensity of democratic states to get involved in conflict with each other. One might also propose that as democratic states become more predominant in the system, increased confidence stemming from that strength in numbers might make them more assertive, possibly even more aggressive in their relationships with increasingly out-numbered autocracies. Autocracies, in turn, feeling themselves increasingly threatened because of their decreasing numbers, might be more likely to strike out (or strike back) against their democratic counterparts and less likely to become involved in conflicts with each other.

To evaluate the empirical validity of such conjectures (or any other set of conjectures or hypotheses about the operation of the international system based on the assumption that democratic states are fundamentally different from autocratic states), it would be necessary to perform a *series* system level analyses, structured so as to keep track of who does what to whom. They would also need to be structured in such a way as to establish that variation in the incidence of conflict in the system is *not* simply the arithmetic reflection of processes self-contained and pertaining entirely to lower levels of analysis.

Consider, for example, an investigation of the hypothesis that democratic states will, as their numbers increase, become more assertive toward their autocratic counterparts.²⁵ Such an evaluation could be based on a

25. In this writer's view, what makes this proposition a quintessentially aggregate level idea is the fact that it pertains to democratic states as a group, rather than individual democratic states, or particular mixed dyads. The idea is not that as the proportion of democracies in the system increases, democratic state A will become more confident and aggressive; nor that democratic state A will become more assertive in its relationship with state B. The idea is rather that on average, and in a probabilistic fashion making it impossible to predict which particular democratic states will respond in this fashion, as the group of democratic states in the system becomes more predominant, a larger proportion of them will be more assertive in a higher proportion of cases. This is the type of idea that can only be addressed utilizing an aggregation as a unit of analysis.

regression analysis in which the number of mixed directed dyadic (democratic–autocratic) pairs of states in the system is a control variable and the proportion of democracies in the system is the explanatory variable of greatest interest. What would be predicted on the basis of the proportion of democracies in the system, then, would *not* be the total amount or incidence of conflict in the system, *nor* the number of democratic–autocratic pairs of states involved in disputes or wars, but the number of such dyads involved in conflict (initiated by democratic states against autocratic states) over and above what would be ‘expected’ given the number of democratic–autocratic directed dyads in the system. Analogous analyses could be addressed to the three other types of interstate conflicts depicted in Figure 1. Ultimately, an overall assessment of the impact of the distribution of regime types on the incidence of conflict in the system could be based on this series of analyses, each of which keeps track of who does what to whom.

Two Important Problems

There are two particularly prominent potential objections to the approach discussed here for dealing with the levels of analysis issues, especially those that arise if one begins with initial assumptions that imply that states with different regime types behave and interact in fundamentally different ways. These objections both point to the reliance in this discussion on dichotomies that must be defined arbitrarily, or unclearly, and therefore unreliably. The division of states into categories of ‘democratic’ and ‘autocratic’ is of course conceptually at odds with the rather clear tendency for states to fall on a continuum of regime type, ranging from very democratic to very autocratic. Then, too, identifying the ‘initiator’ or the ‘aggressor’ of interstate conflicts can be difficult.

While it is true that states do exhibit varying degrees of democracy, there is a serious argument to the effect that it is possible to define a plausible dividing line between categories of states that are ‘democratic’ and ‘not democratic’.²⁶ In addition, theoretical analysis always involves simplification. Categorizing states according to regime type as suggested here admittedly involves distortion and a loss of information. However, to the extent that it makes theoretical analysis of the relationship between regime type and international conflict within broad spatio-temporal domains and across different levels of analysis tractable, the benefits potentially outweigh the costs.

26. ‘We believe that while some regimes are more democratic than others, unless offices are contested, they should not be considered democratic. The analogy with the proverbial pregnancy is thus that while democracy can be more or less advanced, one cannot be half-democratic; there is a natural zero point’ (Alvarez et al., 1996: 21).

Important analogous arguments are made by such theorists as Vasquez and Waltz. Vasquez (1993) develops a theoretical approach to interstate war that relies on a typology. He feels that wars between relatively unequal states are fundamentally different from wars between states roughly equal in capabilities.²⁷ Obviously, pairs of states do not fall into anything like easily demarcated categories such as 'equal' and 'unequal' in capability. Nevertheless, such categorization of states may be defensible for theoretical purposes.

Waltz's (1979) neorealist approach depends heavily on the division of political orders into 'anarchies' and 'hierarchies.' He is quick to acknowledge that 'the two simple categories of anarchy and hierarchy do not seem to accommodate the infinite social variety our senses record'. He ultimately concludes, however, that 'increasing the number of categories would bring the classification of societies closer to reality. But that would be to move away from a theory claiming explanatory power to a less theoretical system promising greater descriptive accuracy' (Waltz, 1979: 114–15).

Perhaps even more pertinent to the discussion here are the efforts by Bueno de Mesquita, et al. (1999) to construct a formal model to account for a series of observed empirical regularities regarding the relationship of democracy to peace. This model addresses such hypotheses as (1) democracies tend not to fight wars against each other; (2) democracies tend to win the wars they fight; and (3) 'democracies are more likely to initiate war against autocracies than are autocracies to initiate war against democracies' (Bueno de Mesquita and Morrow, 1999: 61–2). In other words, the developers of this model in their analysis of relationships between states of different regime types categorize regimes as either 'democratic' or 'autocratic.' Again, such a strategy clearly over-simplifies 'reality'. But it may well be a defensible strategy in pursuit of theoretical tractability.

It is notoriously difficult to identify the initiator of interstate conflicts. Certainly one advantage of focusing on 'conflict involvement' or 'war onset' is that identifying which states are merely involved in a dispute or war with each other is much easier than identifying which state initiated it. Indeed, in many cases the distinction between the initiator and the target of a dispute or war may be virtually impossible even on a conceptual or abstract level. 'One side feels threatened . . . the other side responds by mobilizing, both sides fear the other will preempt so each is then motivated to strike first, and one of them eventually does' (Reiter, 1995: 28).

Nevertheless, it is an indispensable prerequisite of a directed dyadic approach to the study of interstate conflict that systematic attempts be made

27. 'There are many paths to war and in this analysis I try to delineate the modal (typical) path by which relatively equal states have become embroiled in wars with one another . . .' (Vasquez, 1993: 7).

to identify which of the states involved in a dispute or war initiated it. And when conflicts escalate in a more or less seamless spiral, or when wars begin accidentally, it is undeniably difficult to identify in a reliable, operational and theoretically meaningful way the initiator.

However, for many conflicts (for interstate wars in particular), it is in fact quite easy to identify the initiator. When Germany attacked Poland in 1939, for example, or when North Korea invaded South Korea in 1950 or when Iraq annexed Kuwait in 1990, the identity of the initiator was not in any serious doubt. Furthermore, Reiter (1995: 13, 33) argues that 'preemptive wars almost never happen', and that that is 'a significant blow to the spiral model as an explanation of the causes of war'. Blainey (1988: 141) observes that 'wars have been called accidental or unintentional by many political scientists and a few historians'. In his opinion, however, 'it is difficult to find a war which on investigation fits this description'. Abel (1941: 854), having analyzed 25 major wars, shares Blainey's impression. 'The decision to fight', according to Abel, 'is not reached on the spur of the moment. In every case, the decision is based on a careful weighing of the chances and of anticipating consequences'.²⁸

These are controversial opinions; many analysts believe that wars and international conflicts in general are routinely produced by misperceptions, emotions, irrationality and accidents, rather than the logical pursuit of clearly defined ends by carefully planned military means. There will be no attempt here to resolve this debate. Rather, the arguments and evidence produced by analysts such as Reiter, Blainey and Abel will be used as a basis for arguing that there is at least a significant portion of interstate wars for which it is reasonably easy to differentiate between the initiator and the target.

Admittedly, identifying the initiator of sub-war conflicts such as militarized interstate disputes (MIDs) is a more difficult matter. In fact, the data on MIDs contain information only on which participant in the dispute was the first to cross a threshold having to do with issuing a threat to use militarized force (Jones et al., 1996: 178). Obviously, since this state may be responding to an action by its co-disputant that was quite hostile, even if not 'militarized', categorizing it as the 'initiator' of the dispute in question may not make much sense in terms of the theoretical ideas or hypotheses being evaluated in many cases.

Fortunately, the MID data also categorize participants in disputes according to whether or not they are 'revisionist' states. These are states that 'are

28. In a related point, Abel (1941: 855) argues that 'the rational calculating decision is reached far in advance of the actual outbreak of hostilities . . . The evidence shows that the decision to wage war *precedes by one to five years the outbreak of hostilities.*' For similar arguments, see Howard (1983) and Sagan (1993).

dissatisfied with the existing status quo prior to the beginning of the militarized interstate dispute' (Jones et al., 1996: 178). Apparently, identifying which states are revisionist in this sense, among those involved in militarized interstate disputes between 1816 and 1992 is not inordinately difficult. Every one of the 4798 participants in disputes during that time period is categorized as 'revisionist', or not revisionist; there are no missing data. Furthermore, it is encouraging evidence of the face validity of this indicator of 'assertiveness' that if we focus on the original participants in these disputes (90 percent of which have only two participants; see Jones et al. [1996: 194]), 'revisionist' states turn out to be the 'initiators' of disputes in the sense that they are the first original participant to engage in 'militarized' behavior 78.4 percent of the time.²⁹

In addition, since the majority of disputes and wars originate as bilateral confrontations, attempts to identify the initiator will be successful 50 percent of the time just by chance. Add to that the fair share of conflicts in which the identity of the initiator is reasonably obvious, and the tendency for some errors to balance out over larger numbers of cases, and the conclusion here is that the conceptual difficulties related to the coding of initiators and targets in international conflicts are not *greatly* more difficult than conceptual and definitional problems dealt with routinely by analysts of international politics when they rely on such concepts as 'war', 'alliance', 'power', 'deterrence' and 'bipolarity', for example.

Conclusion

Levels of analysis problems have been vexing for analysts of international politics. For some in the field, these problems focus on the relative potency of different explanatory factors. For others, they have to do with the relationship between analyses of different social entities. Economists deal with similar problems when they discuss the relationship between micro and macro analyses and when they focus on individual firms, on the one hand, or interactions among firms, on the other. In recent decades, they have moved toward attempts to integrate microeconomics and macroeconomics, and toward theories of the firm that emphasize the impact of internal factors on interactions with other firms. The democratic peace research programme, with its current emphasis on the priority that state leaders give to staying in power, has provided an initial assumption that is somewhat less

29. These figures are based on the Militarized Interstate Dispute data set described by Jones et al. (1996), and available on the website of the Peace Science Society (International) at http://pss.la.psu.edu/MID_DATA.HTM. Bennett and Stam (1998: 353) observe that 'in most cases, the state that initiates a war is also the aggressor or offensive state, that is, the state that desires to change the status quo. In a few wars (about 10 percent), this is not the case.'

austere or 'unrealistic' than more traditional assumptions about states (as unitary actors) seeking power or security. One of this assumption's most important potential advantages is the theoretical purchase it provides to attempts to integrate the effects of internal politics and external environmental pressures on foreign policies as well as international politics. So, the democratic peace research programme provides a basis for integrating levels of analysis defined as diverse locations for explanatory factors.

However, this more complex initial assumption provides a problematic basis for moving to analyses of interactions among states in dyads, or more complex aggregations such as the entire international system. In some ways, recent research on the level of the international system appears to be reproducing problems produced by the earlier research on relatively simple aggregates such as pairs of states. These problems stem mostly from the tendency of research treating aggregates as units of analysis to lose sight of who does what to whom, or to make illogical or at least unfounded assumptions about the answers to that theoretically crucial question. Utilizing directed dyads as units of analysis can shed considerable light on who does what to whom on a consistent basis in international conflicts even if the focus of interest is on relatively simple 'aggregates' such as pairs of states. Analyses of more complex aggregations such as regions, or the entire international system, can also produce more interpretable findings and better evidence of patterns if they are structured in such a way as to keep track of who does what to whom. In other words, research focused on directed dyads directly, as well as indirectly within analyses of regions or the entire international system, has the potential to produce evidence more clearly relevant to theoretical ideas about the impact of the distribution of regime types in the international system, and to aid the integration of findings focusing on different social entities in a logical and theoretically coherent fashion.

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